Participation for local action

Interim report dated 31st Jan 2016

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Photograph on cover by Bhargav Shandilya, *Portrait of a soliga mother and child*, available under a Creative Commons Attribution-Non-commercial license. © 2015, Bhargav Shandilya.

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LIST OF COMMON ABBREVIATIONS

ASHA	Accredited Social Health Activist
ANM	Auxiliary Nurse Midwife
co-PI	Co-Principal Investigator
FGD	Focus Group Discussion
GPS	Global Positioning System
IDI	In-Depth Interview
NHM	National Health Mission
PAR	Participatory Action Research
PHC	Primary Health Centre
PI	Principal Investigator
RMNCH+A	Reproductive, Maternal, Neonatal, Child Health and Adolescent Health
ST	Scheduled Tribe
TDI	Theory-Driven Inquiry/Enquiry
VGKK	Vivekananda Girijana Kalyana Kendra

SECTION I: PROJECT BACKGROUND

Title: Participation for local action: Implementation research with indigenous communities in southern India for local action on improving maternal health services

Key objectives:

1. To study local socio-political issues that influence access to the safe motherhood component of National Health Mission (NHM) for indigenous people in Chamarajanagar district.
2. To engage relevant stakeholders in a participatory approach to contextualize the existing program implementation in primary health centers (PHC) covering indigenous populations.
3. To develop a model of stakeholder engagement that can guide contextualization of the safe motherhood program of NHM in districts with indigenous communities.

Method: The overall study design is participatory action research (PAR) to bring together the different stakeholders to develop contextualized solutions to improve utilization of safe motherhood services by the indigenous community. Simultaneously a theory-driven inquiry tries to explain implementation outcomes of the stakeholder engagement strategy, and proposed local solutions and efforts at peripheral health centres/areas. While the former component focuses on a participatory approach towards critical reflection and local action, the latter focuses on building a context-sensitive analytical explanation for the change seen.

Duration: Jan 2015 to Aug 2016 (revised)

Expected outcomes: The final outcome will be two-fold, (1) a platform for district-level planning with inter-sectoral engagement across various government departments with community-based organizations, civil society and academia and, (2) a theory explaining poor coverage of reproductive and child health schemes' utilization by indigenous people in Chamarajanagar district. Both of these will be a crucial input into district and state health and development policy, and will help in making these more inclusive. The advocacy of our findings could also lead to further activities to address safe motherhood problems in Chamarajanagar district particularly focusing on indigenous communities.

SECTION II: SITUATION ANALYSIS

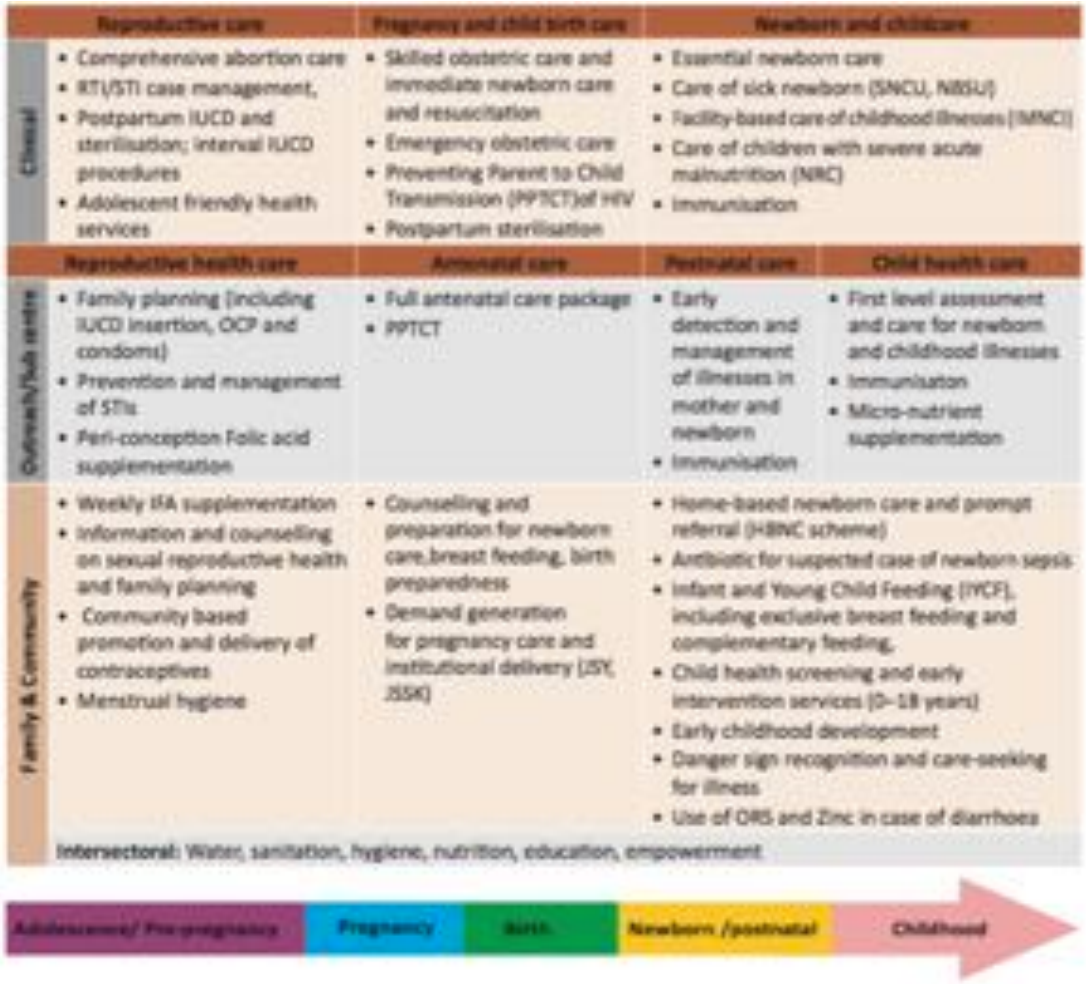
The objective of the situation analysis was to bring together the perspectives of three key actors relevant to maternal health of indigenous communities in the district (the researchers, the community and the health service providers, as listed below). In the participatory action research (PAR) process, we envisioned a platform that brought together these three analyses to arrive at a negotiated way forward. We divided the activities in the project across six components, three reflective analyses by stakeholders, and three technical components by the researchers, as shown in figure 1.

FIGURE 1. PROJECT COMPONENTS AND SITUATION ANALYSIS

Component A: Maternal health services for indigenous communities in NHM

Under this component, we conducted a desk review of the existing maternal health relevant services and schemes under the Reproductive, Maternal, Neonatal and Child Health plus Adolescent program (RMNCH+A) of the National Health Mission (NHM). NHM is the flagship health reform of the Indian government, being implemented since 2005. RMNCH+A is the recent edition of the reproductive and child health programs that was laid out in 2013 under NHM across India. RMNCH+A adopts the life cycle approach to tackle key causes of maternal and child mortality as shown in figure 2. In this study, we focus only on the maternal health services' related components from antenatal period through delivery to postnatal period. Abortion related services are not included in the scope of this research.

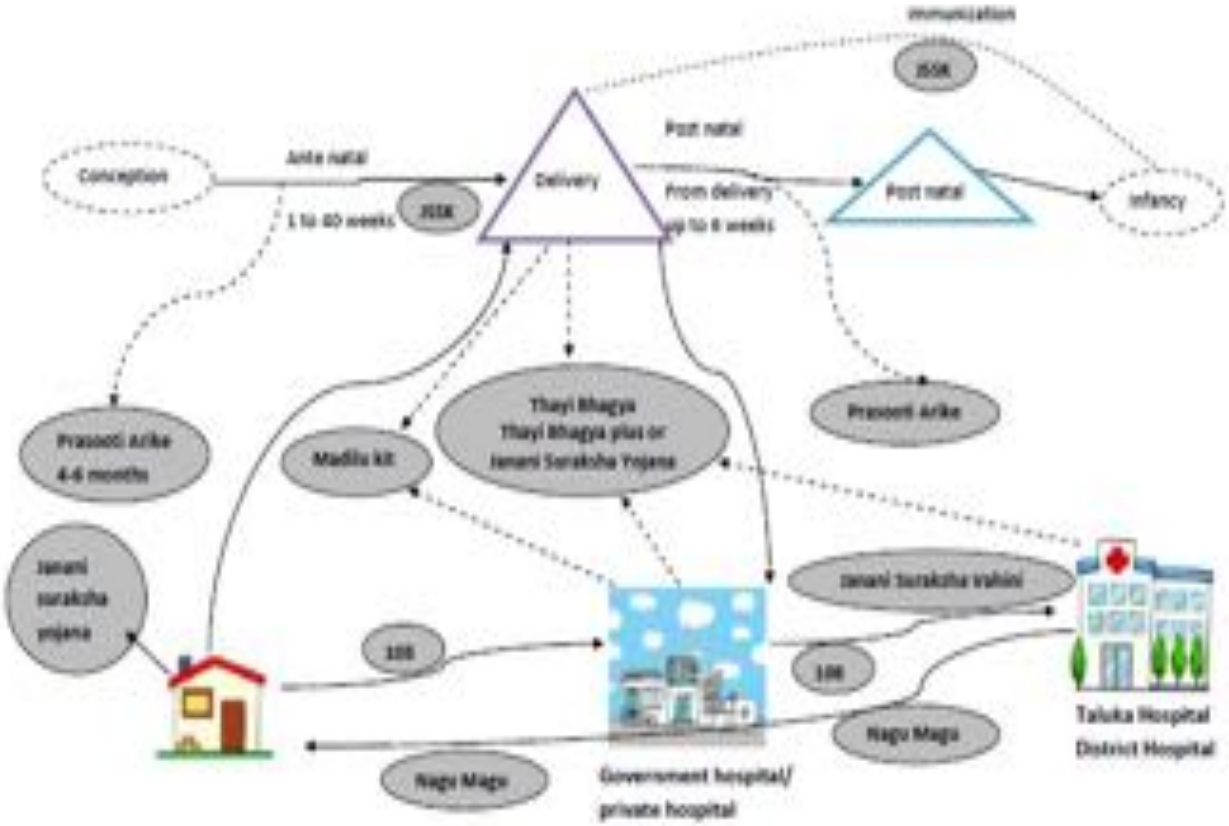
FIGURE 2. RMNCH+A STRATEGY*



**RTI/STI – reproductive tract infections/sexually transmitted infections, IUCD – intrauterine contraceptive devices, OCP – oral contraceptive pills, IFA – iron and folic acid, JSY – janani suraksha yojana, JSSK – janani shishu suraskha karyakrama, SNCU – sick newborn care unit, NBSU – XXX, IMNCI – integrated management of neonatal and childhood illnesses, NRC – nutritional rehabilitation centers, ORS – oral rehydration solution*

Apart from the centrally financed schemes and activities under RMNCH+A, Karnataka like other states, initiated certain schemes to complement the existing maternal health services as shown in figure 3. Details of all schemes were prepared in a handout based on information provided by the district health office and government program documents available online (Annexure I)

FIGURE 3. GOVERNMENT SCHEMES RELATED TO MATERNAL HEALTH IN KARNATAKA STATE#



JSSK – janani shishu suraksha karyakram, 108 – ambulance services for referral and emergency transport.
#Visual representation of schemes by authors

RMNCH+A made an explicit focus on 'reaching the unreached' in tribal areas along with other vulnerable populations. This was articulated through various strategies like differential planning and need-based financing to high priority districts; strengthening health infrastructure mainly in high focus districts like staffing priority to remotest health centers; incentives for personnel in hard to reach areas; public private partnerships to reach underserved/un-served areas to supplement public health care; mobile medical units till infrastructure is strengthened in underserved/un-served areas, and maternity waiting homes in hard to reach or tribal areas. For tribal health in specific, the states are directed to map out tribal areas and hard to reach pockets and closely monitor progress in these areas; create specific plan and budget in tribal areas; allow flexibility of norms for staff recruitment, infrastructure development, additional mobile-medical unity in district, and performance based incentives to staff in selected areas.

Next we looked at available data to identify areas with indigenous communities in the district and identify government health centers catering to these communities. Based on information collected from the district health team, the existing health management information system (HMIS) and available government evaluation reports, we identified the health centers catering to these communities as seen in Table 1. A total of 26 of the existing 61 PHCs were categorized as tribal PHC based on inclusion in either the district health office report or the government

evaluation report. Unfortunately the criteria used to categorize a PHC as a tribal PHC by either source is not available.

TABLE 1. TRIBAL PHCS IDENTIFIED IN CHAMARAJANAGAR DISTRICT IN 2015 (26 TOTAL)

Taluk	PHC name	Type of PHC*	Source
Chamarajanagar (4)	Bedaguli	Regular	District health office#
	Chandakavadi	Regular	State report##
	Honganooru	24x7	State report
	Kagalavadi	24x7	District health office
Gundlupet (5)	Baragi	24x7	State report
	Bommanahalli	Regular	District health office, State report
	Hangala	24x7	State report
	Kaggaladahundi	24x7	District health office, State report
	Mangala	Regular	District health office, State report
Kollegal (15)	Bandalli	24x7	District health office
	Cowdallli	24x7	District health office
	Dodinduvadi	24x7	District health office
	Kamagere	24x7	District health office
	Kudluru	24x7	District health office
	Lokkanahalli	24x7	District health office, State report
	Madhuvanahalli	Regular	District health office
	Maartalli	24x7	District health office
	Meenya	Regular	District health office
	M M Hills	24x7	District health office
	Palya	24x7	State report
	P G Palya	24x7	District health office
	Ponnachi	24x7	District health office
	Ramapura	24x7	District health office
	Thellanur	Regular	District health office
Yelandur (2)	Agaramamballi	Regular	State report
	Gumballi	24x7	District health office, State report

**24x7 indicates service availability for 24 hrs 7 days a week for deliveries and is provided additional support in terms of infrastructure and staff under NHM; regular indicates a PHC that is not categorized as 24x7*
#Based on data provided by District Monitoring & Evaluation Officer, Chamarajanagar
##Labeled as Tribal PHC by PHC performance assessment report Apr-Sep 2014-15 published by Department of Health Family and Welfare, Government of Karnataka using HMIS web portal

Further, the proportion of indigenous population in a PHC's catchment population, the number of sub-centres under a PHC that catered to indigenous communities or the proportion of indigenous population in a SC's catchment population is not available. Data analysis at the PHC or even SC level therefore only indicates the average performance or utilization of services at the facility level and gives no reflection of utilization or coverage of services among the indigenous communities in a given area or at a given health center. The HMIS data currently available at the facility level provides a comprehensive overview of availability and utilization of maternal health services among others at each facility. However this data cannot be disaggregated for indigenous communities with no other source for such data. Independent study publications and

government reports were scanned to help construct a profile for the health centers to allow it's functioning to be linked to the various issues identified influencing access to maternal health services. For instance, in the recent evaluation of health centers across the country in terms of their access, conducted by the National Health Systems Resource Centre, seven of nine PHCs identified as difficult-to-access in Chamarajanagar district are among the tribal PHCs identified. During the stakeholder meetings, it will be important to start by first defining what a tribal PHC will be and narrow down the list accordingly. For now, all analysis includes the twenty-six PHCs identified.

Component B: Status of service availability and utilization

Mapping services available: One task undertaken was to map the government (PHC and higher referral centers) and relevant private health services that provide maternal health services across the district. Given that geographical terrain, forest cover and physical access are key factors influencing access to health services; mapping of health centers and tribal villages will help showcase these issues.

