



City Health Plan 2016 - 2020

Pune Municipal Corporation





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Date : 08 | 11 | 2016

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Message from the Mayor, PMC

For effective implementation of any health plan, the political leadership has to be forthcoming and precede the efforts that are gradually made by the administrative and technical teams at all levels of health system. In order to effectively provide a holistic and strategic vision towards accessible, equitable and affordable healthcare care to the people living in low socio-economic conditions, any given health system requires paramount commitment so as to design evidence-based service delivery mechanism blended with a clear understanding of the existing situations and constraints that prevent in moving towards universal health coverage.

I really appreciate the work done by Pune Municipal Corporation (PMC) in collaboration with Save the Children India (SCI), that has not only looked into the existing challenges of delivering health care to the poorest of the poor living in urban environments of Pune, but has also ensured a clear pathway through the development of City Health Plan (CHP) that is being implemented to enable effective service delivery within the administrative jurisdiction of PMC. Our ability to implement the CHP and sustain it will largely depend on how effectively we coordinate at all levels including congenial convergence with other departments and guarantee time-bound administrative decisions to ensure timely availability of all required resources in place.

I would like to assure full cooperation to all stakeholders involved therein for effective implementation of CHP. I would also urge Health Team of PMC to address the inherent gaps between supply and demand with utmost sincerity. Let's do it as a team to set a benchmark for public health service delivery model in urban scenario.

Mayor, Pune

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Kunal Kumar

I.A.S.

Municipal Commissioner

Message from Commissioner, PMC

Pune Municipal Corporation's (PMC) mission to provide quality healthcare services that are holistic and sustainable to improve the health of individual and communities under its administrative jurisdiction in order to optimize the overall health status. In this context, PMC in collaboration with Save the Children, India has developed a city-wide, city-specific health plan. This strategic city health plan (2016-2010) provides a broad roadmap ensuring availability, accessibility and affordability of healthcare services to be administered by PMC.

The plan creates a framework to enable us to make choices for a better future for PMC. It is our responsibility to make strategic decisions, invest wisely and partner effectively to ensure that our medically-indigent community has direct access to quality health services. I believe that the city health plan will allow us to flourish as an exceptional health care provider in our region.

This plan was developed with extensive input from PMC staff and key stakeholders at all levels. Our process was guided City level Urban Health Advisory Committee (UHAC) on the scale of quality, safety, transparency, ethics and fairness in decision-making. When implementing the strategic directions we must carefully balance quality, access and sustainability in order to deliver effective and efficient health care.

I believe that we must work together to successfully implement this plan. Every individual at PMC has a role in this plan, whether it's on the front line, administration, service delivery, support service or in a volunteer capacity. We have outstanding staff whose dedication, commitment and skills will ensure that the plan is implemented. Each day we want to come to know that we are providing exceptional care to our patients, supporting them as they move through the health care system.

(Kunal Kumar)

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ABBREVIATION

ANC	Ante-Natal Care	MO	Medical Officer
ANM	Auxiliary Nurse Midwife	MOHFW	Ministry of Health & Family Welfare
ASHA	Accredited Social Health Activist	MOUD	Ministry of Urban Development
AWC	Anganwadi Centre	MTP	Medical Termination of Pregnancy
AWW	Anganwadi Worker		
BEmONC	Basic Emergency Obstetric & Newborn Care	NBSU	Newborn Stabilization Unit
BP	Blood Pressure	NHM	National Health Mission
		NGO	Non-Governmental Organization
CDPO	Community Development Project Officer	NHSRC	National Health System Resource Centre
CEmONC	Comprehensive Emergency Obstetric & New born Care	NICU	Newborn Intensive Care Unit
CHW	Community Health Worker	NNC	Neonatal Care
C-Section	Caesarian Section	NUHM	National Urban Health Mission
CSR	Corporate Social Responsibility		
		OCP	Oral Contraceptive Pill
DPMU	District Programme Management Unit	OPD	Out-Patient Department
DTT	District Training Team	OT	Operation Theatre
EC	Emergency Contraception	PFI	Population Foundation of India
ECG	Electro-cardiogram	PPP	Public Private Partnership
		PPIUCD	Post-Partum Intra-Uterine Contraceptive Device
FGD	Focused Group Discussion	PMC	Pune Municipal Corporation
FLW	Front Line Workers	PNC	Post Natal Care
FP	Family Planning	PV	Per Vaginal
FRU	First Referral Unit	RDK	Rapid Diagnostic Kit
		RCH	Reproductive & Child Health
GOI	Government of India	RDW	Recently Delivered Women
GPRS	General Packet Radio Service	RMNCH +A	Reproductive, Maternal, Newborn, Child Health Plus Adolescent
HBPNC	Home-Based Post Natal Care	SA	Situation Analysis
HFWT	Health & Family Welfare Training Centre	SC/ SCI	Save the Children/ Save the Children-India
HH	Household	SNC	Special Newborn Care Unit
HIV	Human Immuno-deficiency Virus	SNL	Saving Newborn Lives
HMIS	Health Management Information System	STS	Skin-To-Skin
HUP	Health of Urban Poor		
		TA	Technical Advisory Group
IAS	Indian Administrative Services	TB	Tuberculosis
ICDS	Integrated Child Development Scheme	TOR	Terms of Reference
ICT	Information, Communication & Technology	TT	Tetanus Toxoid
ICU	Intensive Care Unit		
IFA	Iron Folic Acid	UC	Urban Community Development
IHMP	Institute of Health Management, Pachod	UPHC	Urban Primary Health Centre
INC	Intra-Natal Care	UHND	Urban Health & Nutrition Day
IPHS	Indian Public Health Standard	UHP	Urban Health Post
IUCD	Intra-Uterine Contraceptive Device	UPT	Urine Pregnancy Test
IT	Information Technology	USAID	United States Aid for International Development
JSY	Janani Suraksha Yojana		
KMC	Kangaroo Mother Care	VDRL	Venereal Disease Research Laboratory
KNH	Kamla Nehru Hospital	VHC	Village Health Committee
		VHND	Village Health & Nutrition Day
LBW	Low Birth Weight		
		WCD	Women & Child Development
MAS	Mahila Arogya Samiti		
MCH	Maternal & Child Health	24 (OH)D	25-Hydroxyvitamin D
MCTS	Mother and Child Tracking System		
MH	Maternity Home		
MIL	Mother-In-Law		
MIS	Management Information System		
MNH	Maternal and Newborn Health		
MNCH	Maternal, Newborn & Child Health		
MOU	Memorandum of Understanding		

ACKNOWLEDGEMENT

The success of any project depends largely on the encouragement and guidelines of many others. Completion of city health plan could not have been possible without the participation and assistance of many people whose names may not all be enumerated. Their contributions are sincerely appreciated and gratefully acknowledged. We take this opportunity to express our gratitude to the people who have been instrumental in the successful completion of this city health plan.

First and foremost we would like to express our gratitude to the officials of Government of India and Government of Maharashtra, without their guidance and timely directives this plan would not have got initiated.

We would also like to express our appreciation for the entire team of 'Health of the Urban Poor' program of Population Foundation of India for their support in the initial phase of this work.

We would like to express our earnest thanks to the team of advisors and researchers from Save the Children who devoted their time and knowledge in the development of city health plan. The guidance and support received from all the members of the core committee formulated for development of plan who contributed and will continue to contribute to this project, was vital for the success of the project.

EXECUTIVE SUMMARY

Rapid urbanization has significant repercussions on health of the people residing in the cities. The increasing movement of people from rural to urban areas often alters the characteristic of epidemiological disease profile of the city. Additional mobility-related risks among migrants include poverty, vulnerability to abuse and exploitation, weak public health system, dangerous working conditions etc. Many of these conditions affect the most vulnerable segments of the population: mothers and newborns. Needless to say, on most of the health indicators, slum dwellers and the poorer sections of urban populations fare worse than even the rural populations.

Pune, 9th largest city of India in terms of population, has prosperous history in terms of social, economic, administrative, and environmental planning and development that highlight the efforts undertaken by the administrators in managing and redesigning its urban landscape. While, Pune is investing significant resources and developing master plans and guidelines under the administrative control of Pune Municipal Corporation (PMC) for addressing key urban challenges, yet the city also faces several challenges, particularly in terms of increase in environmental degradation, social segregation, and erosion of institutional capacity to manage and govern urban growth.

About one-third of the city's population resides in the slum or squatter settlements. Further, majority of these slums are being notified and have been there in existence for more than 15-20 years. Population density in the slums is six times more than in non-slum areas of the city. In this context, health has been considered as one of the priority areas which has got focused attention in recent years followed by sincere public-centric policy decisions to ensure availability, accessibility and affordability of health services within reach especially for urban poor.

Save the Children, India under the auspices of its flagship program "Saving Newborn Lives (SNL)", is working in collaboration with PMC towards contributing to improvement of service delivery for the mothers and newborns of urban poor settings. Generating new knowledge for planning, implementation and scaling up interventions that benefit the urban poor being its forte, the current collaboration will ensure urban institutional reforms and improved governance for health in urban poor settings.

A Situation Analysis (SA) study aimed to inform the design and development of city-specific, city-wide approaches to improve maternal and newborn health services for the urban poor in Pune was undertaken by Save the Children, India under the overall guidance of various stakeholders and experts in the domain of health systems, public health, maternal & child health and urban planning & governance.

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The study intended to: understand the community needs, behaviors and perception for MNH in urban poor setting; explore various factors (both demand and supply side) affecting care seeking for MNH; and assess the preparedness of the urban health system for providing MNH services at various levels of care in terms of infrastructures at various levels of care, HR availability and capacity, logistics, drugs & equipment, referral, recording & reporting, supervision, governance and financial modalities.

The study findings reflect many factors, which directly and/or indirectly affect both demand and supply side aspects and clearly signify that urban poor face health care issues due to lack of knowledge and awareness about health facilities, weak linkages between service providers and communities, and the limited role of communities in any kind of monitoring.

Quality of care is a significant predictor of service utilization in maternal and newborn health, even more than access. Despite the improvement in both the quantum and quality of health services in the last 10 years, Pune still requires to work further on improving its health indicators and resources required for achieving these. Standards in MNH care cannot be raised unless the health system warrants good quality care that follows a consistent and continuous uptake of MNH services across the city. In order to achieve this, policy and programmes that help implement evidence-based interventions and support micro-level programme planning are a must. An environment that efficiently facilitates and supports assured health care is substantially dependent on the attention provided to communities, the expertise of skilled health workers, the availability of adequate health care facilities, medicines and emergency care when required.

This City Health Plan developed on the basis of evidence reflected from the study, the technical guidance from public health experts, the challenges and opportunities listed by the policy experts and health administrators offers a comprehensive list of strategies, interventions and ways of working to ensure high quality service delivery and health care to the populations residing in urban poor settings.

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This plan will be implemented through the administrative wings of the PMC with additional support and financial assistance from both the state government of Maharashtra and the National Urban Health Mission.

INTRODUCTION

About Pune Municipal Corporation (PMC)

The Pune Mahanagar Palika (Pune Municipal Corporation) was established on 15th February 1950. The PMC controls the whole administration of Pune. The executive power of the corporation is vested in the Municipal Commissioner, an Indian Administrative Service (IAS) officer appointed by the Maharashtra state government. The corporation consists of directly elected Corporators headed by a Mayor. The mayor has few executive powers. The PMC is in charge of the civic needs and infrastructure of the metropolis.

Pune is divided into four zones, 15 municipal wards, and 76 prabhags (sub-wards). The city comes under the Haveli Taluka of Pune District, Maharashtra. The collectors are in-charge of property records and revenue collection for the Central government.

Pune City has been selected as a Smart City in the list of 98 Smart Cities. It has successfully completed the competitive process of 'Smart City Challenge' and has ranked number 2 in the country. The Ministry of Urban Development (MoUD) has short listed Pune City along with the 9 more cities from the state of Maharashtra.

About Save the Children

Save the Children (SC) is a leading, independent child rights organization working in 120 countries across the world. In India, Save the Children works in 19 states across the country to bring about lasting change in the lives of children. Programmes are focused on four key thematic areas: Child Protection, Education, Child Survival, and Disaster Risk Reduction and Emergencies. Save the Children's association with India is more than 80 years old when its founder Eglantyne Jebb drafted the 'Declaration of the Rights of the Child' in 1922 which was signed by Mahatma Gandhi in 1931.

Saving Newborn Lives Program

Save the Children's Saving Newborn Lives (SNL) program, since its inception in the year 2000, has been working to reach the world's most vulnerable newborns and helping them survive their first month of life. SNL, an initiative funded by the Bill & Melinda Gates Foundation, has made a major contribution over the last decade in bringing the issue of newborn survival to global and national agendas. It has produced landmark publications on critical newborn needs, helped in identifying interventions to address the major killers of newborns, and assisted 19 countries in developing policies and strategies for newborn health including introduction of cost effective new interventions.

In its third phase (2013-2017) SNL is working towards contributing evidence on maternal and newborn health (MNH) in urban poor settings, so as to generate new knowledge for scaling up interventions that benefit the urban poor. In order to de-

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sign sensitive, responsive, and relevant urban health policy and action, it is imperative for planners and programme managers to understand the context with regard to current practices and mechanisms, as well as the role of that can be leveraged and built upon in order to ensure urban institutional reforms and improved governance for health in urban poor settings. Accordingly, SNL has been undertaking implementation research studies in urban poor settings, so as to: generate quality evidence to identify opportunities and gaps in health system, factors affecting service delivery, and potential strategies to address specific needs of the urban poor; implement models/approaches to increase quality, access and use of high impact MNH services and practices among the urban poor initiated using existing municipal and state resources; ensure that Urban MNH data is made available and mechanisms for capture developed; ensure government policies & programs specifically address urban MNH at national and state level, reflecting growing evidence base.

About Pune City

Pune is the 9th most populous city in India and the second largest in the state of Maharashtra after the state capital Mumbai. It is situated 560 metres (1,837 feet) above sea level on the Deccan plateau, on the right bank of the Muthariver. Pune city has a long history of different dynasties, warring armies and rulers like Shivaji Maharaj, Peshwas. Pune is considered the cultural capital of Maharashtra. Since the 1950s and 1960s, Pune has had a traditional old-economic base. After independence, Pune saw a lot of development, such as the establishment of the National Defence Academy at Khadakwasla and the National Chemical Laboratory at Pashan. Pune also serves as the headquarters of the Southern Command of the Indian Army.

The city is also known for its manufacturing and automobile industries, as well as for research institutes of information technology (IT), education, management and training, which attracts migrants, students, and professionals from India, South East Asia, the Middle East, and Africa. The Pune of 2015 is a bustling medium sized city in Maharashtra, with the new IT parks blossomed in the last decade or so, and offering various software services and other services as well.

Pune's urban history can be traced in terms of social, economic, administrative, and environmental planning and development that highlight the efforts undertaken by the administrators in managing and redesigning the urban sphere. While, the city Pune is investing significant resources and developing master plans and guidelines for addressing key urban challenges, yet the city also faces several challenges, particularly in terms of increase in environmental degradation, social segregation, and erosion of institutional capacity to manage and govern urban growth.