Global positioning system (GPS) recordings were noted using MotionX GPS software[1], and uploaded with basic facility level details to CartoDB software[2], thereby providing layered maps for each taluk. This was overlaid on existing GPS maps for villages of indigenous communities across the district in a previous survey, and uploaded on Google earth satellite maps, to help visually highlight the challenges with terrain and access to health services by the community, and to tribal villages for the frontline health workers. The taluk map for Yelandur is shown in figure 4 where both health centers and tribal villages are seen. The format for GPS and facility level data collection is provided in Annexure II. A total of 32 (out of 47) health centers were mapped to date seen in table 2. This exercise will be completed in Feb 2016 and maps prepared. Additional information on type of services provided, infrastructure/human resource availability and service utilization will be sequentially added as layers to these maps, to allow for richer visualization and presentation.

[1] MotionX is a handheld/mobile based GPS application for obtaining position coordinates in the form of latitude-longitude

[2] CartoDB is a an online cloud computing platform that provides geographical information system enabled web mapping tools for display in a web browser.

[2] CartoDB is a an online cloud computing platform that provides geographical information system enabled web mapping tools for display in a web browser.

FIGURE 4. GPS MAPPING OF HEALTH CENTERS AND TRIBAL VILLAGES IN YELANDUR *TALUK*

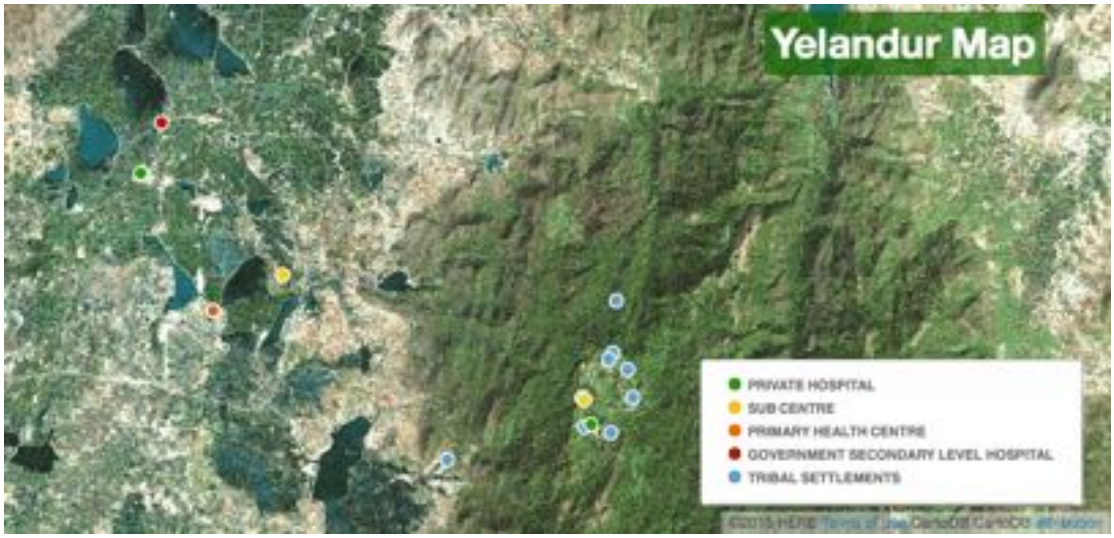


TABLE 2. MATERNAL HEALTH SERVICE PROVIDERS IN THE DISTRICT MAPPED USING GPS

Taluk	Government health centers		Private hospitals
	PHCs	Higher hospitals (CHC, TH, DH)	
Chamarajanagar	4 +1*(4+1)	2(2)	4(4)
Gundlupet	2 (5)	1(1)	2(2)
Kollegal	8 (15)	1(1)	3(7)
Yelandur	1 (2)	1(1)	2(2)
Total	**16 (27)**	**5(5)**	**11(15)**

**Tribal Mobile Health Unit*

Service utilization: In terms of utilization of services, this analysis was restricted to PHC level and based on recent government reports. It is important to note that due to non-availability of disaggregated data for tribal communities, the service utilization presented is for the facility for all communities. While this limits its usefulness to carve out tribal community-specific findings, this data indicates the general performance of the tribal PHCs in the district in terms of service availability and utilization. Performance of the tribal PHCs is shown in table 3 for 24 PHCs based on the PHC performance assessment for Apr-Sep 2014-15 using the HMIS data. This assessment was based on a facility score card system developed by NHM to help sensitize districts to streamline data entry and validation, to strive towards improving facility level performance and as a guide to help focus their efforts via review, monitoring and resource allocations (figure 5). Two PHCs (Meenya and Thellanur) were newly established and hence data is not available for these before 2015.

FIGURE 5. INDICATORS USED FOR ASSESSING PHC PERFORMANCE

Indicator		Score	
Human Resource	Medical Officer (1)	10	30
	Nurse - Midwife (Staff Nurse) (1)	10	
	Laboratory Technician (1)	10	
Infrastructure	Separate public utilities for males and females	10	50
	OPD rooms / cubicles	10	
	Labour room available *	10	
	Water supply	10	
	Is there a Proper mechanism for waste disposal?	10	
Drugs and supplies	2 month supply of essential drugs	10	30
	2 month supply of essential vaccines	10	
	2 month supply of essential contraceptives	10	
Service availability	Referral Services	10	30
	Number of beds available (at least 6)	10	
	Routine urine, stool and blood tests	10	
Client orientation	Publicly displayed mechanism, whereby a complaint/grievance can be registered	10	30
	Citizen's charter	10	
	External monitoring /Gradation by PRI (Zila Parishad)/ RKS	10	
Service Utilization	Deliveries conducted at facility (10 per month) *	10	50
	Number of new IUD insertions at facility (1 per month)	5	
	Infant 0-12 months who received Measles (10 per month)	5	
	OPD attendance (750 per month)	20	
	In-Patient Head Count at midnight (100 per month)*	10	
	+ Max Score		220

*Applicable only to 24X7 PHCs, + Max score for 24x7 PHCs is 220 and for Non 24x7 PHCs are 200

TABLE 3. PHC PERFORMANCE ASSESSMENT FOR APR-SEP 2014

Taluk	Name	Type of PHC	Grades for indicators A good, B above average, C average, D poor						
			Human resource	Infrastructure	Drug and supplies	Service Availability	Client orientation	Service utilization	Overall grade
Chamarajanagar	Bedaguli	Regular	D	C	B	B	D	D	C
	Chandakavadi	Regular	B	A	A	B	A	D	A
	Honganooru	24x7	C	A	A	A	A	B	A
	Kagalavadi	24x7	C	B	A	A	B	C	B
Gundlupet	Baragi	24x7	B	B	A	A	C	C	B
	Bommanahalli	Regular	C	B	A	B	B	C	B
	Hangala	24x7	A	A	A	A	A	B	A
	Kaggaladahundi	Regular	B	A	A	A	D	D	B
	Mangala	Regular	C	C	A	B	D	D	C
Kollegal	Bandalli	24x7	B	A	A	A	A	B	A

	Cowdallli	24x7	C	C	A	B	D	D	C
	Doddinduvadi	24x7	A	B	A	A	C	B	A
	Kamagere	24x7	A	A	A	A	A	B	A
	Kudluru	24x7	B	A	A	B	A	B	A
	Lokkanahalli	24x7	B	A	D	B	B	B	B
	Madhuvanahalli	Regular	A	A	A	A	A	B	A
	Maartalli	24x7	A	A	A	A	A	B	A
	M M Hills	24x7	B	A	A	A	C	C	B
	Palya	24x7	C	A	A	B	B	B	A
	P G Palya	24x7	B	B	A	A	D	B	B
	Ponnachi	24x7	B	B	A	B	B	C	B
	Ramapura	24x7	B	A	A	A	A	A	A
Yelandur	Agaramamballi	Regular	A	A	A	B	A	C	A
	Gumballi	24x7	A	A	A	B	A	B	A

In terms of infrastructure, drugs and supplies most PHCs performed well. However when it came to client orientation and service utilization, many PHCs performed average or below. In Chamarajanagar tribal PHCs, human resource shortage is evident even in 24x7 PHCs and report poor utilization. This is despite being in the district headquarter region. In Gundlupet, client orientation and utilization again are the main issues despite adequate service availability. In Kollegal, the picture appears mixed with apparent well performing PHCs available while some 24x7 PHCs reporting staff shortage and poor utilization. 3 PHCs across the first 3 *taluks* are clearly identified to have multiple challenges needing focused interventions from the district team.

Next a similar detailed analysis will be conducted for the 2015-16 data at the PHC level and then for the sub-center level in general and using the RMNCH+A scorecard focusing on maternal health service provision and utilization.

Health seeking behavior among indigenous communities for maternal health services: To help understand the perspectives of women from the local indigenous community, two nested studies were conducted in one tribal PHC area.

a) The first study aimed to identify factors influencing maternal health care seeking behavior, and reflects on the women's perspectives of the quality of maternal services received to allow better customization of recommendations. Here we conducted 14 interviews with mothers who delivered in the last two years, followed by preliminary analysis and development of 3 case studies. These interviews were conducted in Kannada, and then translated and transcribed. Analysis is ongoing but we share a few insights that have emerged. Among women in the community there is also a social pressure to be *strong* during pregnancy and delivery esp. when the pain begins. Women feel that it is expected of them to internalize such pain and discomfort even from their husbands. Most of the women feel that health centers are relatively safer than

home but feel uncomfortable with going there for delivery mainly due to conduct of internal examinations and/or male doctors. A sense of helplessness was noted by the women's narrations about selecting where to deliver – a decision often made or influenced largely by elders and mother. Acceptance to seek antenatal care was much higher given the flexibility to plan and prepare for it with no time restraints. However in case of delivery these conditions do not exist.

b) The second study aimed to explore how maternal health advice influence actions taken during pregnancy to postnatal period among *soliga* women. First three focus group discussions were conducted with women of different age groups to help identify common themes that were considered important during pregnancy by the women. Next six in-depth interviews were conducted with women who had delivered in the last two years exploring their perceptions on helpful advice, apparent positive and adverse behavior during pregnancy that influenced their health, and role of self, husband and family, community and health services in ensuring their health during pregnancy till postnatal period. Similar to the earlier study, these interviews were translated and transcribed, and analysis is ongoing. Preliminary findings reveal that advice is a major part of the local culture and influences maternal health outcomes. Advice in this period mainly pertains to diet (both good and bad), physical activity and spirituality. While the women sought medical advice from health workers and hospitals, they sought and received most other advice from friends and women in their family. The husband's role was largely limited to decision-making as in to travel to health centers or tests, and they seldom participated in routine discussions or plans during pregnancy.

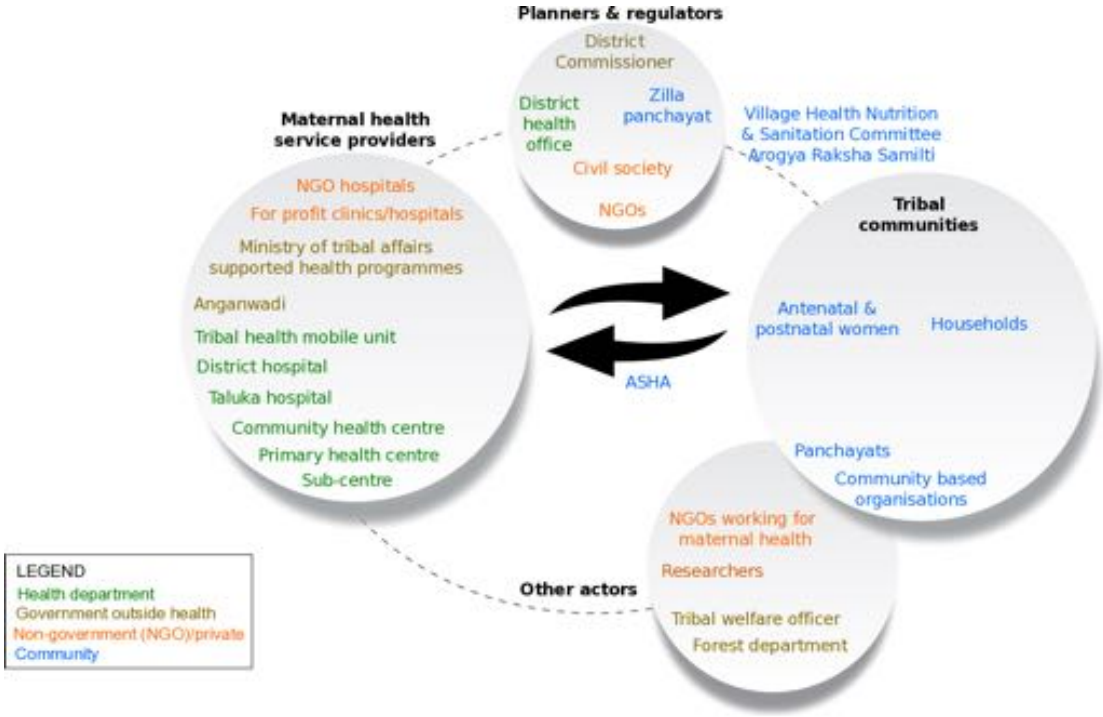
Component C: Stakeholder analysis

The steps followed in this component are listed:

1. Identify key stakeholders
2. Characteristics of stakeholders
3. Stakeholders mapping

Step 1: Identification of key stakeholders: The policy under consideration is RMNCH+A under National Health Mission. Based on program documents and an initial brainstorm session with district co-investigators, all stakeholders with any level of involvement with the either maternal health services or the tribal communities were listed with few details about their level of action, sector, and relation to the given context. The detailed table is attached in Annexure III and shown in figure 6.

FIGURE 6. STAKEHOLDERS IDENTIFIED BY LISTING EXERCISE



Step 2: Characteristics of stakeholders: The list of stakeholders next was analyzed to determine "clusters" of stakeholders with different levels of interest and levels of influence over the issue. Constructing stakeholder's characteristics included assessing their knowledge on the policy, their position, interest, available resources, power and leadership in relationship with policy under analysis. This assessment is being undertaken via brainstorm sessions with co-investigators and a series of stakeholder interviews conducted by the research team. With the delay in receiving ethics approval, work under this component was delayed. To date, a total of seven interviews were conducted – three among district health team, two with community leaders, one with PHC staff and one taluk level officer. Transcription is completed and analysis is ongoing. Meanwhile the remaining stakeholder interviews will be undertaken in the coming months.

Step 3: Stakeholders' mapping: In the next step, we will plot the stakeholders by their interest and power in a 2x2 table. Actors with high power and interests aligned with the purpose are critical to achieving the purpose. They will be the primary audience and should include both the immediate decision makers and opinion leaders - i.e. the people whose opinion matters. Stakeholders with high interest but low power, or high power but low interest, should be kept informed and satisfied. Ideally they should be supporters for the proposed program or policy change. These are our secondary audience. Throughout the process, we shall strive to mainstream gender equality in the processes and procedures of stakeholder analysis. We shall take into account the different situations and interests of women and men throughout the procedures and processes of stakeholder analysis.

Component D: Toolbox

A *toolbox* concept was conceived to compile literature from different sources on project relevant themes and to make them available during the upcoming stakeholder discussions, development of project outputs and related writing.