PMC : Public Health Infrastructure

Pune city health infrastructure includes 41 urban primary health clinics (UPHCs)/dispensaries, which provide basic OPD services, immunization and treatment for diseases like TB, Malaria and Leprosy. 1/10th of these dispensaries serve as TB units. Few of the dispensaries conduct weekly ANC clinics. Almost all the clinics, have basic laboratory facilities like haemoglobin, BSL testing. More than 50% health posts have ECG machines. One third of the dispensaries have a facility of sample collection service which is then sent to central lab at Gadikhana for testing. 8 to 10 dispensaries have either Corporators donated ambulance or 108 ambulance services.

16 Maternity Homes (MHs) are providing basic OPD services (ANC, PNC & immunisation) and indoor ANC and family planning services. Kamla Nehru Hospital (KNH) is the general hospital and serves as tertiary care unit for PMC. Apart from

Pune is the 9th most populous city in India and the second largest in the state of Maharashtra after the state capital Mumbai. The city is also known for its manufacturing and automobile industries, as well as for research institutes of information technology (IT), education, management and training, which attracts migrants, students, and professionals from India, South East Asia, the Middle East, and Africa.

basic maternal health services, NICU facility, dialysis unit. Dental unit is available. Naidu Hospital based in Pune city, is an Infectious disease hospital for Pune district, where infectious disease cases are referred from all over city as well as district. The laboratory facility for PMC is available between 9 AM to 5 PM.

In addition to this there is Sassoon General Hospital, a tertiary care state of art hospital, which is utilized by the community. It is a large state-run hospital in Pune, India with 1296 beds. It is affiliated to the B. J. Medical College and a Nurses training School. Sassoon Hospital caters to 9,426,959 population of Pune District. It has the state of art medical services available under one roof including NICU, fully equipped operation theatre and blood bank. There is a state run district hospital at Aundh, which is accessed by the community and by providers as referral center.

Why Pune City for developing a city health plan?

To begin with, Save the Children, in 2013 undertook a landscape analysis to understand the existing initiatives, key actors, and players, involvement of professional bodies as well as apex organisation working in the field of urban health. Based on the analysis, three key stakeholders, that were identified as potential partners were the urban health division of MOHFW, government of India, the National Health System Resource Centre (NHSRC) and the USAID assisted Health of the Urban Poor Programme (HUP) implemented by the Population Foundation of India (PFI). While SC-I was engaged in building collaboration and partnerships with these stakeholders a Technical Advisory Group (TAG) on Urban Health with the Joint Secretary, Urban Health & Joint Secretary, RCH as Co-chairs was formulated with an objective of guiding and steering the project with optimum inputs from the TAG members.

SNL being a programme focusing on generating evidence on delivering maternal and newborn health care to the populations residing in urban poor settings, the initial interactions with urban health division, GOI resulted in the suggestion of building this evidence in already existing community laboratories set up by the HUP programme in five select cities in the country (Delhi, Agra, Jaipur, Pune, & Bhubaneswar). It was also suggested that establishing a dialogue with vulnerable communities, programme implementers and providers simultaneously in HUP cities would help fetch better and faster results both through the implementation research activities as well as continuous coordination with health systems. Accordingly, a rapid assessment of the five cities, based on the criteria of size of the city, existing health system and service delivery mechanisms, population coverage by HUP programme and interactions with local health functionaries helped in narrowing down the decision to work in the cities of Pune and Bhubaneswar.

Additionally, the diversity in the mechanisms and autonomy of health service delivery in the two cities, Pune being historically an independent municipal body and Bhubaneswar being largely aligned with the state government was envisioned as an advantage as the two cities would ideally serve as two independent service delivery models and examples for most of the 'B' level cities in the country. Thus an inherent and in-built vision of replication of scientifically planned and systematically implemented health service delivery models for the urban poor populations will continue to be the instrumental objective as PMC embarks on to disseminate and share its learning with the other cities of the country.

Process of developing the City Health Plan

The second TAG meeting held on December 11, 2014 under the chairmanship of Mr. N. B. Dhal, the Joint Secretary, Urban Health and ICT, laid out key suggestions and

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recommendations for building evidence as well as developing urban health service delivery models in the cities of Pune and Bhubaneswar. These were:



The service delivery model, when developed, must be city-wide, and not restricted to certain slums or blocks.



Mapping of health facilities in terms of location and level of functionality should be undertaken.



The term 'slum' should be replaced either by 1) The 'urban poor' or 2) Vulnerable groups/sections. This, given that there are many vulnerable groups residing outside of slums, eg. homeless people to whom children are often born.



A service delivery model that is developed should see to it that the health facilities remain functional/are self-sustaining beyond the time when active supervision/hand-holding ends.



The health facilities should be comprehensive – maternal and newborn health is not a stand-alone component in health sector. It is inextricably linked to the whole RMNCH+A gambit. We should look at 'staging'/'phasing' the integration of the model with sequentially added elements of the RMNCH+A and Continuum of Care.



The issue of 'assured service' – which health facility will assuredly provide what level of care. This needs to be made explicit to all stakeholders, including the community, in order to build trust and faith in the public health system.



If the model contains the urban equivalent of the VHNDs, then we must ensure the deficiencies of the system do not get replicated.



Transportation to health facilities (102 and 108 ambulance services) should make better use of GPRS and ICT.



The wider social determinants of health should be taken into consideration: Water and sanitation, indoor air pollution, overcrowding with the spread of water, air and vector borne infectious diseases, homelessness, etc. It is for this reason that there should be greater inter-sectoral convergence and coordination among the various health programmes and the departments that lead individual programmes.



The service delivery model should look at rigorous utilization of the MCTS and the HMIS.



Generally speaking, the mechanism will comprise of a two-tiered health system: The more basic urban PHC and the urban CHC. We should be looking at the exact infrastructure and type of 'assured service' provided by facilities of these two levels.



The model should be looking at building into the model a quality framework at the point of inception.

The second TAG meeting held on December 11, 2014 under the chairmanship of Mr. N. B. Dhal, the Joint Secretary, Urban Health and ICT, laid out key suggestions and recommendations for building evidence as well as developing urban health service delivery models in the cities of Pune and Bhubaneswar.



IT-based systems (such as phone reminders, phone based information delivery, etc.) should be instituted at the point of inception, rather than later.



SNL should enunciate in as much detail as possible, the managerial aspects of the system, and possibly involve the private sector, given that the private sector has better management skills and expertise.



If the models prove to be successful, the NUHM would be willing to fund work on subsequent cities and phases.



A detailed city-wide and city specific situation analysis should be undertaken in Bhubhneshwar and Pune with both health systems and maternal and newborn health perspective in mind.

Accordingly, a situation analysis study was planned since January 2015 and initiated in Pune City in November 2015. The process involved development of study protocols, development of quantitative and qualitative tools, undertaking ethical clearances and approvals at the national and international levels. The study was completed in the month of March 2016 and the initial findings were shared with the PMC Municipal Commissioner, Mr. Kunal Kumar in April 2016.

Further to this, based on the findings of Situation Analysis (SA) study and a series of meetings followed thereafter, PMC and Save the Children, India teams have jointly worked on developing a city health plan for Pune City. To provide concurrent guidance and technical support in the process of city health planning, a Core Committee was formulated in May 2016. Save the Children and PMC teams, under the guidance of the aforesaid committee, prepared the final draft of the city health plan; and a meeting was organised on 19th August, 2016 at the Conference Hall, PMC to share the final version of the plan and the City Health Plan document was thus submitted to the Municipal Commissioner, PMC.

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Situation Analysis Findings

Policy and Programmatic Implication

Save the Children in collaboration with the Pune Municipal Corporation (PMC) and the state National Health Mission (NHM) undertook this study in the urban slums of Pune city to generate learnings for designing a city-specific public health approach to improve MNH services for the urban poor.

Background and Rationale

The slum population in Indian cities is expanding at an ever faster rate (25.1% decadal growth – Census 2011)¹. This urban poor population offers complex challenges of vulnerability for adverse maternal and newborn health (MNH) outcomes². Public health care provisioning for MNH in urban slums is mostly unstructured, fragile and with almost non-existent outreach³. Health service utilization is compromised due to limited capacity for decision making, negligent and delayed care seeking, issues to access and affordability, and the plethora of unorganized private providers. This is compounded by socio-behavioral, spatial and economic inequities that define the context of dis-empowerment and constraint for this population⁴. Urban development, housing, urban policy and urban planning are state subjects⁵, as is Health. The Centre mostly plays an advisory role. The National Urban Health Mission (NUHM), launched in 2013, advises for improving the health of the urban slum populations through a needs-based, city-specific urban health care system that includes a revamped primary care system, targeted outreach, equitable access, and involvement of the community and urban local bodies (ULBs)⁶. The lack of formative information and disaggregated data impedes efficient urban health policy-making and programming⁷.

Study Goal and Objectives

Save the Children in collaboration with the Pune Municipal Corporation (PMC) and the state National Health Mission (NHM) undertook this study in the urban slums of Pune city (profile given in Fig. 1) to generate learnings for designing a city-specific public health approach to improve MNH services for the urban poor. The specific objectives were:

1. To understand the community needs, behaviours and perceptions for MNH in urban poor settings.
2. To explore various factors (both demand and supply side, and environmental factors) affecting care seeking for MNH.
3. To assess the preparedness of the urban health system for providing MNH services at various levels of care in terms of infrastructure, HR availability and capacity, logistics, drugs & equipment, referral, recording & reporting, supervision, governance and financial modalities.

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5 Batra L.A Review of Urbanization and Urban Policy in Post-Independent India. Working Paper Series. Centre for Study of Law and Governance. Jawaharlal Nehru University. New Delhi 2009.

6 National Urban Health Mission: Framework for Implementation. Ministry of Health and Family Welfare. Government of India. May 2013.

7 Ministry of Health and Family Welfare. Integrated HMIS Reporting Formats: Information – At a Glance (version 1.5). Government of India. Jul 2010.

Conceptual framework

The study has been conceptualized in a framework containing “demand”, “supply” and the “system” level issues (Fig. 2):



Demography

Popn: 3.1m (9th most populous in India)
 Area: 479 km²
 Density: 6.5K/km²
 Sex Ratio: 948
 Literacy: 89.6

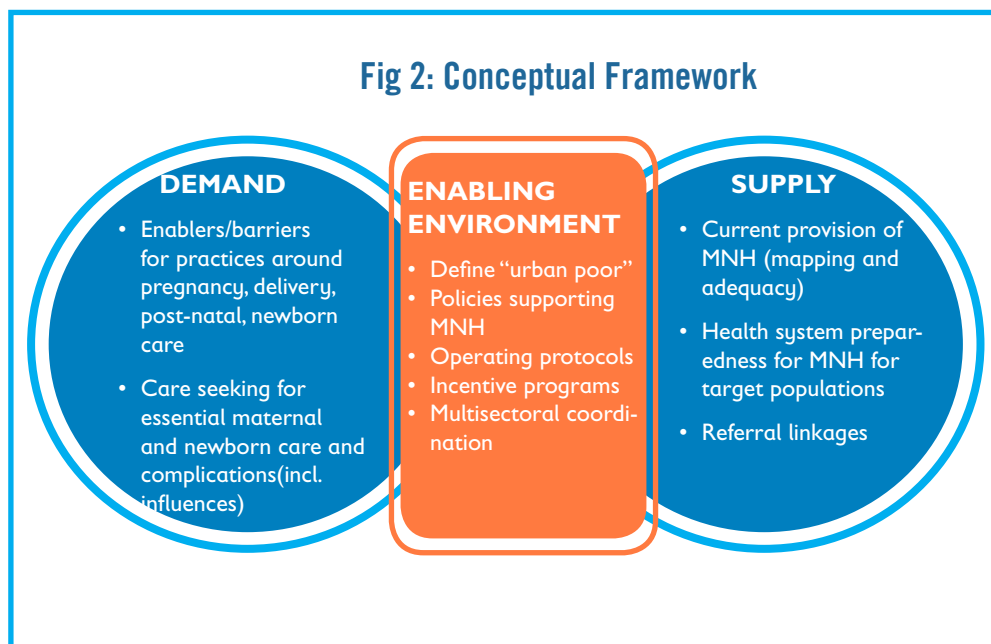
Slums in Pune

564 slums (357 notified)
 Popn: 33% of Pune
 Density: 6 times of non-slum area
 Popn growth: 1.5 times of Pune City

Medical Units with PMC

1 General Hospital
 1 Infections Disease Hospital
 15 Maternity Homes
 44 dispensaries
 2 Mobile Dispensary
 2 Polyclinics
 1 Central Immunization Centre
 7 ICDS Projects
 21 Urban Family Welfare Centres

Fig 2: Conceptual Framework



Methodology

Study design and Sample Selection

This cross-sectional situation analysis used mixed methods research design for data collection. Quantitative and qualitative data was collected concurrently (Jan-April, 2016)(Box 1).The study was conducted with approval from accredited ethics committees in India and the US.

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Box 1: Methodology

A. Quantitative Component

1. Slum level survey

Participants: A total of 601 RDWs were selected from 30 slum clusters using house-to-house enumeration and informed consenting. The sample size was calculated using OpenEpi, Version 3 with p=50%, absolute precision=5%, 1.5% design effect and 95% confidence limits. Accounting for any data loss, it was proposed that 30 clusters with 20 recently delivered women (RDW; those who had a live birth in the past 1-6 months) in each will be selected.

Sample selection: Multi-stage cluster sampling

Stage 1: Slum concentrations were identified using GIS maps in the 5 ward-zones of the city (total 105374 households). Slums with >500 households were identified as individual clusters, while smaller slums were combined with the adjacent ones to form a cluster. Notified and non-notified slums were not combined with one another.

Stage 2: Out of the 96 notified and 13 non-notified slum clusters identified during stage 1, 30 study clusters were selected for the study – includes 26 notified and 4 non-notified clusters. The notified clusters were selected using Probability-Proportional-to-Size sampling while the non-notified slum clusters were selected purposively. The 601 RDWs were sampled from a total of 10 wards through house-to-house enumeration.

Data Analysis: Data was represented as frequency and proportion. Significance was tested at p<0.05 using appropriate statistical test. Logistic regression analyses was carried out to identify predictors of MNH care seeking and choice of provider facilities.

2. Facility Survey (Feb-Mar 2016)

A structured checklist was developed based on the existing GOI tools, adapted for urban context and piloted for use. In addition, secondary data was collected and synthesized from facility records. Altogether 10 health facilities were surveyed – these included 5 primary level facilities, 4 secondary facilities and 1 tertiary care facility (Kamala Nehru Hospital) along with 2 Special Newborn Care Units (SNCUs).

B. Qualitative Component

1. Focus Group Discussions (FGDs)

25 FGDs were conducted with 8-10 purposively selected participants in each group viz., influential persons from the community, husbands of RDWs, mothers-in-law of RDWs, members of Self Help Groups (SHGs) including Mahila Arogya Samitis (MAS) (n=4 each), and frontline workers i.e., community link worker (ASHAs), Auxiliary Nurse Midwives (ANMs) and Anganwadi Workers (AWWs) (n=3 each).

2. In-depth Interviews (IDIs)

42 IDIs were conducted with purposively identified respondents viz., informal doctor/ health provider from slum, formal doctor/ health service provider from nearby primary public health facility, formal private health provider, key officials from NHM/ PMC (n=8 each), personnel from public health facilities (paediatrician, obstetrician, medical officer, staff nurse; n=10).