The **main themes** that will be captured by the toolbox are (figure 8):

a) Health of tribal communities in India, as there is a need for an online repository where relevant literature from scientific publications to reports is available;
b) Maternal health related innovations/interventions, since the community and health department will need to implement local actions/solutions in the coming months; and
c) Participatory action research, for inputs on research methods, ethical issues and writing.

Steps involved in developing the toolbox are listed below:

- A concept note explaining the purpose of the toolbox similar to this section developed.
- Articles, program documents and reports related to the relevant themes are identified. This is done through different strategies including a literature review, visiting relevant government websites, and by sharing the concept note through relevant social networks to research and civil society organizations across the country.
- Each article/document is checked to match with inclusion criteria[3] for each theme, and only if so, uploaded to Mendeley. In Mendeley, each document is systematically catalogued based on the relevant theme, type of document (publication, report, etc.), and appropriate keywords (tags) are assigned to facilitate search in the future.
- For maternal health innovations, a simple format to collect information was prepared (Annexure IV). This was shared across networks and each innovation or relevant intervention shared will be reviewed and pooled together. Eventually these innovations or interventions will be translated into Kannada (the local language) and made available for consideration during future discussions between community representatives and implementers i.e. district health team.

[3] For tribal health and maternal health – year 2000 onwards and within India; for PAR – no year or country limit to literature

FIGURE 7. TOOLBOX CONCEPTUALIZED

To date, 194 contributions to the **tribal health repository** were received. These documents are being screened by the inclusion criteria, and then will be catalogued and tagged appropriately in the Mendeley[4].

The initial efforts to **map maternal health innovations** in India with resulted in identification of twenty-seven case studies. While this is an ongoing process and will be further reviewed and developed based on the format earlier provided, the list of innovations/interventions with brief summaries are provided in Annexure V.

Twenty-two documents including articles and manuals are compiled **under the PAR theme**. A proposed expansion of the method review to include implementation research method related is being considered to facilitate insights into the larger research project.

Component E: Community's reflection

This component comprises of an extensive community led effort in mapping out the status of accessing maternal health services among all indigenous people in the district followed by a reflection on issues and priorities, and development of photo-stories visually capturing the context and some of the themes that emerged from the community analysis.

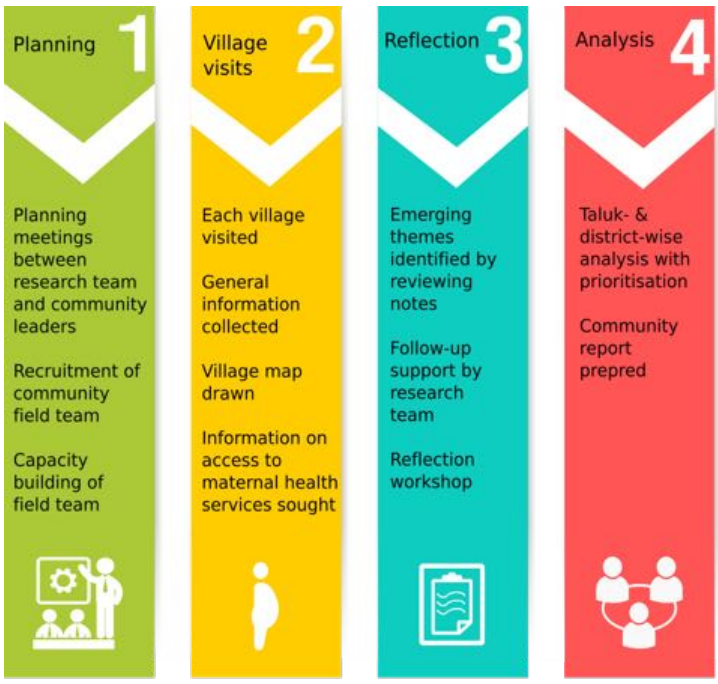
Actors involved and their roles: The *Zilla Budakattu Girijana Abhivrudhhi Sangha* (District Indigenous Peoples' Development Association) partnered with the research team to undertake the mapping and analysis of access to maternal health services by women in their communities. The association created a sub-committee to partner with the research team and oversee the

[4] A desktop & web-based software for organizing and managing references/documents.

process. They recruited ten field investigators (five men and five women) and a field supervisor from the community to visit the tribal villages and collect relevant data. The research team led by the PI and research assistant along with two field assistants supported the orientation, capacity building and mentoring of field investigators in terms of relevant information, data collection and analysis methods.

Method: The overall method for this component is diagrammatically represented in figure 8.

FIGURE 8. COMMUNITY LED REFLECTION ON THEIR ACCESS TO MATERNAL HEALTH SERVICES



1. Planning: Two meetings were conducted between the research team and community association – first on orientation to the project, its overall method and outputs, and second on the community led reflection – aim and possible methods brainstorm. The association decided to create a sub-committee to plan and oversee all work in the field. They also decided to recruit ten field investigators to visit each tribal village and collect relevant information. The field investigators were recruited in teams of two with one male and one female investigator in each team. Three taluks were assigned one team each and the remaining two teams were assigned to Kollegal taluk due to the larger number of villages in the taluk (table 5). One field supervisor was also recruited to help with the local level planning, coordination and field supervision.

TABLE 4. COMMUNITY FIELD INVESTIGATORS AND VILLAGES COVERED

Taluk	No. of tribal villages estimated*	No. of field investigators	Final no. of tribal villages
Chamarajanagar	25	2	24
Gundlupet	33	2	32
Kollegal	80	4	70
Yelandur	10	2	9

Total	148	10	135

The research team conducted a two-day workshop for the field investigators to help build their capacity on maternal health, available government services and schemes, and on different methods of data collection. In discussion with the association, it was decided to develop a checklist to enable relevant data collection. The format is enclosed in Annexure VI.

2. Village visits: Each team of field investigators planned their visit with the field supervisor. They visited each tribal village in their area, and interacted with different groups of people including village elders, pregnant women and/or recently delivered women, schoolteacher, *anganwadi* worker and ASHA as available. They collected information broadly categorized in three sections: a general profile of the tribal village visited, a hand-drawn map of the village with some indication of access to the nearest health centers and transport for the same, and a detailed note on how women and elders in a village felt about their access to maternal health services through pregnancy, delivery and after in the postpartum period. The research team conducted a follow-up meeting a month later to discuss the experience of the field investigators, refresh knowledge about the various services and schemes, and discuss challenges faced by them in the field. These visits were initiated in July 2015 and completed within six months.

3. Reflection: There onwards the field investigators met once a month with their field supervisor, and research assistant handing over the information with feedback on difficulties faced, and quality of data collected. This continued over the months. Two copies of notes were made regularly, one shared with the sub-committee for their reflection, and another was shared with the research team.

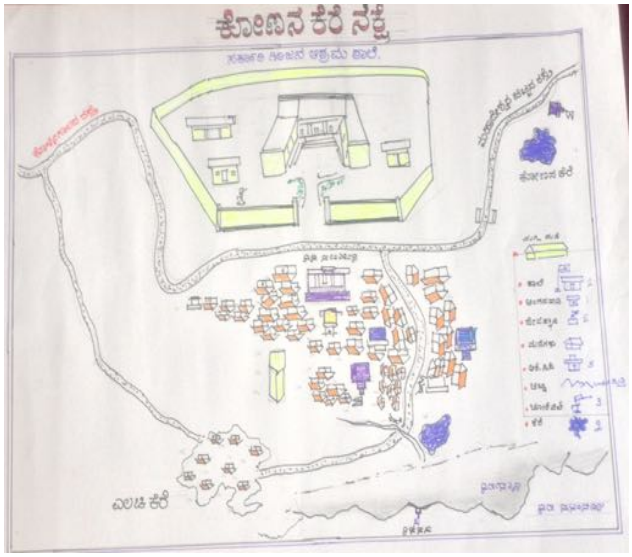
After three months of data collection, a two-day workshop was held to start some reflection on the content of the field notes, and to compile and prepare a taluk-level analysis. This workshop focused on themes emerging from the various field notes taking into consideration both positive statements and issues highlighted. The themes that emerged were used as a framework to analyze each village field note to prepare a summary table highlighting any significant cases identified. The training and all documentation were conducted in Kannada the local language. These summary tables were translated into English and then the research team prepared taluk summaries. The preliminary findings of this reflection are detailed below.

4. Analysis: The sub-committee is currently reviewing the field notes for each village and preparing taluk reports in Kannada focusing on their priorities in discussion with the research team. These summaries will next be discussed and taken forward as a district level report by the sub-committee supported by the research team. This report will be shared for advocacy by the association, and used for the upcoming stakeholder meetings in the research.

Preliminary findings: 135 tribal villages were covered across four taluks in Chamarajanagar district. The three main indigenous communities in the district were *soliga, jenukuruba,* and

bettakuruba (the latter two are confined to Gundlupet taluk). The size of the villages varied greatly with some villages having less than ten households, while the larger ones have over 300 households. Over 5000 households are estimated across the district. More than ninety percent reported presence of an *anganwadi*[5] within or near their village. Distance from a main road and distance from the nearest PHC was also assessed. These reflected a mixed picture of access across the different villages. For instance, seven tribal villages in Yelandur are on the main road while the remaining two are around 3 km away any main roads. However the distance to the nearest PHC is 16 to 24 km away taking nearly one hour to travel by public transportation, not counting the time spent waiting for the transport since all the villages are within a tiger reserve with infrequent buses. In Kollegal also, nearly a quarter of the villages reported distances of 10 km or more to the nearest PHC. Few villages reported as large as 30 to 50 km distance from the nearest PHC. It is important to note here that since most of these villages are within forests, travelling this distance is a bigger challenge given limited public transportation, nearly absent private transport (barring few two wheelers), game roads, wildlife and rainfall. Free-hand maps drawn for each village provide a visual representation of the environment and geographical access to the village and nearby health centers (an example in figure 9). These drawn maps and GPS maps will better help in highlighting the issues with physical access.

FIGURE 9. A FREEHAND MAP OF KONNANAKERE (A TRIBAL VILLAGE)



The preliminary analysis of Yelandur and Gundlupet taluk summaries revealed emergence of certain themes or categories into which most issues were organized (figure 10).

[5] Government day care for children aged 3-6 years with objectives to provide non-formal education and one mid-day meal. Under the Integrated Child Development Services, pregnant women also are provided with one nutritious meal everyday at the center.

FIGURE 10. THEMES EMERGING FROM COMMUNITY REFLECTIONS

- **Physical access –** The most discussed about theme was largely about getting to a health center both for antenatal care and delivery. The infrastructure for transport available to most tribal villages is similar
    - semi-weather roads through forests (distance to the main road can be as high as 4-6 km)
    - within forest reserves so usually time restriction on movement of vehicles in evening and night
    - if village deep in forest, forest department chain across road to prevent vehicle movement
    - limited public transportation – frequency can be as little as only twice a day in the day only
    - minimal private transportation – usually share taxi service of local non-tribal communities, auto rickshaws not available
    - closest 108 generally stationed one to two hours away
    - a third of villages in Gundlupet, and nearly all in Yelandur located on main road

  Walking is the commonest mode of travel for visiting nearby health centers directly or to get to nearest main road. Poor availability for vehicles barring few two-wheelers within the community, makes travelling for a regular checkup or emergency an expensive affair both in terms of time, persons to accompany and money. At night and in rainy seasons, this access is further limited due to wildlife movement in the area. These issues with access not only restrict movement out of the area but also are a challenge for health workers trying to bring services into these villages. In almost all villages, issues with accessing 108 (emergency

ambulance service provided by government) were reported. Even if 108 ambulances are called, the uncertainty of arrival and the delay in transportation during emergencies and helplessness with waiting were reported. Incidents of deliveries occurring at home or on route in the 108 ambulance were also reported. Poor mobile networks in certain forest areas make it already difficult to contact even in an emergency. Since 108 vehicles are large, they are usually not able to travel within forests on semi-weather roads and compel the communities to organize alternate transport via jeeps on hire, local forest department or NGO jeeps to transport the patient till the main road and then shift into the ambulance. One concern raised by few was also that the ambulance only provided transport one-way to the nearest health center, and travelling back was still a challenge that they had to overcome.

- **Economic issues –** A large proportion of households earned their income and is dependent on daily wage work that is irregular and makes it difficult to skip a day's work for an otherwise regular checkup. The work also takes them far from home (both men and women), in some areas requiring temporary migration. Some women also reported that even during pregnancy, she is expected to work till the day of delivery and soon after to earn livelihood. Repeatedly in discussions with the community and health workers, an emphasis on expenditure incurred due to travel was observed. Many acknowledged that while government services were free, the cost to travel both ways with accompanying persons to a nearby health center for checkup or tests was often too high. Few reports of expenditure on medicines and tests from private sector were received despite visiting government health services. Most households also depended largely on the subsidized grains from the government public distribution system (mainly carbohydrates), and shared that access to *nutritious food* (with adequate proteins, and green leafy vegetables) was largely via external markets and this led to poor diet intake during pregnancy and hence poor health outcomes.
- **Availability of services –** In almost all villages, *anganwadis* were available though irregular. However the *anganwadi* worker was identified as the most important source of information on maternal health care and services. In Gundlupet in nearly half of the villages, between the ASHA, ANM and *anganwadi worker* maternal health services were available on a weekly to monthly basis at the village itself. The availability of ASHA and ANM varied greatly across the villages – in Yelandur none of the villages reported presence of an ASHA (at least 2 to 4 expected) while ANM was posted but infrequent in visits and inconsistent in service provision; in Gundlupet – this varied drastically across the villages. Only 3 villages reported monthly visits by the medical officer. PHCs are on an average anywhere from 16 to 24 km away in Yelandur making it seldom visited but for emergencies or complications; in Gundlupet most villages were within 5 km from the PHC barring a few.
- **Awareness of services/schemes –** The key informant in almost all villages was identified as the *anganwadi* worker but overall between the three frontline workers, some information on antenatal care and delivery was available to all. The quality of information was difficult to assess. Information about relevant government schemes and processes to acquire them was

the least known. Local social networks and women who were educated or working outside were also identified as vital sources of information. The women were often generally aware of certain nutritional supplements, medicines, tests and regular checkups being needed during pregnancy, and most often sought them as well. For advice on diet and others, they looked to their family and friends.

- **Acceptability -** For pregnancy related checkups, women often visited the nearby health centers at least once in their pregnancy at a time and pace of their choosing, and reported that institutional deliveries were *safer* in that complications could be better identified and appropriate referral done. The actual choice though was made only at the time of delivery depending on various factors mentioned earlier. However few women did report a fear of hospitals – rather a fear of not knowing what would be done in a hospital or fear of injection or procedure discouraging them from visiting health centers. Discomfort by the idea of internal examinations during delivery and presence of a male doctor were also reported. For pregnancy checkups though, acceptability was comparatively high. In very few instances, a woman actually reported that she chose to deliver at home due to belief in traditional ways over choice of modern health services. Although home deliveries did often occur, most deliveries were reported in PHCs reflecting a larger acceptance of hospital-based deliveries. Immediate and exclusive breast-feeding is already practiced within the community.
- **Quality of services –** Infrequent visits by frontline health workers and focus on reporting and writing – rather than providing useful information and services were some of the complaints. In a few villages, ANMs were not considered as reliable sources for services whereas in one village, they were happy with the frontline health workers and mentioned that the workers organized bi-monthly gatherings where helpful health education was provided to all women. Staff nurses often conducted deliveries at PHCs, and presence of male doctor as a barrier was mentioned by a few. Informal payments in the tune of 5 to 100 rupees were reported to the staff at some centers as well.