3. Event Narratives (EN)

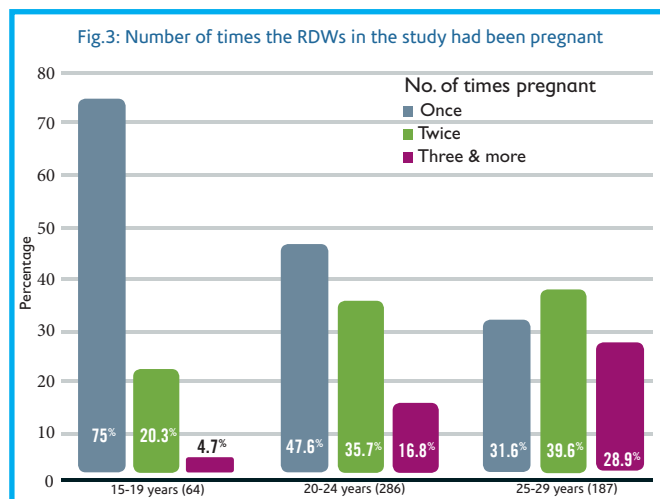
18 ENs (8 newborn deaths, 10 sick newborns) were done with RDWs as primary respondents.

Study Findings

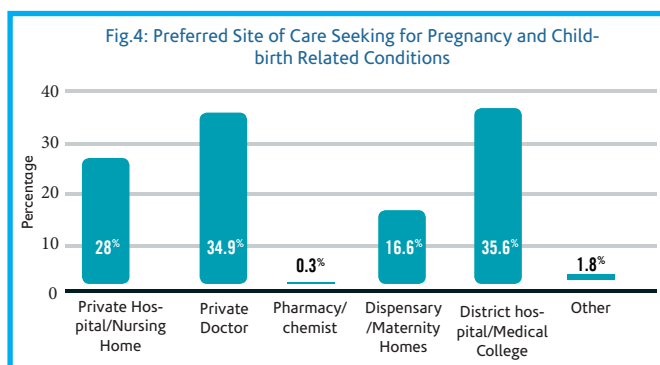
Overarching situation in the slums

The profile of RDWs included in the Slum level Survey and their households is given in Table 1. Of the 601 RDWs, 43% was primiparous. Pregnancy at a young age was commonly seen with 25% RDW in the teenage years having already experienced more than one pregnancy (Fig. 3). All babies delivered during last pregnancy were surviving. Majority of the RDWs (57%) had not been visited by any FLW at home in the last 6 months prior to the survey leaving MNH care seeking choices mostly self-driven and conditioned by prevalent socio-behavioral beliefs and preferences (Fig. 4 and Fig. 5).

Sanitation and Hygiene (source: slum transect and informal interactions with dwellers): The slums lacked drainage and cleanliness. In some, garbage collection was done by PMC and by private agencies while others had no garbage collection mechanism. Roads in the slums were narrow and in poor condition.



- 25% of RDWs currently in their teens had already experienced more than one pregnancy
- By the age 24 yrs., over 50% RDWs have already had more than one pregnancy



- About 36% of the RDWs prefer consulting at the District hospital/ Medical College (Sassoon Hospital) for any pregnancy and delivery related condition.
- Almost an equal proportion (35%) would seek care from a private doctor (qualification questionable)

Table 1:
Profile of the Participants and their Households (HH) [N=601]

Religion	76% Hindu; 12% Muslims; 9% Buddhists; 3% Others
Median age of the women (Range)	24 yrs (16-38 yrs)
Caste	39% SC, 9% ST, 32% OBC, 19% Others
Education	No formal education: 6.7% Upto 5th Grade: 9.5% Above 10th Grade: 33.1%
Notification status of the slums of residence	Notified: 87%
Duration of residence in the slum (Range)	Median=96 months
Type of house	45% Pucca, 45% semi-pucca
HHs with mobile phone	97%
Access to piped drinking water	86%
Access to flush toilet facility	81%
HH with electricity	100%
Distance to nearest public health facility (walking)	98% <30 mins Median: 10 mins

Pregnancy at a young age was commonly seen with 25% RDW in the teenage years having already experienced more than one pregnancy

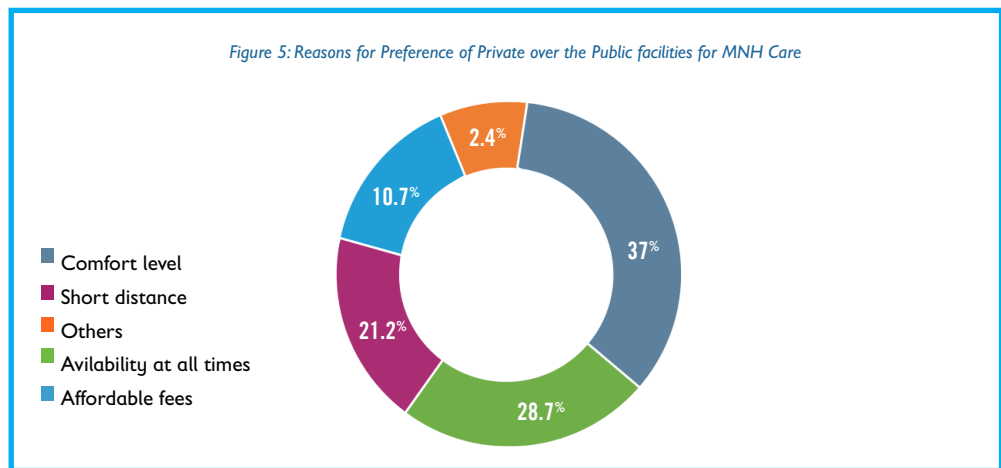
Majority of the RDWs (57%) had not been visited by any FLW at home in the last 6 months prior to the survey

Public Health Service Delivery and Access (source: various FGDs):

- AWW provided pregnancy registration services and nutrition counselling for pregnant women.
- The respondents were unable to differentiate between AWWs and ANMs.
- There was minimal outreach by ANMs and MOs in the slums.
- Primary and secondary level public health facilities provided ANC services but lacked capacity for investigations (e.g, USG, X-ray), C-section and specialist care (e.g, pediatrician). These facilities were available only at the tertiary care facility.
- Awareness of program entitlements was poor among the slum population
- Public health facilities had bad reputation for unavailability of consistent, comprehensive and quality service under one roof, unfriendliness of staff, almost universal referral rates, unforeseen out of pocket expenses, and inconvenience (distance, transport, OPD timings, waiting time). Consequently, private facilities were preferred (Fig. 5). Tertiary level public health facilities were held in good regard.

Public health facilities had bad reputation for unavailability of consistent, comprehensive and quality service under one roof, unfriendliness of staff, almost universal referral rates, unforeseen out of pocket expenses, and inconvenience (distance, transport, OPD timings, waiting time). Consequently, private facilities were preferred

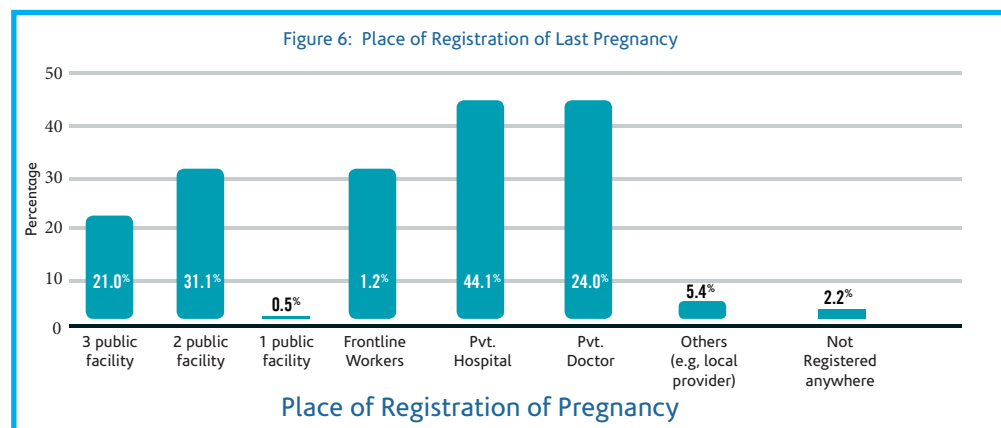
Figure 5: Reasons for Preference of Private over the Public facilities for MNH Care



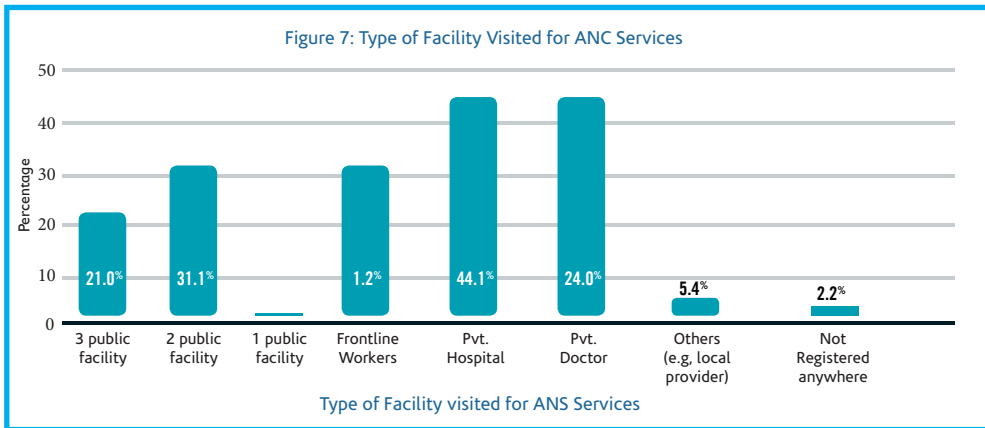
Antenatal Care Practices

Registration of Pregnancy: Most women came to know about their pregnancy in the 2nd month of gestation (median value). About 28% were registered after the 1st trimester. Women without formal education, staying in kuccha houses and in non-notified slums, and from the lowest socio-economic quintile were more likely to miss registration. This highlights inequities within slum communities.

Figure 6: Place of Registration of Last Pregnancy



- Pregnancies were most frequently registered with the Private hospitals (44%).
- Only 1.7% women registered either with frontline workers or at primary level facilities in the public sector
- *It is likely that the same pregnancy was registered in more than one facility.

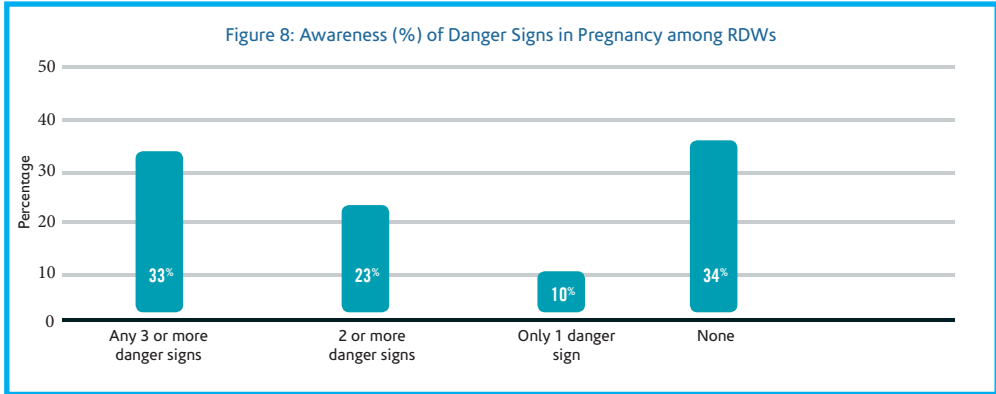


- Private Facilities were preferred for Antenatal Care seeking among the study population (43%)
- Uptake of ANC was mostly self-initiated

Antenatal check-ups: About 64% women received first ANC check-up in the 1st trimester but it was delayed to up to the 9th month for about 15% of the RDWs. 79% received at least 4 ANC check-ups.

Role of FLWs: Role of FLWs in providing information on simple pregnancy tests (e.g. urine pregnancy test kits) that could be self-used at home and in mobilizing pregnant women for early registration was minimal suggesting limited outreach of services. About 72% RDWs reported that no FLW had visited them at home during their last pregnancy. Of those who did, mean month of first visit was 4th month of pregnancy and an average of 3.8 times during the full course of pregnancy.

Antenatal Counselling: ANC counselling was reportedly mostly on early initiation of breast feeding and regarding financial preparation (about 80% each). Only 29% had received advice on how to identify the danger signs among the neonates of which only a third (32%) reported to have been counselled on where to go if any MNH danger signs were found. Ability to recall other elements of antenatal counselling could be limited and par relevance to local context.



Knowledge of Danger Signs: Awareness on danger signs and pregnancy complications was low (only about 1/3rd could name any one danger sign) (Fig. 8). RDWs who sought ANC from private providers/ facilities had a better recall of danger signs.

Community Understanding on Complications during Antenatal period (source: FGDs with Husbands and MILs): MILs appeared to be more informed on antenatal problems as compared to husbands of RDWs. For intranatal care, both respondent categories appeared to be similarly informed.



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Role of FLWs in providing information on simple pregnancy tests for early registration was minimal suggesting limited outreach of services.

ANC counselling was reportedly mostly on early initiation of breast feeding and regarding financial preparation.

Awareness on danger signs and pregnancy complications was low



Birth preparedness (source: FGDs with MILs and Husbands): This was mostly restricted to financial planning (saving about INR 4000- 8000 for the delivery, and further amount for nutritious food thereafter). Some collected only clean clothes and relied mostly on the slum community practice of helping each other out. Transportation arrangements were mostly made on the own despite knowledge about government ambulance services due to doubt regarding timely service upon request over phone.

ANMs' perspectives (source: FGDs with ANMs): The ANMs claimed that they provided ANC and PNC services along with services at the outreach (home visits for identification of pregnant women, spreading awareness on government schemes and services available). As this information contrasted from that retrieved from the beneficiaries, possibly, the effectiveness of the ANMs' services (especially at the outreach) is negligible.

Birth preparation mostly restricted to financial planning

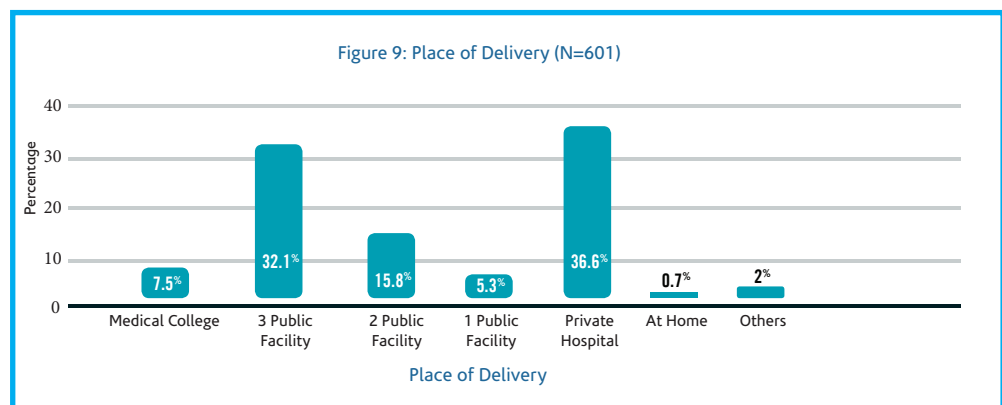
The contention of the ANMs that they provided outreach does not corroborate with the responses from the beneficiaries who reported lack of such services