In each taluk, one to two villages were identified which had poorest access to services. These villages were often relatively isolated within forest with travel restrictions, and seldom visited by any frontline health worker. Women in these villages reported reliance on traditional health practices and home deliveries with a traditional birth attendant.

Generally poor sanitation facilities and a social problem of alcoholism were two key themes that across the villages contributing to the poor socio-economic conditions, delay in decision making and general poor health status according to the community.

Component F: Health services' reflection

Field visits to tribal PHCs: As mentioned earlier, GPS mapping was undertaken for government health centers catering to indigenous communities across the district. During these visits, PHC

staff under the leadership of the concerned medical officer was oriented about the research and a brief interaction was undertaken to gain insight into their perspectives on working with indigenous communities focusing on maternal health services. 16 (of 26) tribal PHCs (and one tribal mobile health unit) were visited along with 11 sub-centers across the four taluks. During the visits, the team also visited 11 private hospitals in the district providing maternal health services.

Interaction with government health workers including medical officers: Apart from brief interactions with the PHC teams, the research team interviewed a taluk-level senior lady health visitor (senior health assistant female) who apart from their own experience, supervise the maternal health service provision and utilization in all PHCs under them. While the analysis is ongoing, the preliminary themes emerging are shared below (figure 11). These help provide useful insights into the challenges faced by the health workers at the periphery.

FIGURE 11. ISSUES EMERGING FROM INTERACTION WITH HEALTH WORKERS

- **Physical access and general infrastructure** – Similar to the community, transportation is identified to be a key barrier that appears to significantly influence motivation of health worker. This was a common concern raised by all the health workers we interacted with from ASHA to the PHC medical officers. They stated that nearly two-third of the tribal villages are situated in forested areas, often within wildlife reserves with semi-weather roads only for access. Health workers are not provided any additional transportation for their work, or any incentives to ensure that work. Only the ASHAs (community volunteers) and one ANM belonged to the indigenous community themselves. For the others, travelling

to many of these villages especially during the second half of the day or during emergencies was a significant challenge. Limited public transportation and low economic status often the health workers' predict are barriers by themselves for community to travel to pharmacies or health centers when referred leaving a lot of the advice they give to unresponsive ears even if risk is associated.

Almost all health workers narrated various incidents during emergencies when this access became the sole reason for the undesirable outcomes. For all of them, organizing emergency transport is a challenge that they commonly face. In some tribal villages, mobile network is not available making even simple communication tough. Calling 108 (designated government ambulance) still does not ensure that transportation arrives on time. In areas bordering other states, the call would even need to be transferred between state centers. Even if 108 was to respond, the average duration taken to reach a village is anywhere between one to one and a half hours. In emergency situations, the ANM usually takes a call based on the urgency of the situation, and economic conditions of the patient. In some cases, she even gets the community to hire a private vehicle to the nearest center. In other times they often report that the expecting mother would deliver at home or en-route to a health center due to the time delay in securing transport.

- **Follow-up a challenge –** despite most indigenous people having a mobile phone, poor mobile networks in the forest often make it difficult for health workers to follow up with patients or their relatives. Given that physical access is difficult, the frequency of interaction between health workers and the community including expecting mothers is much lower. In such scenarios, they rely heavily on communication via mobile phones.

  Some health workers also reported as temporary migration by tribal families in search of work as a reason for poor follow-up, and loss in continuity of care crucial for pregnancy and delivery related care.

  Accepting that additional efforts are needed to follow-up certain cases like child whose immunization is due or expecting mother close to due date, few health workers expressed their helplessness to ensure the health of every registered expecting mother while others even reported taking their personal vehicle or hiring a vehicle to pursue a particular case. This challenge also worsened in villages that were remotely located or deep in the forest away from the main road.

  The low socio-economic status also led to people not being able to continue treatment or medication or make regular trips to nearby health centers or pharmacies, according to the health workers. Even if the services or medicines were free, the cost for travel two ways and the loss of wages for that long trip is not a cost that most families can afford. These non-medical direct and indirect costs hence act as a barrier to regular follow-up of much required medical care.
- **Perceptions about indigenous people –** Almost all health workers irrespective of their cadre did not belong to this or any indigenous community. Most health workers reported no

difference in their own attitude or services provided to indigenous community in their area when compared to others. The main differences they perceived were in terms of the background of the indigenous community and in *their* (community's) attitude towards government health workers and health services. Most health workers attributed their challenges in working with indigenous people to their low economic status, their relative poor education status and their cultural *backward*ness. The latter was explained in many ways such as being superstitious, sticking to apparently traditional practices, listening to community elders over the advice of the health workers, firmly believing in god for healing and often choosing this over health services provided. Few hypothesized these as reasons for the community generally being less cooperative with health services and being poor participants in any program or process. Some provided anecdotes like when they conducted house-to-house surveys, the local people questioned about any direct benefits and refused to participate. One mentioned that after overcoming many challenges when she tried to give polio drops to the children in the village, few elders reprimanded her for her actions. They felt that these were poor choices made by the community.

Few health workers working in these areas for long were critical of such simplistic views, and shared the need for focused health education activities to explain or counsel them towards understanding the need for services. One even suggested use of alternate audio-visual methods to communicate such messages for better retention. One ANM who belonged to the local indigenous community explained that while most health workers perceived an element of *intentional* rejection of services, according to her most people did not comprehend the need or how to pursue some of these issues, and that additional effort was warranted to facilitate the services to reach the community.

- **Struggle to bridge barriers**

  Whether it is early age of marriage or misconceptions about injections during pregnancy, many health workers seemed aware of common notions and issues among the women esp. in relation to pregnancy and delivery. Some provided instances where even routine paperwork required to participate in a health scheme or program was needed to be taken up by the health workers themselves to ensure that each beneficiary received their due. However these little efforts often went unappreciated both by their supervisors and the community. Caught in between reporting and avoiding being reprimanded, and providing services to the community, few health workers shared some cases where the interaction between the services and the community was poor, and how this only worsened the cooperation they received in the field. For instance, in one village the ANM encouraged institutional delivery and recommended to the women to visit the nearby PHC for care (around 30 km away). When a pregnant woman visited the health center with her mother for delivery, there was no medical officer and only one nurse who examined her initially and then did not return. This led to the mother conducting the delivery for the daughter, and them returning with a grudge against not only the health center but also the ANM for suggesting this.

On the other side, one staff shared a story of how they were called in the middle of the night for a delivery to a remote village in their area. The team got together and travelled through the forest in the darkness for an hour or more to reach the house. But by the time they reached the woman had already delivered with a healthy baby, and the family had gone back to sleep like any other day, leaving no one to bother about the team. Annoyed, the team brought the mother and child back to the health center for admission, and reported it as an institutional delivery for the effort they put in. Many more such stories reported convey a constant struggle by health workers to perform their responsibilities given the various limitations and communication gap with the community.

- **Shortage of staff and *'band-aid'* solutions -** The shortage for human resources is across all health centers in the districts. Nearly half the sanctioned posts in tribal health centers are vacant with nearly one-sixth for female health workers. In tribal health centers given the difficult geographical terrain and surrounded by forests, the motivation to work is relatively lower among some staff leading to voluntary transfers or irregular work. Given the shortage, different temporary solutions are applied in tribal health centers. For instance, all posts at an interior tribal PHC are vacant, so different staff from nearby PHCs are posted there for two to three days a week. This inevitably leads to two partly functioning health services in these areas. While some medical officers of a PHC are given posted to another PHC as the acting-in-charge, one ANM mentioned that she covers four sub-center's responsibilities. Despite these limitations and being stretched thin, we identified many health workers who were performing all of their allocated duties. The community in their areas is aware of these shortcomings and often organizes protests and petitions demanding for sanctioned posts to be filled. However this shortage and its implications on existing staff and provision of existing services is significant in a terrain where physical access is already a challenge.
- **Support for work -** While most health workers spoke vocally about the lack of support they receive from the indigenous communities even the beneficiary themselves in organizing services, few health workers including medical officers spoke about minimal to nil recognition or appreciation from their peers or superiors regarding the hardships they face on a daily basis to perform their responsibilities. Few mentioned closely partnering with local networks like *anganwadi* workers, schoolteachers and leaders to help smoothen their work. Most health workers were defensive about any questioning of the expected outputs in their area like antenatal coverage or proportion of institutional deliveries. Improvement In the absence of financial and non-financial incentives.

SECTION III: PROJECT PROGRESS AND NEXT STEPS

While the project was planned for twelve months, delay in receiving ethics approval necessitated a no-cost extension till Aug 2016, which was granted by WHO in Dec 2015. The project received full approval from WHO Ethics Review Committee in Jan 2016.

All six components as described in the previous section were initiated. Four components namely A (maternal health services description), B (service availability and mapping), D (toolbox) and E (community reflection) are near complete and in the final stage of consolidation and analysis. Components C (stakeholder analysis) and F (health service providers' reflections) are ongoing and are expected to be completed in the coming months as explained in detail below.

To allow better communication and some insights into research project, the research team adopted a newsletter approach. One newsletter was generated six months back to be shared among the various co-investigators and those supporting the research. This is enclosed as Annexure VII. However with delay in receiving the WHO Ethics Review Committee approval and unclear timelines, this was put on hold. With the full approval now upon us, the team will again commence creating newsletters sharing key research activities and articles from the toolbox.

Next steps:

In view of the delay in obtaining ethical clearance for the study, many of the activities pertaining to the participatory action research were deferred. As the activities proposed, there are two axes of enquiry in this project. The first one is the PAR axis while the other one is the simultaneously progressing axis related to building a theory(TDI). While the former had the goal of building a common platform at the district level to bring together several stakeholders on tribal maternal health, the latter focuses on building an explanation for what worked and why. As per the illustration from the original study proposal, various outputs related to these two axes of inquiry were proposed. In table 6, we adapted these activities into the remaining project period. The remaining activities are organized into three main headings: participatory action research, theory-driven inquiry, and dissemination.

TABLE 5. REVISED TIMELINE FOR REMAINING STUDY DURATION

Research activities	2016							
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Participatory Action Research								
Situation analysis								
Report writing - community, interim report								
Service mapping and utilisation information								
Health seeking behaviour final analysis and writeup								
Health service provider discussions and report								
Maternal health innovation mapping								

Stakeholder workshops								
Communty and implementer meeting for reflection								
Local solutions implemented in PHC/communities								
Newsletters shared with co-investigators and other actors								
Theory-Driven Inquiry								
Initial programme theory developed								
Refining programme theory								
Revised programme theory finalised								
Dissemination								
How to- manual for district health managers								
State level workshop								
Engage with mass media								
Photo-essays/ case studies for teaching								
Project film								
Participate in scientific conferences, write scientific paper								

PAR activities

The data collection activities including interviews, focus group discussions and case studies were taken up by the field researchers as described earlier. We propose to bring together the analysis and results of the tribal field investigators with the analysis and results of the health services staff onto a common platform. This will be done in 2 workshops, one in April and the other one later in July-August. The purpose of these workshops shall be to arrive at a shared/negotiated understanding of why the maternal health situation among tribal women is poor.

For the first workshop, we shall invite the tribal field researchers to share their analysis with the district team. Other stakeholders invited to the workshop shall include the co-investigators, the doctors working in the tribal area PHCs, and community leaders. We hope to steer the discussion towards problem-solving focusing on what can be done locally to improve this situation. We will break out into groups and each group will brainstorm possible short and long-term solutions to be jointly discussed. A plan of action for follow-up will be drawn up at the end of the workshop.

We foresee that the workshop discussions will result in possible solutions that may be piloted/implemented between April and August. In view of the time constraints, only small-scale and short-term projects may be implemented. For the more long-term suggestions, we shall propose to include them under the district's annual action plan in the subsequent year. Indeed, such an inclusion of any local solutions into the district's action plan is an outcome of the proposed study.

TDI related activities

At present, the initial theory is being formulated. The basis for the initial program theory is the program documents, field notes and observations. The initial program theory will focus on

implementer assumptions as to why such a common platform ought to form and how it could lead to improved maternal health situation for tribal women. In the next phase, a series of interviews with stakeholders shall be conducted to further contest and refine the theory to develop a better understanding of what is working and for whom. The refined theory of what worked (and what did not), for whom and why shall be finalized in July-August. The output shall be in the form of a report, portions of which can also be used in dissemination at workshops and in peer-reviewed articles.

Dissemination activities

The potential for disseminating outputs of a PAR project are much more than conventional research projects.

- A journalist-photographer on the team is finalizing a series of photo-essays on the tribal health situation. These photo-essays shall be published as a series in the coming months (February – April). We will share them widely and disseminate it strategically among policymakers at the state level to improve the agenda setting on tribal health. We will also share them widely in social media to generate a wider discussion in various communities of practice as well as on discussion forums of public health researcher community. The photo-essay themes are as follows:
    - Series 1 on introduction to indigenous tribal people in southern India (figure 12)
    - Series 2 on how it is to live in a forest and grapple with issues of rights, access to services etc.
    - Series 3 on maternal health in relation to the issues raised in series 1 and 2

FIGURE 12. SCREENSHOT OF THE FIRST PHOTO-ESSAY TO BE PUBLISHED IN FEB 2016

- A short film shall be made to enable the tribal field researchers to share their results. Unlike in conventional research projects where results may be shared in journal/academic language format, oral narratives are the preferred choice of sharing results in PAR. The film shall capture the results in the voice of the tribal researchers themselves. The film shall also be a

powerful advocacy tool to showcase at national and international symposia to take the voice of the tribal researchers directly to these audiences. The film shall be made in three iterations capturing the progress at three points of time, beginning with the tribal researchers'' analysis and successively adding more and more stakeholder voices and responses to their analysis.

- The third edition of the national conference on bringing evidence into public health policy (EPHP, see www.ephp.in) is the premier platform for sharing health policy and system research discussions and for engagement between researchers and policymakers in India. It is conducted every two years by Institute of Public Health, Bangalore (IPH). We have submitted a proposal for an organized session by a panel consisting of the tribal researchers and other co-investigators, ending in a fishbowl discussion on the relevance of PAR approaches such as this one for district managers.
- A policy brief shall be prepared at the end of the project for dissemination to all tribal area policymakers and implementers across the country.
- Finally, a draft manual for district health managers in tribal districts, based on lessons learnt from this project shall be prepared in July-August.
- The fourth symposium of health systems global is scheduled later this year at Vancouver. The research team is a part of two applications for organized session, and will also apply for poster and multimedia submissions. (http://healthsystemsresearch.org/hsr2016)

LIST OF ANNEXURES

Annexure I	Government schemes for maternal health services in Chamarajanagar district
Annexure II	Format for GPS location and facility level data collection
Annexure III	List of stakeholders identified in the district
Annexure IV	Format for reporting maternal health innovations in India
Annexure V	Maternal, neonatal and child health innovations v1
Annexure VI	Format for community field investigator's village visit
Annexure VII	PLA newsletter

Annexure I

Government schemes for maternal health services in Chamarajanagar district

Common abbreviations used:

APL: Above Poverty Line
ANC: Ante Natal Checkups
ANM: Axillary Nurse Midwife.
ASHA: Accredited Social health Activist
AWW: Anganwadi workers
BPL: below Poverty Line
MOU: Memorandum of Understanding
IFA: Iron and Folic Acid Tablets/Syrups
PNC: Post Natal Checkups
ST: Scheduled Tribes
SC: Scheduled Castes'
TT: Tetanus Toxoid

Various schemes and/or programs of the Government of Karnataka aim to reduce overall maternal and infant mortality rates. Different schemes provided throughout the pregnancy period help pregnant women belonging to lower socio-economic status to access health services and provide financial incentives for better nutrition and care of both mother and child.