Institutional delivery is almost universal

Key Observations:

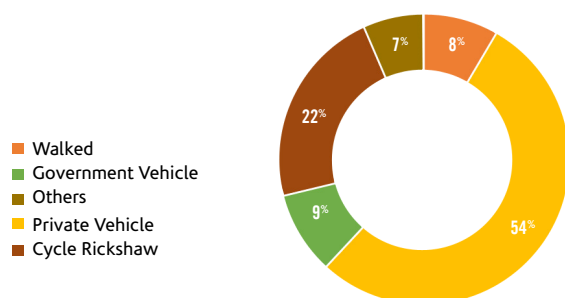
1. ANC services at outreach almost non-existent
2. Only 28% of pregnant women were registered during the first trimester
3. Private Facilities (43%) were preferred for ANC
4. Uptake of ANC was mostly self-initiated; 79% received at least 4 ANC check-ups
5. Awareness on danger signs in pregnancy was poor among RDWs and Household members

Delivery and Immediate Newborn Care



- The population reported 99.3% institutional delivery rate. About 25% of the home deliveries had skilled attendance
- Majority of the deliveries were conducted in private hospitals and tertiary care public health facilities
- Around 30% deliveries were Cesarean section deliveries (~Govt: 20%, Pvt: 40%)
- Retention rates from ANC to delivery were higher for public health facilities (95.7%) versus Private set ups (25.7%)

Figure 10: Mode of Travel to Facility for Delivery (N=597)



- Most (54%) of the RDWs had reached the institution for delivery using a private vehicle followed by another 22% that had reached on a cycle rickshaw. About 8% had walked their way to the institution
- Only 9% had used a government vehicle. While non-availing government transportation services may be a deliberate decision due to trust deficit in the public services, ignorance, lack of road accessibility, relative proximity of facilities could also play decisive roles.

Out of Pocket Expenditure: The urban poor of Pune reported spending about INR 4000- 5000 on an average as out of pocket expense on transportation and pathological tests in case of deliveries at a private facility. Expenses for normal vaginal deliveries at a private facility would usually cost INR 15-20 thousand whereas, a c-section would range between INR 30-40 thousand (source: FGD with MILs). The decision to give birth at the public facility was largely governed by the paying capacity of the families (source: FGD with Husbands).

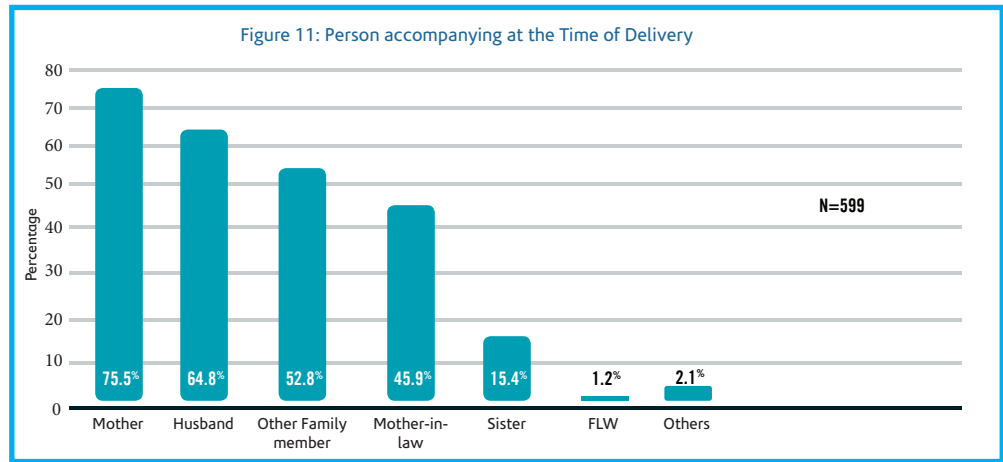
Several families faced cash crunch during delivery as entitlements like Janani Suraksha Yojana (JSY) was reimbursed at the time of delivery. “People are aware only about JSY and they are taking benefits of these schemes. They are not aware about other schemes” (source: FGD with influential members). When asked about why people did not avail the government run incentive schemes, AWWs mentioned “Though JSY scheme is available, very few families have accessed benefit from this scheme. Lots of documentation and paper work is required for this scheme, therefore people feel it is waste of time and instead go to private hospital” (source: FGD with AWWs).

The decision to give birth at the public facility was largely governed by the paying capacity of the families

Though JSY scheme is available, very few families have accessed benefit from this scheme. Lots of documentation and paper work is required for this scheme, therefore people feel it is waste of time and instead go to private hospital.

Key Observations:

1. Birth preparedness mostly restricted to financial arrangements. Couples get much needed support from family and community members during child birth.
2. Institutional deliveries was almost universal (99.3%); Mostly in private hospitals and tertiary care public health facilities
3. Uptake of program entitlements (e.g. JSY, JSSK) was low
4. Referral compliance for pregnancy complications was poor
5. Only 30% initiated breast feeding within first hour of child birth

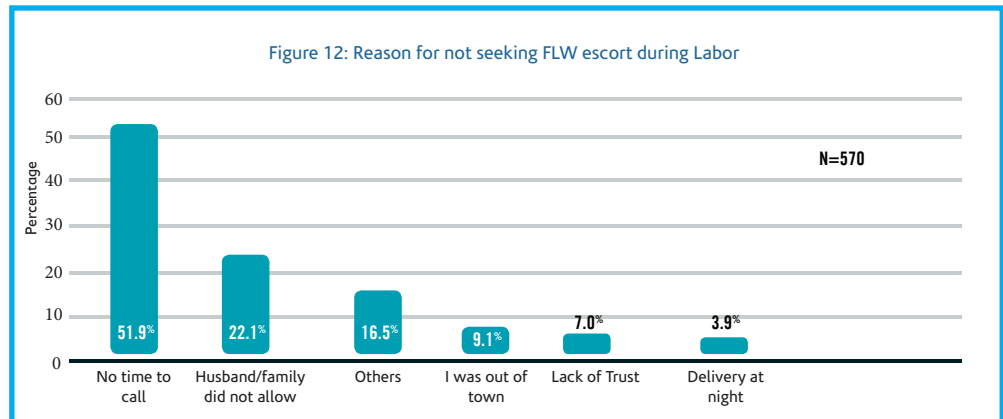


- Several family members and acquaintances accompanied the RDWs at the time of delivery, the mother and husband of the RDW being the most frequent accompaniments
- Only 1.2% of the RDWs said that they had a frontline worker (ASHA/ AWW or a link worker from some NGO) alongside at the time of delivery to take care of the newborn

Only 5% of the respondent RDWs contacted the FLW for accompaniment during labor.

About 20% newborn were low birth.

LBW babies were born to women who did not undertake any birth preparedness, registered their pregnancy after the third trimester, and received less than five ANC check-ups.