The schemes include :

1. *Janani Shishu Suraksha Karyakaram* (JSSK)
2. *Prasooti Arike*
3. *Janani Suraksha Yojana* (JSY)
4. *Madilu* Kit
5. *Tayi Bhagya*
6. *Tayi Bhagya* Plus
7. *Janani Suraksha Vahini*
8. *Nagu Magu*
9. 108 ambulance services

Janani Shishu Suraksha Karyakram (JSSK)	
1.Aim	Main goal of JSSK is to ensure that pregnant women and sick neonates access public health facilities under JSSK at zero expenditure & reduce their mortality rates. JSSK supplements the cash assistance given to a pregnant woman under *Janani Suraksha Yojana* and is aimed at mitigating the burden of out of pocket expenses incurred by pregnant women and sick newborns in government health facilities.
2. Eligibility	This programme includes essential services during ANC, delivery, and postnatal care to all women and free services to children within one year. Covers all children admitted to government hospital below one year age including those from outside the state
3. What is the scheme about	The following are the free entitlements for pregnant women: • Free cashless delivery • Free caesarian section • Free drugs and consumables • Free diagnostics • Free diet during stay in the health institutions • Free provision of blood • Exemption from user charges • Free transport from home to health institutions • Free transport between facilities in case of referral • Free drop back from Institutions to home after 48hrs stay The following are the free entitlements for sick newborns till 30 days after birth - now expanded to cover sick infants: • Free treatment • Free drugs and consumables • Free diagnostics • Free provision of blood • Exemption from user charges • Free transport from home to health Institutions • Free transport between facilities in case of referral • Free drop back from institutions to home
4. How to obtain it	Services can be availed by all as both BPL and APL are Eligible.
Prasooti Arike	
1.Aim	This is a government of Karnataka scheme for the benefit of pregnant women belonging to BPL families
2. Eligibility	• BPL families only • Only for 2 live births • In government hospitals only
3. What is the scheme about	The pregnant women have to register their names with the Junior Female Health Assistant (ANM) of the area. • The entitlements include Rs 1000 during the second ANC checkups, Rs 300 after delivery for rural women, Rs 400 after delivery for urban women paid through bearer cheques. • During every ANC checkup, the Medical Officer of the Health Centre/Hospital puts the signature, date and seal on the ANC card. • An information booklet on the dietary requirements for the pregnant woman has to be provided by IEC wing, to each of them. • This facility is extended to all pregnant women belonging to below poverty line

	families • The benefit is limited to the first two deliveries. The Junior Female Health Assistant has to record the ANC registration number along with noting whether it is first or second delivery.
4. How to obtain it	Register with ANM for antenatal checkups, and provide necessary documentations for BPL status
Janani Suraksha Yojana (JSY)	
1.Aim	JSY is being implemented with the objective of reducing maternal and neonatal mortality by promoting institutional delivery among poor pregnant women.
2. Eligibility	• Must belong to a BPL family • Current delivery must be first or second live child • Should be above 19 years of age • Must have got 3 ANC checkups • Must have taken IFA and TT injection • SC/ST Women not belonging to BPL are also eligible • In case if women is eligible and does not possess a BPL card she is guided though ASHA AWW to obtain certificate through concerned revenue • At government hospitals or empanelled private hospitals
3. What is the scheme about	Programme provides financial assistance to poor pregnant women undergoing delivery. For home delivery: Rs 500; institutional delivery (rural): Rs 700 (urban): Rs 600; Caesarian section: Rs 1500.
4. How to obtain it	Register with ANM for antenatal checkups, and provide necessary documentations for BPL status
Madilu Kit	
1.Aim	To provide post natal care for mother and child by encouraging mothers to deliver in health centers/hospitals in order to reduce infant mortality and maternal mortality
2. Eligibility:	• Only for 2 live births • Have to deliver in government hospitals
3. What is this scheme about	Kit containing essential care elements for postnatal mother and new born baby: 19 items • Mosquito curtain • Medium sized carpet • Medium sized bed sheet • A thick blanket for mother • Bathing Soap • Washing soap • Cloth to tie abdomen of mother • Sanitary pads • Comb and coconut oil • Towel • Tooth paste and brush • bed spread over rubber sheet for the baby • Bed sheet for baby • Bathing soap for baby • Rubber sheet for baby • Diaper • Baby vest • Sweater, cap and socks for baby

	• One plastic kit bag.
4. How to obtain it	Obtained after delivery in government hospitals only
Tayi Bhagya	
1.Aim	This program aims to provide free service to pregnant women belonging to BPL families in registered private hospitals initially in 7 districts of Karnataka - now extended to all districts in Karnataka. Based on public private partnership.
2. Eligibility	• Must belong to BPL family • In registered private hospitals only
3. What is this scheme about	Hospital can sign an MOU with the District Health Office if following criterion is met. Recognized Private Hospitals are reimbursed an amount of Rs. 3.00 lakh and recognized Government Institutions will get an amount of Rs. 1.5 lakh for every 100 deliveries conducted in their institutions including surgeries. • Should have min 10 In patients beds • Should have functional Operation theater and Delivery Room • 24 hours availability of gynecologists, pediatricians and anesthetists • Should have links with blood bank
4. How to obtain it	It can be obtained at private hospitals, which are registered under Tayi Bhagya Scheme.
***Tayi Bhagya* Plus**	
1.Aim	Pregnant women in rural areas to get financial incentives for delivering in registered private hospitals
2. Eligibility	Must belong to BPL family
3. What is this scheme about	Rs 1000 on delivery at registered private hospitals
4. How to obtain it	It can be obtained at private hospitals which are registered under the scheme (cannot avail JSY if this scheme availed)
Nagu Magu	
1.Aim	Aim is to transport he mother and child after delivery from the hospital to their home in order to prevent infection
2. Eligibility	• Must belong to BPL family • Mother should be in hospital for 48 hours after delivery
3. What is this scheme about	Each *taluk* will have one vehicle for this purpose exclusively to drop off mother and child with in 45 kms radius at no charges to the beneficiaries
4. How to obtain it	The mother should have delivered in an institution. In Chamarajanagar, taluk and district hospitals only
108 ambulance	
1.Aim	Emergency response to the needy
2. Eligibility	Anybody in the state of emergency
3. What is this scheme about	Free ambulance service from the spot of emergency to the institute for appropriate care.
4. How to obtain it	Call 108 from your phone Explain the emergency over phone Respond to the questions

Annexure II

Format for GPS location and facility level data collection

Unique ID	Service provider name	Lat	Long	*Taluk*	Type of provider*	Level of service*	Type of maternal health services provided*	Visited by tribal women*

Legend:

Type of provider
1=Government
2=Private
3=Traditional
4=Not qualified

Level of service (for government heath centers only)
0=NA
1=Sub-center
2=PHC
3=Community health center
4=Taluk hospital
5=District hospital

Type of maternal health services provided
1 =Antenatal and/or postnatal checkup
2 =Normal deliveries
3 =Operations (Caesarian sections)
4 =Serious complications

Visited by tribal women
1 = Yes
2 = No

Annexure III

List of stakeholders identified in the district

Sector	Category	Actors included	Reason chosen/relation to policy
Government health department	District health team	District health officer, reproductive and child health officer, program officers	• Technical support for operationalization of the program • Program management and statistics • Responsible for implementation and supervision of RMNCH+A • Financial management of program
Community	District administrators	District commissioner, *panchayat* president and members, chief executive officer	• Part of district health society - staff, financing, decision making • Monitor district health society functioning • Participate in maternal death audits • Work with all departments beyond health
	Community based organizations	*Zilla Budakattu Girijana Abhivrudhhi Sangha* Self-help groups	• Advocate on behalf of the community for their entitlements including schemes • Communicate with all villages about their entitlements/ schemes • Experience of work with the community on forest rights and other welfare schemes • Mandate is development of indigenous communities
Other government departments	Social welfare department	Tribal Welfare Officer	• Responsible for monitoring overall tribal welfare in the district • Have some financial allocation for schemes including health
	Forest department	Conservator forests	• Responsible for implementing restrictions in forest/tiger reserves where most tribal communities reside • Key actor when discussing issues with physical access
Government health department	*Taluk* hospitals Community health centers	Administrative medical officers, OB. specialists	• Provide specialist services for complications and operations • Responsible for secondary hospital services in a given *taluk*
	Taluk level	*Taluk* Health Officers	• Provide administrative and operational information about availability, access and utilization of services by tribal women at *taluk* level • Supervise and monitor functioning of tribal PHCs, sub-centers and reporting • Work with *taluk* panchayat and other actors at *taluk* level
Private Health Providers	Private-for-profit hospitals	Detailed list available	Provide maternal health services for tribal women

	Non Governmental Organizations	NGO hospitals NGOs that work for health	• Provide health services for tribal women • Undertake Public Private partnerships for service delivery • Also run program on social welfare for communities • Have good rapport and understanding of local communities
Government health department	PHC (Medical Officers)	26 PHCs and tribal mobile health unit	• Responsible for safe maternal health services for indigenous communities in catchment area • Supervise and monitor outreach services • Supervise and investigate problems, complications and deaths
	ANMs (at SC)	Detailed list	• Provide community level maternal health services • Key informant for health education on safe practices and also government processes and schemes • Provide regular antenatal and postnatal services to all women in area and responsible for follow up at home • In case of home deliveries, expected to conduct and follow-up all cases
Community	ASHA		• Provide village level maternal health education and information on relevant services and schemes • Link with ANM so expected to report any issues, problems and all relevant data regularly to them • Help counsel women about safe health and delivery practices • Help organize transport for deliveries and emergencies and accompany women to health centers.
Other government departments	Women and Child development department	Child Development Project Officer, *Anganwadi* worker in each village	• Provide nutrition to pregnant women • Interact regularly with pregnant and new mothers in the community as a source of health education

Researchers and academicians working with these communities or on access to maternal health services

Annexure IV

Maternal health innovation/intervention case study format[1]

Title	*Title of the innovation*
Category	*Maternal, neonatal, child health or across all*
Type of innovation	*Information systems, technological, organisation, policy (sub-category) - could consider other sub-categories like directly addressing MCH issues or indirect or general health system reform, etc – definitions and examples provided for each sub-category*
Background of the innovation/programme	*Gives background of where the innovation was developed and implemented, by whom, where, when and for what duration*
Problem statement	*Gives the background of the problem (maternal, neonatal or child health related) addressed by the innovation/program using key data & figures available – explains the rationale behind the emergence and relevance of the innovation* *Describe the implementation setting and policy/local environment within which this innovation is (to be) implemented*
Programme description	*Detailed description of the innovation – describing its various components, process of implementation, involved actors, level of implementation using figures as possible, expected outputs clearly listed and explained*
Programme outcomes	*Pathways to impact – possible reasons/pathways through which this programme works (or worked) to influence maternal or child health outcome* *Impact of innovation on maternal, neonatal or child health outcomes based on evidence from available studies and secondary data from implementers*
Strengths	*Innovation to be analysed based on:* • *scalability* • *costing/financial investment and* • *potential for integration with existing health services/ programmes in terms of technology, protocols, etc* • *relevance to given context* *– strengths or points in favour listed and discussed here*
Challenges	*Based on the above analysis – concerns, threats, limitations listed and discussed here*
Additional resources	*Useful references (including relevant studies, available program or related documents, media if available)*

[1] Adapted from Health Systems Policy Reforms Options Database (Central Bureau of Health Intelligence, Government of India); Good, Replicable And Innovative Practices - NHSRC Coffee Table Book, 2015 (National Health Systems Resource Centre, Government of India) and Innovations in maternal health: Case studies from India (SAGE publications).

Annexure V

Maternal, neonatal and child health innovations in India

version 1 dated 14 Dec 2015

List of innovations divided into four categories:

1. **Health information systems**
    - IS1. Mother and Child Tracking system with mobile integration
    - IS2. Key informant surveillance system
    - IS3. Maternal health reporter
    - IS4. Facility based newborn care database

2. **Technological innovations**
    - TE1. Home based neonatal care
    - TE2. Coldtrace – low cost vaccine temperature sensor and information system
    - TE3. Logistimo – logistics management information system
    - TE4. Comprehensive Primary Health Management using information communication technology
    - TE5. Suyojana: Mobile decision support application
    - TE6. Sick Newborn Care Unit
    - TE7. Embrace warmers
    - TE8. Mobile Vaani - maternal health campaign

3. **Organisational innovations**
    - OR1. Accredited Social Health Activist
    - OR2. Adolescent friendly health clinics
    - OR3. Comprehensive Emergency Obstetric and Neonatal Care centers
    - OR4. Second auxiliary nurse midwife at sub-center in select areas
    - OR5. Arogya Bandhu Program
    - OR6. Skill labs in Bihar
    - OR7. Mamta Ghar - birth waiting home

4. **Policy level innovations**
    - PO1. RMNCHA plus strategy
    - POD. Maternal death audit
    - PO3. Chiranjeevi health scheme
    - PO4. Janani suraksha yojana - conditional cash transfer for institutional delivery
    - PO5. Madilu Kit (Baby box)
    - PO6. Transportation for mother and child for using health services
    - PO7. Other cash benefit schemes for expectant mothers
    - PO8. Antenatal clinic integrated with yoga and naturopathy

With inputs from Roshni Babu and Prashanth NS, Institute of Public Health Bangalore. The document also includes original text used in good faith from primary sources mentioned/proponents of these innovations. Sources are hyperlinked to internet resources.

Information Systems

Id no.	IS1
Title	**Mother and Child Tracking System (MCTS) with mobile integration**
MNCH	Maternal, neonatal and child health (under five)
Category	Information Systems
State (scale of implementation)	Karnataka focus but web-based MCTS in all of India (under NRHM)
Implementer	Government of Karnataka (under National Rural Health Mission)
Year	2009 onwards
Description of the innovation	A web enabled name-based tracking system which aims to track every pregnant woman once registered for antenatal care through delivery and postnatal period till the child is atleast three years of age - thereby aiming to assure service delivery for antenatal, intranatal, postnatal, neonatal care, growth monitoring and immunisation services to the mother and child. In Karnataka, MCTS was customised with mobile integration. This system tries to track mother and child across villages within the state and reaches out to families of the beneficiaries via mobile phones and interactive voice response system. An expectant mother is issued a *thayi* (mother) card which carries a unique barcode with the basis of which all data related to the mother and child is integrated to one record leading to comprehensive heath care with continuty of care irrespective of place.
Strengths	*area wise reporting (unlike facility based for routine systems) *even if woman moves from one area to another, the data is captured *facilitates work of frontline health workers in following up beneficiaries and reduces data entry work, and gives them a workplan for each beneficiary *facilitates health managers at all levels from district to national level to better plan, implement and monitor services effecively based on real time reporting.
Challenges	*does not capture private sector data, hence *lower coverage when compared to routine health management information systems *possible underestimation in urban areas
Further information	A comparison between HMIS and MCTS data on MCH indicators in select two districts of Karnataka
	Mother and Child Tracking System (MCTS) with mobile integration in Karnataka
	Strengthening and Scale-Up of Nationwide Mother & Child Tracking System (MCTS) - Examples.
	Awarded the Top 11 in 2011 Innovators challenge award instituted by Rockefeller foundation and m-Health Alliance, USA
Id no.	IS2
Title	**Key informant surveillance system**
MNCH	Maternal health from antenatal to postnatal period
Category	Information Systems
State (scale of implementation)	Three districts in states of Odisha (1) and Jharkhand (2)
Implementer	Ekjut, a NGO working in Jharkhand and Odisha
Year	2006 onwards
Description of the innovation	Implemented in districts with poor routine birth and death registration system. First identification stage - where key informanst (mainly traditional birth attendants) identified to further identify all births and deaths of women in resproductive age group with minimal financial incentives. Next in the interviewing stage, one full time interviewer for each cluster would verify information provided by key informants, and interview all mothers after their postpartum period. They then attempt to verify if a death was metrnal or not by interviewing relatives of the deceased. One monitoring supervisor per district ensured surviellance. If a maternal death, then verbal autopsy conducted with immediate relatives and also with health providers based on cooperation. Verbal autopsies then reviewed independently by two local obstetricians.
Strengths	*low cost intervention (costs reported in detail for all stages in the writeup) *could be used to monitor trends in outcomes - maternal and neonatal *can be used to measure impact of various interventions in areas with poor routine data *helpful for evidence based decision making *appropriate for tribal communities in India - where routine data is lacking
Challenges	* similar to any method of measuring maternal mortality - chances of false positives high *limitations of verbal autopsy apply
Further information	Innovations in maternal health: Case studies from India - Book available online
	A prospective key informant surveillance system - writeup in BMC Pregnancy and Childbirth
Id no.	IS3
Title	**Maternal health reporter**
MNCH	Maternal and neonatal child health
Category	Information Systems
State (scale of implementation)	Ahmednagar district, Maharashtra

Implementer	Global health bridge (GHB) with Comprehensive Rural Health Project, Jamked
Year	2011
Description of the innovation	A mobile-based health information system that facilitates frontline health workers to provide continuous care and followup of beneficiaries. Data on maternal health collected on cell phones, store and get data via SMS, and receive timely reminders for each beneficiary.
Strengths	*allows health workers to focus on seeing their beneficiaries by making data collection and followup streamlined, *improved quality of data collection *enables supervision of health workers and monitoring of data *near universal availability of mobile phones in the country makes it a favourable technology to help improve information systems
Challenges	*integration to existing health information systems not clear *costing information and needed technology not clear based on data available
Further information	Health market innovations website writeup
	Finalist at the Harvard Social Enterprise Conference "Pitch for Change" Competition.
	Co-winners of the Princeton Entrepreneurs' Network of Boston Social Enterprise Pitch Competition.
Id no.	IS4
Title	**Facility based newborn care database**
MNCH	Neonatal child health
Category	Information Systems
State (scale of implementation)	Madhya Pradesh initially, now across country
Implementer	Government of Madhya Pradesh with UNICEF
Year	piloted in 2011, scaled up in state in 2012, 2013 adopted by Government of India across country
Description of the innovation	Due to high mortality rate of infants after they leave the sixk newborn care unit (SNCU) and within the first year, a SMS tracking system utilized in state of Madhya Pradesh. Online data management and follow up tracking system used in SNCUs for data entry and analysis. Followup by an automated SMS system, contains repository of relevant guidelines and training material. System used to track children post discharge and ensure timley checkups irrespective of where they are in infancy.
Strengths	*health of at-risk newborns closely monitored till child is one year of age - thereby allowing better health outcomes *favourably adopted by Government of India and integrated into SNCU approach across country *monitoring cell at state and national levels
Challenges	*need simultaneous investments in all levels of care - as it is a referral system so health outcomes dependent on how all tiers - from community health workers to PHCs to referral hospitals
Further information	Best practice documentation in national health mission, Madhya Pradesh
	Best use of ICT for e-Governance award by Madhya Pradesh IT team

Technological innovations

Id no.	TE1
Title	**Home based neonatal care (HBNC)**
MNCH	Neonatal health
Category	Technological
State (scale of implementation)	Piloted in Gadchiroli, Maharashtra. Now upscaled to entire country under National Rural Health Mission
Implementer	SEARCH (NGO in Gadchiroli, Maharashtra) and now by State health departments under NRHM
Year	2011 onwards (country)
Description of the innovation	Significant proportions of home deliveries not conducted by skilled birth attendants, and reality of mothers returning home few hours after delivery across different states of India, brought in this strategy to complement the ongoing push for institutional delivery. HBNC includes care for newborn by ASHA through a series of frequent visists, education to mother about healthy practices, newborn examination in each visit, additional visits for at risk neonates, early identification of illneess, followup of sick neonates, and counselling for postnatal mother on postnatal care and adoption of family welfare methods
Strengths	*additional support to family to ensure health practices *provision of essential newborn care at home itself especially *early detection and referral of illnesses *appropriate especially for areas or communities with relatively poor access to health services *implementation at Gadchiroli followed by multiple studies evaluating strategy with positive results
Challenges	*effective at small scale in tribal communities - effectiveness of strategy after upscaling not known yet *practice of community health volunteers providing injectables criticised by a section of medical professionals

Further information	Home based neonatal care guidelines NRHM
	Home based newborn care: how effective and feasible?
	Effect of home-based neonatal care and management of sepsis on neonatal mortality
Id no.	TE2
Title	**ColdTrace**
MNCH	Child health
Category	Technological
State (scale of implementation)	10 sites in India (also Kenya (50), Mozambique (100), Indonesia, Philipines and Laos (12))
Implementer	Nexleaf Analytics
Year	NA
Description of the innovation	ColdTrace is alow cost wireless sensor that allows remote temperature monitoring system for vaccines storage and transport. It allows the data to manageed at a global database to facilitate decision making by governments, clinics and other global partners. Once installed, it generates SMS messages and PDF reports that can be customized and targeted to support decisions at the clinic and supervisory levels. It includes a web-accessible dashboard that provides access to near-real-time as well as historic views of data synced from the device.
Strengths	*helps stengthen cold chain especially in areas with limited resources *can be integrated with existing management information systems *helps streamlineclose monitoring and thereby helps ensure quality of vaccines *uses low cost technology being further developed in different low and middle income countries *organisation partners with multiple international health agencies and TERI in India, and NGOs at grassroot level
Challenges	*no clear information on overall costs and technology requirements
Further information	Write up on the Nexleaf website
Id no.	TE3
Title	**Logistimo**
MNCH	Maternal, neonatal and child health
Category	Technological
State (scale of implementation)	across 65 Karuna Trust PHCs in 5 states of India
Implementer	Logistimo, Karuna Trust (NGO), Bill & Melinda Gates foundation, Government of Karnataka
Year	2012 onwards
Description of the innovation	This mobile and web-based platform allows real time visibility of stocks, consumption and demands at all health centres, logistical agility via better coordination between the central health officer, supervisors, pharmacists and the frontline health workers. This is mainly possible based on simple data entry using a basic mobile phone by a health worker or pharmacist in the periphery, with real-time data at the headquarters allowing for timely availability of essential medicines and vaccines at the point of care
Strengths	*since been implemented in government PHCs so can be easily upscaled and integrated in existing government health services *was adapted across 5 states so reflects flexibility and adapatability of programme *recognised by Government of Karnataka
Challenges	*evaluation studies not available for critical reflection
Further information	Logistimo and Karuna Trust collaboration
	Winner of best practice award by Government of Arunachal Pradesh
Id no.	TE4
Title	**Comprehensive Primary Health Management using information communication technology**
MNCH	Maternal, neonatal and child health
Category	Technological
State (scale of implementation)	Gumballi PHC, Karnataka, India
Implementer	Karuna Trust in partnership with EMC2
Year	2015 onwards
Description of the innovation	The Comprehensive Primary Health information communication technology program aims to connect citizens, health workers, caregivers and decision-makers in a single, integrated platform. It enables the delivery of preventive, promotive and curative health at individual and community level by

	comprehensively addressing all diseases and conditions including reproductive, maternal, and adolescent and child health, school health and nutrition, communicable and non-communicable diseases, public health and facility management. Consists of comprehensive software made available using a basic android tablet with the community health workers. Data entry is at the level of household thereby allowing individual level details to be entered. It allows for existing reports comprising of community level data on specific diseases and service coverage to be generated at the click of a button. Initial baseline survey needed to enter one-time background characteristics. Simple to use and compliant to existing government national health mission guidelines. Currently being piloted in a PHC in south India. The platform includes information on basic socio-economic parameters, safe water and sanitation status, individual member details, relevant clinical history including pregnancy and child focused information, non-communicable diseases and mental health relevant parameters.
Strengths	*Helps convert existing 22 manual registers into a single integrated platform *allows community health workers to focus on providing care instead of spending time on reporting *allows health care providers to gain comprehensive information for patients given the lack of such systems in India especially rural India *allows comprehensive analysis of health status of the community and thereby data driven decision making *being piloted and adapted in government PHC so suitable for integration into existing health system - compliant with national health mission guidelines *allows data to ported online rather than paper registers
Challenges	*Still in pilot stage *Issues of confidentiality and security of data not clear *needs smartphone technology
Further information	Available at Karuna Trust, Bangalore, India
Id no.	TE5
Title	**Suyojana: Mobile decision support application**
MNCH	Maternal and neonatal health
Category	Technological
State (scale of implementation)	Gumballi PHC, Karnataka, India
Implementer	Dtree (international NGO), Swasthi and Karuna Trust (Indian NGOs)
Year	2014
Description of the innovation	A mobile-based m-Health application that created clinical algorithms (decision trees) that runs on cell phones for health workers in low-income countries. It has been primarily implemented with pregnant women and health workers at primary health centers in order to introduce a mobile-based system to improve processes and build an eco-system to motivate women to deliver at primary health center. This was jointly developed by D-tree a technology company and Swasti, a health resource center, and piloted by Karuna Trust in a government PHC. Mobile application developed based on existing national guidelines, provides ANMs with question-by-question guide to assist expectant mothers to help identify any issue and provide relevant recommendations. It allows tracking of beneficiaries providing information on next appointments, referrals and both home and health center visits. Application includes registration, antenatal history and examination, neonatal and mother's care during delivery, danger signs, pre-referral management and home based newborn care counseling. Supervisors can monitor the care at the periphery via the server. Can also generate needed monthly reports with existing data
Strengths	*Developed around existing work responsibilities of female health workers and using existing national program guidelines *focuses on maternal health from pregnancy to post delivery *allows for transparency in decision making *potential to reduce morbidity and mortality related to pregnancy and delivery *runs offline
Challenges	*Integration with existing HMIS not clear *potential to expand beyond maternal health not clear *results of pilot not clear *needs smartphone technology *currently focuses more on clinical care during pregnancy and delivery
Further information	Write-up on Swasthi website
	Finalist for award by Vodafone good mobile health awards
Id no.	TE6
Title	**Sick Newborn Care Unit**
MNCH	Neonatal health
Category	Technological
State (scale of implementation)	India
Implementer	UNDP, NRHM (State governments health departments across country), Norway India Partnership Initiative (NIPI) in some states
Year	
Description of the innovation	SNCU includes - controlled environment, individual warming and close monitoring devices, intravenous fluid and medications by infusion pump, central oxygen, oxygen generators, bedside procedures and in-house side laboratory service, and follow up clinics. The NRHM has consented to develop a SNCU in every district of the nation. In different states the SNCU model has been further built upon with additional

	innovations like with NIPI in 4 states - additional emergency and triage area, neonatal ward and step down units; in Kolkata - the concept of newborn aides (specially trained female volunteers) for housekeeping in SNCU
Strengths	*Based on national guidelines and integrated into existing health system *initial evaluations report positive impact on bringing down neonatal mortality *potential to be further improved as seen from various adaptations
Challenges	*While positive case studies reported, challenges of up scaling this reported (see details in reference)
Further information	SNCU write-up by NIPI
	Impact of a district level SNCU on neonatal mortality rate: a 2 year follow up
	Newborn aides: an innovative approach in sick newborn care at a district level special care unit
	Challenges in scaling up of SNCU: lessons from India
Id no.	TE7
Title	**Embrace warmers**
MNCH	Neonatal and child health
Category	Technological
State (scale of implementation)	Select areas in Karnataka - - also work in Haiti, Ghana, Benin, Nepal, China, Myanmar, Zambia, Mozambique, East Timor, Philippines
Implementer	Embrace, Thrive networks - In India with private hospital in Bangalore, Karuna trust in PHCs
Year	2009 onwards
Description of the innovation	Embrace infant warmer is an insulated wrap proposed for low resource settings as an alternate to the expensive traditional fixed incubator adopting the principle of kangaroo mother care. Trained caregivers in a hospital setting can use embrace nest infant warmer while a non-electric version can be used in homes as well. The key features of the Embrace Nest infant warmer include: Special phase change material in WarmPak maintains a temperature of ~37 °C for at least 4 hours; Does not require a constant supply of electricity Portable for in-clinic or transport usage; Reusable and easy to sanitize and reuse; Enables mother-to-child bonding. So far the infant warmers have been donated for free through partnerships with local NGOs, provide holistic maternal and child health and evaluate the warmer's impact. Comprehensive program associated with product with education, training, monitoring and evaluation
Strengths	*Appropriate for low resource settings
Challenges	*Independent costing and evaluation studies not yet found *projected costs of about 200 USD per warmer is high for
Further information	Embrace website
	The Economist awarded Embrace - 2013 Economist innovation award in the category of social and economic innovation
	Awarded The Tech Awards Laureate Impact Award for 2015.
Id no.	TE8
Title	**Mobile Vaani - maternal health campaign**
MNCH	Maternal, neonatal and child health
Category	Technological
State (scale of implementation)	6 Indian states - Utarakhand, Madhya Pradesh, Odisha, Uttar Pradesh, Bihar, Jharkhand
Implementer	Gramvaani team, India
Year	2009
Description of the innovation	Mobile Vaani is proposed to be like a social media platform for rural users. It has a built in IVRS system that allows people to call into a number and leave a message about their community or listen to messages left by others. Issues discussed range from local updates and announcements, government schemes, and information sharing. This is accompanied by a village radio networking system (GRINS) an integrated software solution for running a community radio station that allows program scheduling and play-out, full telephony and SMS integration, Internet streaming, content management and statistical analysis of play-out history. A maternal health campaign was conducted using mobile vaani and three community radio stations. This campaign was aimed not only at providing information to the listeners about maternal health, but also to initiate a discussion among them and seek their opinion on the issue. The campaign was spread over a time span of eight weeks and as per the content plan, the first and the last weeks were dedicated to conduct surveys to understand the prevailing awareness and perceptions about issues related to maternal health and assess any change in the behavior of the respondents by the end of the campaign. More details about the campaign available below. This forum aims to provide equitable access to community media forums to enable social change.
Strengths	*Helps bridge communication gap *uses widely prevalent radio and media technology *variety of issues

	can be taken up *community focused
Challenges	*Studies evaluating and costing lacking
Further information	Maternal health campaign using mobile vaani and community radios
	Winners of mBillionth Award South Asia 2013

Organizational innovations

Id no.	OR1
Title	**Accredited Social Health Activist**
MNCH	Maternal, neonatal and child health
Category	Organisational
State (scale of implementation)	India
Implementer	NRHM
Year	2005
Description of the innovation	Inspired by the Mitanin programme, ASHA is a program of grass roots workers under NRHM (National Rural Health Mission), the largest health care program of the Government of India which started in the year 2005. ASHA are female health activists in the community who creates awareness on health and its social determinants and mobilizes the community towards local health planning and increased accountability of the existing health services. The 8 factors identified by the Government of India critical for the success of ASHA are 1. Selection of ASHA by a prescribed process as per the ASHA guidelines. 2. Linkage with nearest functional health facility for referral services. 3. Identified transport for referral of cases from village to facility. 4. Priority and recognition of cases referred by ASHA to MO/ANM. 5. Successful organization of monthly Village Health Sanitation and Nutrition Committee (VHSNC) and Village Health Sanitation and Nutrition Day (VHSND) in every village with the ANM (Auxiliary Nurse Midwife) and AWW (Angan wadi worker). Angan wadi is the basic unit of Govt. of India ICDS (Integrated Child Development Scheme) 6. Monthly meeting of ASHA at PHC. 7. Timely payment of incentives to ASHA. 8. Timely replenishment of ASHA Kit.-which contains 13 Items
Strengths	*link between community and health workers *Studies show significant contribution to improving maternal and health outcomes
Challenges	*role as social activist limited *works mainly as assistant to female health worker
Further information	IMPROVING THE PERFORMANCE OF ACCREDITED SOCIAL HEALTH ACTIVISTS IN INDIA
	Evaluation of ASHA programme in Karnataka under NRHM
	Evaluation of ASHA in tribal blocks of India
Id no.	OR2
Title	**Adolescent friendly health clinics**
MNCH	Maternal health
Category	Organisational
State (scale of implementation)	India
Implementer	NRHM
Year	with NRHM
Description of the innovation	Named 'Sneha', 'Maitri', 'Udaan' etc. in various states is another initiatve of the NRHM to provide counselling and curative services provided to adolescents at primary, secondary and tertiary levels of care on fixed days and fixed time with due referral linkages. Commodities such as Iron & Folic Acid tablets and non-clinical contraceptives are also made available in the clinics for the adolescents. Counselling on nutrition, menstrual disorders, personal hygiene, menstrual hygiene, use of sanitary napkins, use of contraceptives, sexual concerns, depression, sexual abuse, gender violence, substance misuse and promoting healthy behavior to prevent non communicable diseases.
Strengths	*importance given under RMNCHA plus programme *help prepare women for pregnancy and its complications *part of life cycle approach *integrated with existing government health system
Challenges	*still in infancy of implementation *narrow focus on reproductive and sexual health *while importance recognised, yet to be tailored to be adolescent friendly *not a felt need in most communities
Further information	ADFC write up on NRHM website
	Editorial on Adolescent secual and reproductive health

Id no.	OR3
Title	**Comprehensive Emergency Obstetric and Neonatal Care centres**
MNCH	Maternal and neonatal health
Category	Organisational
State (scale of implementation)	Started in Tamil Nadu, now adopted by other states as well
Implementer	Government of Tamil Nadu
Year	2004
Description of the innovation	The CEmONC Centre is equipped with both the manpower and the infrastructure required to care for the mother and the new born. Round the clock, the centre has Obstetricians, Paediatricians, Doctors, Staff Nurses, lab technicians, and support staff on duty and Anesthetists on call. Intensive inputs were provided, in terms of training and physical infrastructure, to ensure quality care. Around 508 doctors and 562 nurses positions have been sanctioned and posted exclusively for CEmONC services in addition to the existing doctors and nurses. The centre is equipped with a fully functional maternity block, including a labour ward, operation theatre, blood bank/storage unit, new born ward, new born intensive care unit (NICU) and isolation ward.
Strengths	*CEmONC addresses issues of emergencies and referral *adopted by other states as well today *comprehensive in approach both with equipment, guidelines and capacity building
Challenges	*additional challenges of HR, costs, infrastructure
Further information	Writeup on Tamil Nadu Health Systems Project website
	Health sector policy reform options database
Id no.	OR4
Title	**Second auxilary nurse midwife at sub-centre in select areas**
MNCH	Maternal, neonatal and child health
Category	Organisational
State (scale of implementation)	Piloted in Karnataka C districts, Arunachal Pradesh,
Implementer	Government of Karnataka in the state, Karuna Trust, Arunachal Pradesh;
Year	2012
Description of the innovation	2ANMs in every village in north-eastern states: Due to weather conditions, lack of proper accessibility, scattered nature and remoteness of habitable villages in north-eastern states nad Category C districts, it is difficult to have one ANM catering to a village. So, a system of two ANMs per village was employed where both provided the much needed support not only in work, but also in housing, living and caring for the sick in village and each other. Responsibilities clearly demarcated for each. Focus on providing quality services to beneficiaries possible especially in areas with difficulty in access
Strengths	*suited for difficult to access or vulnerable areas *solidarity and better retention of staff *given shortage of doctors, supplements provision of quality maternal health services
Challenges	*availability of human resource and budget
Further information	No further information on current implementation or pilot available
	Case for innovation made in report submitted in Karnataka
Id no.	OR5
Title	**Arogya Bandhu Programme**
MNCH	Maternal, neonatal and child health
Category	Organisational
State (scale of implementation)	Karnataka
Implementer	Government of Karnataka, medical colleges, NGOs
Year	2008
Description of the innovation	Karnataka is a pioneer of innovative schemes in many spheres including health. One such innovative scheme is 'Arogya Bandhu' a Public – Private – Partnership (PPP) launched in July 2008. The Private Medical Colleges, Non Governmental Organisations (NGOs), Trusts and other charitable institutions and Philanthropic Organisations, etc., were provided an opportunity to join hands with the Government for providing better health care to the community. This is a Karnataka Health and Family Welfare Society

	funded project under the aegis of Directorate of Health and Family Welfare. PHCs selected as under: (a) PHCs low in performance i.e., having high IMR & MMR and low coverage on immunisation or low institutional delivery. (b) PHCs with more number of vacancies for long duration. (c) C' category PHCs which are more than 15kms. away from highways. (d) The proposal approved by the District Health Society of the concerned District. The PHCs with above said criteria can be given on Partnership Agreement. The initial contract for five years with clause of renewal every year based on review of performance. - this scheme now in existence for nearly a decade - has shown mixed results with some positive case studies and some failed relationships. Interestingly many states are now taking this up with NGOs.
Strengths	*communities in area with poor health services get access to quality maternal health services *being taken up in select districts or areas by other states as well *Case study of PPP in northeast states shown significant success in terms of provision of quality services and improvement in overall indicators *temporary solution for long term problems of human resource
Challenges	*Monitoring and governance by district heath authorities crucial given outsourcing of public services to private entities *alignment of agendas of private entities with government's mandate is key *not enough studies evaluating this model *larger issues of human resource shortages and inadequate resources remain
Further information	Proposal for Arogya Bandhu
	One case study in Karnataka on PPP at PHC level
Id no.	OR6
Title	**Skill labs in Bihar**
MNCH	Maternal, neonatal and child health
Category	Organisational
State (scale of implementation)	Bihar
Implementer	Government of Bihar with UNICEF
Year	2011
Description of the innovation	Skills labs in Bihar are established in Bihar at two levels; District and Block level. The Skills lab at District level was supported by UNICEF and the ones at Block level are supported by Care India. The number of skill stations also varied among these. The skills lab at district level is established in 6 districts and Block / Institutional level Skills lab are located in 32 institutions in 8 districts. Each District Skill Lab consists of 30 skill stations - 10 pertaining to obstetrics, 15 newborn& child health and 5 pertaining to infection control practices, arranged in a space of 1500 sq.ft. The training program is conducted through a three-day module for a batch of 30. On the first day, after introductory session, the existing skills (and related knowledge) of each trainee is assessed, and following this, supervised practice after demonstration at Skill stations for each trainee is provided. The TOT for the Skills Lab trainers was held in State Training Institute, Tamil Nadu. The batch of trainers (24) consists of Medical doctors and graduate nurses. The trainer: trainee ratio is 5:1. The post training evaluations were conducted in selected skill stations and lasts for 150 minutes. The Block / Institutional Skills lab, is set up in a 800 sq.ft space. The Skills lab has skill stations. The trainers are graduate nurses trained at EVERONN Institute, Tamil Nadu. This training is offered at institutional level and the trainers are mobile. Training team consists of two trainers and is allotted four facilities in a district. They are providing training to all ANMs and staff nurses in a health facility for a week (one out of six modules) and then trainers move to next health facility. After three weeks trainers revisit the facility and asses the skill of ANMs and GNMs and start next module. Presentably 16 master trainers are providing training in 32 Health facilities.In 2012-13, sixty two staff nurses and 127 ANMs were trained at block / institutional level skills lab, and in the district skills lab 347 doctors and 1555 staff nurses / ANMs were trained. Mobile mentoring visits have shown 'improvement in performance' of 80% in Bhojpur, 65% in Rohtas, 75% in Kaimur and 85% in Nalanda(evaluation in 4 out of 14 districts in which Skills lab is located).
Strengths	*focus on quality of services *improvement in skills for daily use *relatively low cost
Challenges	*mentoring a must following workshop
Further information	No further information on current implementation available
	National Health Systems Resource Centre Website
Id no.	OR7
Title	**Mamta Ghar - birth waiting home**
MNCH	Maternal and neonatal health
Category	Organisational
State (scale of implementation)	Gujarat
Implementer	Government of Gujarat
Year	2011

Description of the innovation	Aim to Increase the utilization of the hospital by women for delivery and care; Enable high-risk women or women from remote to access medical care during delivery period; Increase percentage of women delivered a baby with trained providers at health facility.; Promote early and exclusive breast feeding; Promote minimum 48 hours of Post Partum Stay in the Institutions. Mamta Ghar established in areas with high risk beneficiaries or remote areas. Mamta Ghar offers - antenatal services, health edcation, food for beneficiary and attendant, child care and ambulance services along with stay for 7-10 days near end of pregnancy
Strengths	*focus on quality of services *comprehensive care provided *maternity no longer viewed as disease *improves relationship between beneficiary and services *focus on areas with high vulnerability
Challenges	*additional infrastructure and human resources
Further information	No further information on current implementation available
	National Health Systems Resource Centre Website

Policy innovations

Id no.	PO1
Title	**RMNCHA plus strategy**
MNCH	Maternal, neonatal and child health
Category	Policy
State (scale of implementation)	India
Implementer	NRHM, UNICEF
Year	2013
Description of the innovation	The national mission moved away from the fragmented maternal health approach to adopting the RMNCHA plus strategy i.e. using a life cycle approach to support women and children in terms of their health. Five categories of beneficiaries targeted are neonates, children, adolescents, expectant mothers and women for their nutrition and reproductive choices.
Strengths	*intergenerational impact *comprehensive and wholistic care
Challenges	*need to shift from existing fragmented medical programme to comprehensive approach *additional resources
Further information	RMNCHA plus strategy document by NRHM
Identification no.	PO2
Title	**Maternal death audit**
MNCH	Maternal health
Category	Policy
State (scale of implementation)	NRHM across country
Implementer	NRHM
Year	2010
Description of the innovation	In 2010, the Ministry of Health and Family Welfare, Government of India, introduced the Maternal Death Review (MDR) as a strategy to improve the quality of obstetric care in the country and reduce maternal mortality and morbidity. The MDR provides detailed information on various factors at the facility, district, community, regional, and national levels that is needed to reduce maternal deaths. Analysis of these deaths can help identify the factors that contribute to maternal mortality at various levels and provide information that can be used to fill gaps in service. Different states have adapted this process with some build ups like infant death audits, community based processes, etc. Various policymakers from the community involved in this outside of health
Strengths	*employs systems approach in identifying prevantable issues that led to death - allows to identify issues form transport to affordability to quality of health services *makes maternal health a topic to focus for all district level policymakers *allows focus on action and prevention *Gujarat model of community based reviews received positive feedback *low cost and effective
Challenges	*under reporting for various reasons noted *many instances more of a fault finding enterprise *involvement of family limited *investigation into clinical cause limited
Further information	http://www.who.int/woman_child_accountability/resources/Day2_Session4_India_MDR.pdf
	RESULTS OF A COMMUNITY-BASED MATERNAL DEATH AUDIT, UNNAO DISTRICT, UTTAR PRADESH, INDIA.

	Brief by HNPnotes, World Bank
Id no.	PO3
Title	**Chiranjeevi health scheme**
MNCH	Maternal health
Category	Policy
State (scale of implementation)	Gujarat
Implementer	State government
Year	2005
Description of the innovation	Under this scheme, the government would enter into a contract with the private provider to cater to institutional services for both normal and complicated delivery including C-Section operations and blood transfusions to targeted population. The field workers also explain to pregnant mothers benefits/services which they can avail under the scheme. At the time of delivery, the women goes to previously identified empanelled doctors, gets the delivery done free of charge. She also receives transportation charges from the doctor.
Strengths	*bridges access to care issue and focuses on safe delivery *some studies show reach to the most vulnerable economically
Challenges	*not universal - challenges of targeting *out of pocket expenses still due to medicines and tests *monitoring and governance still an issue *some studies show no improvement in quality of services accessed and criticise low reimbursement of private sector
Further information	http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2761781/
	http://www.nhp.gov.in/sites/default/files/pdf/chiranjeevi-yojana-details.pdf
Id no.	PO4
Title	**Janani suraksha yojana - conditional cash transfer for institutional delivery**
MNCH	Maternal and neonatal health
Category	Policy
State (scale of implementation)	India
Implementer	under NRHM
Year	2005
Description of the innovation	The Janani Suraksha Yojana (JSY) is one of the flagship components of the National Rural Health Mission, and the key strategy to enable women to access institutional deliveries and thereby effect reductions in maternal mortality. Women are provided with cash incentives for delivering at government and recognised private hospitals. Increased amount for caesarian sections, and in empowered action group states.
Strengths	*In many studies, increase in institutional attendance for deliveries shown.
Challenges	*institutional preparedness questioned in vulnerable areas *institutional delivery equated to high quality of service - not resonant in many health centres *in areas with significant home deliveries - no focus on safe deliveries *shift from institutional focus to safe deliveries needed
Further information	Programme evaluation of JSY
Id no.	PO5
Title	**Madilu Kit (baby box)**
MNCH	Maternal and neonatal health
Category	Policy
State (scale of implementation)	Karnataka
Implementer	Government of Karnataka
Year	2007
Description of the innovation	Inspired by the Finn baby box, Karnataka launched a scheme called Madilu where any woman below the poverty line who delivered in a government hospital in the scheme would get a kit worth Rs 825. The kit contained 18 items of relevance to care for mother and newborn child from blankets to mosquito nets. A total No. of 12,99,767 persons benefitted by 2013 as reported

Strengths	*Helps strengthen relationship between beneficiary and service provider *provides all essential items required for health mother and child *improves perception of service provision at government health services *non-financial incentive to encourage institutional delivery
Challenges	*actual impact of scheme on perception or quality of services or health of mother and child lacking *No studies found of yet only reports of misutilisations in newspapers *not universal unlike in Finland
Further information	Writeup on the Government of Karnataka website
Id no.	PO6
Title	**Transportation for mother and child for using health services**
MNCH	Maternal and neonatal health
Category	Policy
State (scale of implementation)	Karnataka focus here, across India adapted by different states
Implementer	State government in partnership with EMRI
Year	2010
Description of the innovation	Titled Arogya Kavacha, 108 ambulances to provide necessary emergency care and transport when needed as in time of delivery or complications. Public private partnership model with GVK enterprises. Take patient from residence to nearest appropriate health centre. Numbers of utilisation suggest that nearly half of the calls are pregnancy related. In 2013, Nagu magu (smiling child) scheme launched by state government alone. Here transport provided to mother and child folliwng delivery to reach home safely. Established so far in secondary and tertiary government hospitals in districts only.
Strengths	*transport is a big problem in referrals and reaching appropriate health services in rural and urban india.
Challenges	*minimum studies and utilisation analysis available so impact difficult to assess
Further information	From newspaper articles
Id no.	PO7
Title	**Cash benefit schemes for expectant mothers**
MNCH	Maternal, neonatal and child health
Category	Policy
State (scale of implementation)	Prasuthi araike in Karnataka; Muthulakshmi Reddy Maternity Benefit Scheme in Tamil Nadu
Implementer	Respective state health departments
Year	2006
Description of the innovation	Prasuthi Araike - An incentive of Rs.2,000/- is given to poor women for Nutrition Supplements to be provided during prenatal and post-natal periods. 14,53,999 women are benefitted by 2013. MRMBS - Cash assistance of 12000 Rs in three installments (pregnancy, delivery, postnatal) to women below poverty line, above 18 years of age on condition that they use services at government hospitals, deliver at government hospital, complete immunisation schedule for child
Strengths	*target BPL households with cash incentives *high political support due to visibility
Challenges	*no studies evaluating impact yet *not universal *focus only on government hospitals while utilisation of private sector ignored
Further information	Respective government websites
Id no.	PO8
Title	**Antenatal clinic integrated with yoga and naturopathy**
MNCH	Maternal health
Category	Policy
State (scale of implementation)	Tamil Nadu
Implementer	State government
Year	2010

Description of the innovation	With Siddha being popular in Tamil Nadu, the government of Tamil Nadu has made efforts to provide one AYUSH practitioner in every primary health centre in a phased manner. These centres are co-located with additional PHCs. In addition to the District Hospitals, a Siddha wing was operationalized in all block PHCs. There were 479 such units prior to NRHM. Under NRHM, 475 additional centers started to provide AYUSH service - 300 Siddha, including 175 collectively for Ayurveda, Unani, Homoeopathy, Yoga and Naturopathy. 33 Yoga units were established in PHCs in 2010. The antenatal clinic is once a week in the PHC. Integrated approach for normal delivery without episiotomy from early stage of antenatal period is encouraged. Nearly 50-80 mothers-to-be attend the clinic for medical examination and investigation by the allopathic doctors. While they wait for the examination or for the test results, groups of expectant mothers are sent to the Yoga and Naturopathy physician. He / she categorize the antenatal Cases by trimester and provide appropriate treatment. During antenatal visit to PHC, a Naturopathic Doctor works with the expecting mother, providing counseling and educating her on lifestyle changes. This process begins with prenatal care, continuing through birth and after the delivery. Siddha doctors also provide drugs that are required during pregnancy. Apart from this, the yoga physician teaches exercises during the antenatal and postnatal period, whenever mothers attend post natal check-up and during infant immunization.The women learn exercises under direct supervision and continue to practice them at home. Postural, breathing and pelvic floor exercises along with back and spinal twist exercises are taught.
Strengths	*align with mandate of integrating with indian systems of medicine *maternal health in focus beyond medical management
Challenges	*no studies evaluating impact yet *in select areas only
Further information	National Health Systems Resource Centre Website

Annexure VI

Format for community field investigator's village visit

Part A: Village profile

- Name of the village
- Population
- Total number of households
- Village Health Sanitation and Nutrition Committee in the village (Yes/No)
- No. of pregnant women in last year
- No of deliveries in last year
- General information about the village

Part B: Village map

Key points to be covered within the map

- Distribution of houses
- Distance from health centers
- Schools
- *Anganwadi* if present
- Distance to government offices
- Problem areas
- Forest area
- Distance to main road
- Water body sources
- Health centers if any, else distance to nearest health center.
- Important land marks

Part C: Access to maternal health services

Detailed information to be noted on following points – positive and negative points:

- Perceptions about government maternal health services
- Utilization of these services and schemes
- Issues with accessing services (physical, financial, socio-cultural) and reason for these issues
- Any cases identified where a positive or negative experience was noted

Annexure VII

Participation for local action

Supported by Alliance for Health Policy & Systems Research, & UNICEF

Bimonthly newsletter **August 2015**

Situation analysis

This section provides an overview of the situational analysis stage of research. **Page 2**

Some insights

This section provides a glimpse of the different outputs of initial work with insights gained. **Page 4**

Next steps

This section provides a glimpse of the upcoming steps in the coming months. **Page 5**

Project update

This newsletter is an attempt to present a summary of the ongoing work in the implementation research project titled, "Participation for local action: Implementation research with indigenous communities in southern India for local action on improving maternal health services" (PLA), supported by the Alliance on Health Policy & Systems Research (World Health Organisation, WHO) and United Nations Childrens' Fund (UNICEF) in Chamarajanagar district.

Our proposal received ethics approval from the Institutional Ethics Committee at Institute of Public Health, Bangalore in Dec 2015, and as fulfillment of our first deliverable as per our contract, the first installment of the project budget was released earlier this year. Our proposal, however, is still under review with the WHO Ethics Review Committee (ERC). In the last few months, they have gotten back to us with different queries that we have reviewed and responded to, and in some cases, even revised the proposal to incorporate their feedback. We are hopeful that the ethics approval process will soon conclude positively.

We currently have been pursuing the initial situation analysis phase of the project outlined in this newsletter. While we are concerned with the delay in ERC approval, we have communicated with the Alliance team, and they have responded favourably about the possibility of a no-cost extension. Meanwhile we continue to use the time provided to further strengthen our understanding of the situation in the district, and will provide bimonthly updates via this newsletter to all involved.

Situation Analysis

The situation analysis plan comprises of different components that come together with the aim of describing the context, the status of access to maternal health services for mothers of the district's indigenous communities and explaining the reasons behind this picture. There are three different teams involved in this stage – the core team, the community representatives and the district health team. Through a series of interactions, the team divided the work into six components represented in the figure below. Largely they fall into three categories: a) understanding the maternal health services available and their coverage in the district with a special focus on areas with indigenous communities, b) reflecting on the issues with providing & accessing maternal health services for this community/area by the respective team, and c) collection of possible solutions/local actions. The methods across these components involve review of literature and secondary data available, interaction with different stakeholders involved, and self-reflection exercises by the community and district health team.

Ongoing activities:

- Meeting with all co-investigators on research initiation at IIPH-Bangalore and one-on-one
- Mapping of health centres across the four *taluks* in the district – public and private– with a focus on maternal health services provided using GIS with a brief profile of each
- Developing a booklet on maternal health services and schemes available in the district
- Review of literature on participatory research, and issues with access to maternal health services in tribal communities, tribal health status in India in general
- Drivers of health seeking behaviour for maternal health services during pregnancy and delivery – tools for interviews, group discussions and observation checklists
- Stakeholder analysis – listing, tools finalised, preliminary mapping exercise
- Community's reflection:
  - Repeated meetings with community's representatives – *zilla budakattu girijana abhivrudhhi sangha* to understand the research, and plan for situation analysis
  - Recruitment of field investigators taluk-wise to cover all tribal hamlets
  - Capacity building of field investigators on understanding maternal health, access to health services, challenges associated, and methods of data collection
  - Field visits to tribal settlements by *sangha* representatives
- Health team's refection:
  - Informal interactions with few health workers, and medical officers working in tribal primary health centres
  - HMIS data preliminary review
  - Situation analysis strategy drafted
- Photo-documentation strategy finalised
- Revised proposal with final tools submitted to ERC

Internships

Three students from USA undertook internships based at the BR hills office. Eva Lowell (undergraduate student from Colorado University) assisted the health service mapping across the district during her public health internship. Kate Baur and Kelsey Holmes (Masters of Global Health, Emory University) worked on studying drivers of health seeking behaviour for maternal health services among *soliga* women in Yelandur *taluk*.

National Tribal Human Development Report 2015

Tanya is working with Dr Sudarshan on writing a linear paper on health of tribal communities in India. This paper is one of seven background papers for the upcoming human development report in the nation – the first of its kind supported by UNDP and the Ministry of Tribal Affairs, Government of India.

A glimpse of experience/learning so far

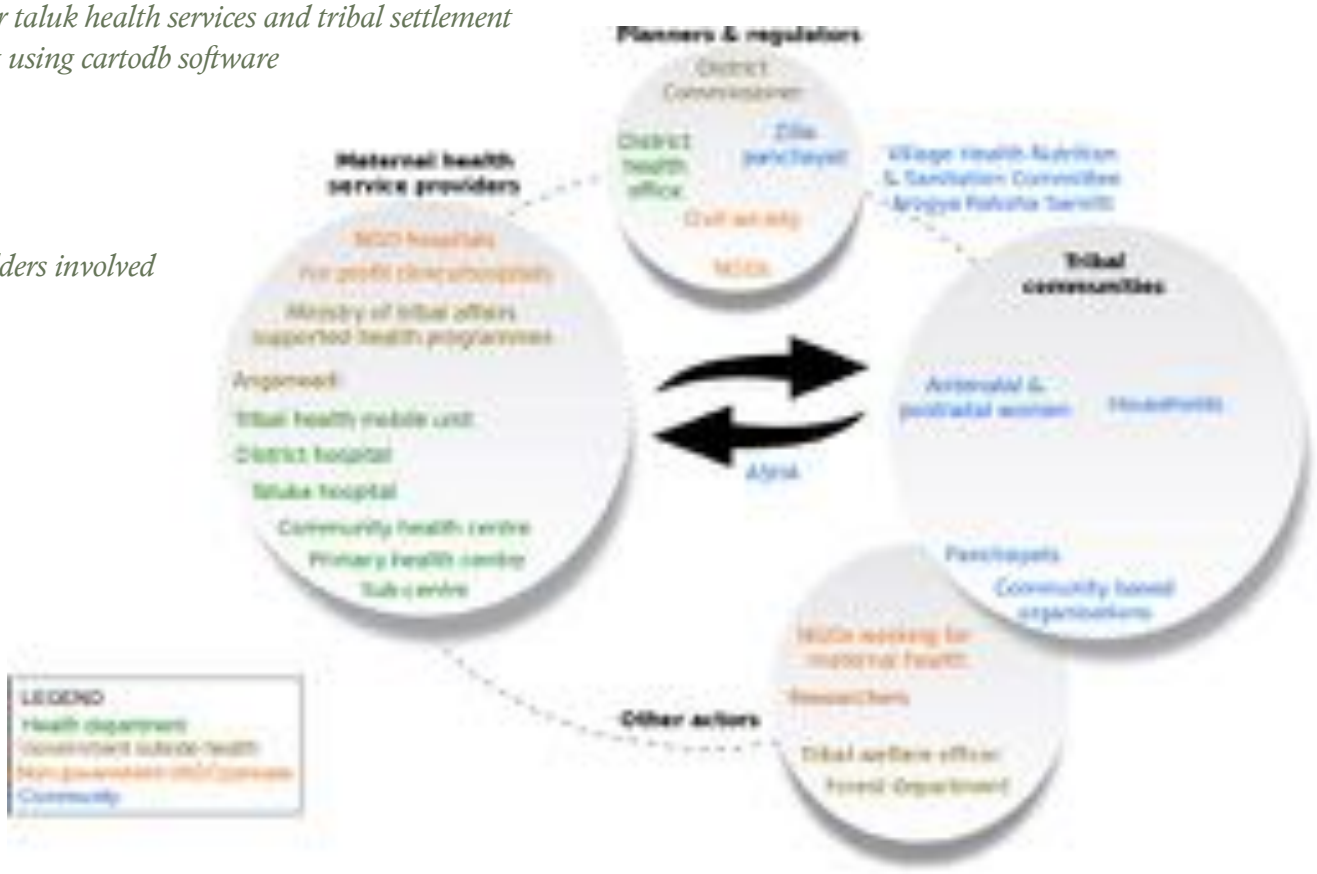
Yelandur taluk health services and tribal settlement mapping using cartodb software

148 tribal settlements across 4 *talukas* – max 80 in Kollegal

Soliga main tribe – minority of *jenukuruba*, *kadukuruba*, *yerawas* – only in Gundlupet *taluka*

GIS mapping of health centres providing maternal health services in 3 taluks, mapping of tribal settlements in 1 taluk completed

Stakeholders involved



When interacting with the community on maternal health and key factors influencing it, diet emerged as an important factor with various do's and don'ts. Apart from diet, certain rules exist traditionally that pregnant women are expected to follow. They described different roles for household members (friends/family), community and health centres during their pregnancy. Few women shared their perceptions of government health workers, and local health centre staff based on their experience in the past with some discussion on privacy, safety and care provided. Some delivery experiences were explored in detail to understand factors that influenced their health outcomes, and overall experiences. (*Based on exploratory discussions with tribal women in Yelandur taluk)*

Next steps

While ongoing activities will be completed, the key events in the coming months are listed below.

- ERC approval
- Completion of mapping exercises, and initial stakeholder analysis
- Community reflection – *taluk* wise, and then district level reflective analyses on issues identified in the field visits by the *sangha*
- Health team reflection – HMIS data analysis, disaggregated data analysis based on tribal status, reflective analyses on challenges in service provision
- Regular photo-documentation updates
- Joint workshop with community representatives and health team
- First stakeholder forum meeting for local action as outlined in the proposal
- Initial programme theory to be outlined following meeting
- Research protocol to be written up as paper

Project management

- The project base is established at The Malki Initiative campus in BR hills. All project activities will be coordinated from this office.
- A plan for strengthening documentation processes and data storage was created and will be implemented. This involves use of project management software for different activities like evernote for field notes, and trello for project coordination and timelines. This will allow for better analysis and reporting.
- As mentioned earlier, we have received the first installment of the study budget. Budget realization stands at 12% direct costs in Jul 2015.
- Memorandum of understanding (MoU) finalized with *sangha,* and IPH. MoU/contracts with other partners pending, to be taken up on priority
- Bimonthly newsletters to be prepared and shared with all partners to keep them upraised on research progress, and to allow better participation for all.
- The community team will participate actively in the ongoing National Inquiry on Health Rights organized by the *jana arogya andolana Karnataka.*
- The implementation call for immunization could not be applied for due to various reasons. We are on the lookout for similar opportunities to take the work forward.

Some interesting reading (click on the title)

- Maternal health and nutrition in tribal areas: report of the fact-finding mission to Godda-Jharkhand
- Pregnancy-related Deaths in Rural Rajasthan, India: Exploring Causes, Context, and Care-seeking Through Verbal Autopsy
- Are marginalized women being left behind? A population-based study of institutional deliveries in Karnataka, India
- Economic Inequalities in Maternal Health Care: Prenatal Care and Skilled Birth Attendance in India, 1992–2006
- 'I can't take it anymore': Sights and awful sounds from the labour room of an Indian public hospital
- A Handbook: Why transformative storytelling approaches?

I would like to thank Dr Prashanth NS and Dr Deepak Kumaraswamy for their help with preparation of this newsletter. I would also like to acknowledge the support of Alliance of Health Policy and Systems Research and UNICEF for their support to the project and to the research team in coordinating with WHO ERC.

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IRP field team at The Malki Initiative campus, BR hills

Bhargav Dwaraki Shandilya, consultant photographer, Bangalore

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