- Only 5% of the respondent RDWs said that they contacted the FLW for accompaniment during labor
- Among those who did not contact the FLW, 52% said that they did not have the time to call and 22% said that their husband/ family did not allow them to call. Some respondents cited more than one reason
- As many as 85% of the RDWs said that the FLW did not inform them that they should call them for accompaniment

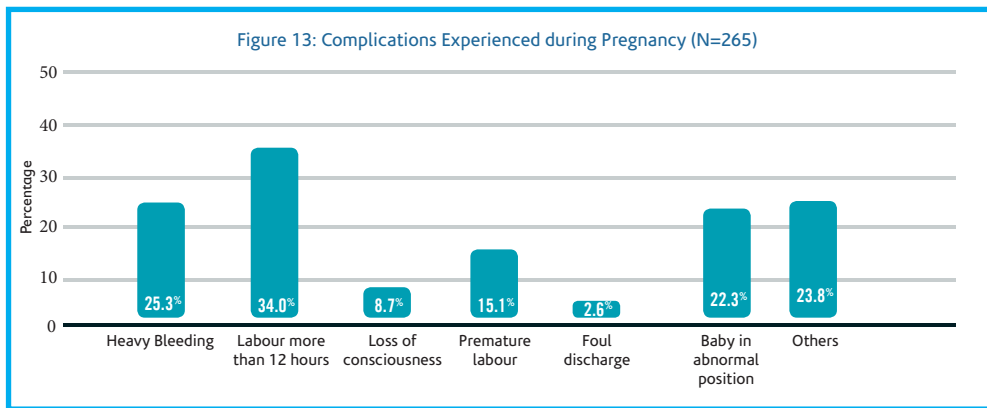
Immediate Newborn Care: The newborn was placed on the mother in 27% of the deliveries in private setups (public facility: 15.4%; home delivery: 12.5%). Skin-to-skin care for the newborn varied from 17.1-33.2% (overall: 24%). In home deliveries, chances of placing the baby on the floor or giving it to an accompanying person were higher.

Recording of the Birth Weight: Universally, newborns were weighed at birth. About 20% were of low birth weight (LBW; <2.5 kg) (source: birth documents as available e.g., mother's card) but only 10% of their mothers opined that the newborn appeared 'smaller than average' to them at birth. Reduced risk perception despite awareness could be a critical determinant of newborn care (see section 'Care of the Sick Newborn below'). LBW babies were born to women who did not undertake any birth preparedness, registered their pregnancy after the third trimester, and received less than five ANC check-ups.

Breast feeding: Almost all (99.8%) the RDWs had breastfed their newborns but only about 3/4th of these did so on Day 1. About 30% had initiated breastfeeding their newborns within the critical first hour after birth (early initiation). Beyond 95% of the RDWs said that they had fed colostrum to their newborn.

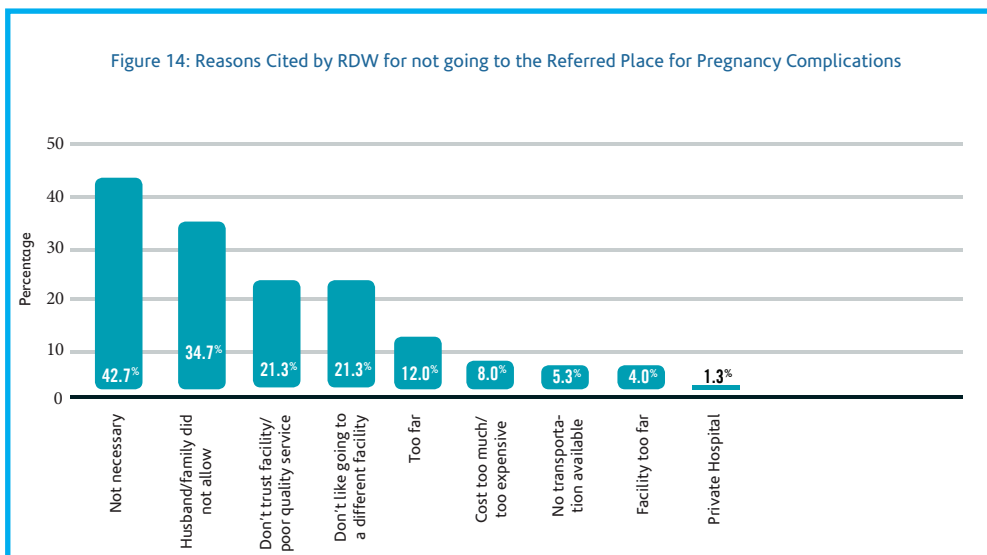
Cord care: Recall rates were poor when the RDWs were asked whether a new blade was used to cut the cord or not, and whether anything was applied on the cord after cutting (52% reported that something was applied— most commonly an oil; 20% were unaware). About 62% said that they had applied something on the cord until it fell off (74% of these had applied oil and 54% gentian violet); many had applied more than one thing.

Bathing the newborn: All babies were bathed after Day 1; majority were bathed after Day 3 with about 20% after the first week.



About 44% of the RDWs reported having experienced some complication during labor with many reporting more than one complication. Heavy bleeding was also reported as a frequent complication. Higher rates of breech and other non-cephalic fetal presentations at labor were also reported.

Around 37% and 47% of RDWs who reported complications at labor in public and private facilities had received referral advice respectively. However, almost 62% did not go to the facility they were referred to. They often had more than one reason for not doing so (Fig. 14), but surprisingly very few respondents mentioned costs, distance to facility and lack of transportation as the cause.



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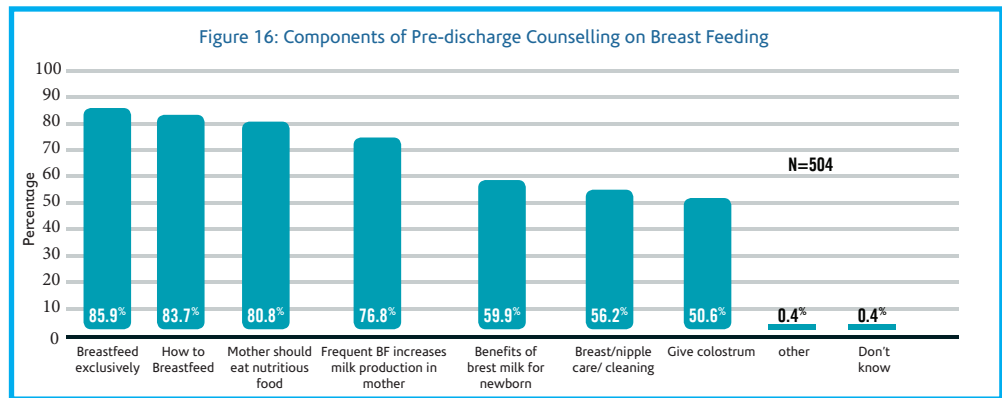
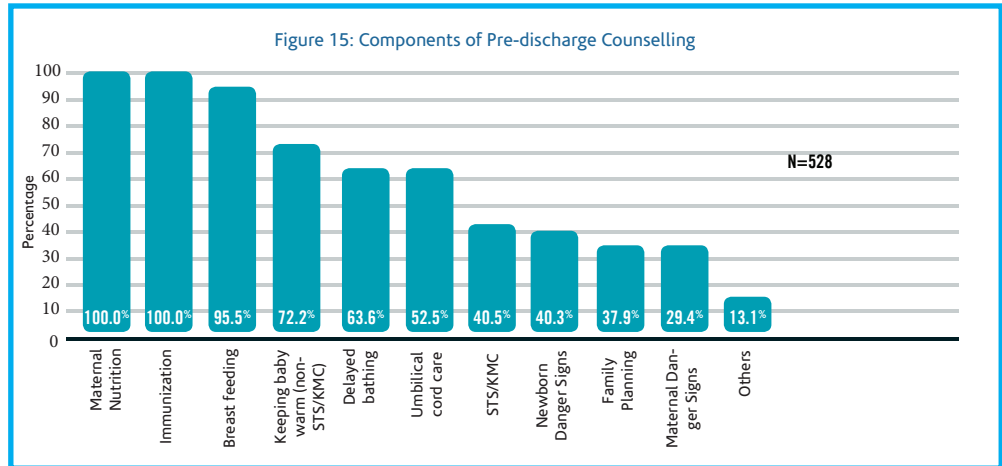
Higher rates of breech and other non-cephalic fetal presentations at labor were reported.

Post Natal Care

Duration of stay in the health facility: About 94% had institutional stay of more than 24 hours while just about 2% had left the facility within 6 hours of delivery. Mean duration of stay was longer for Caesarean delivery (about a week).

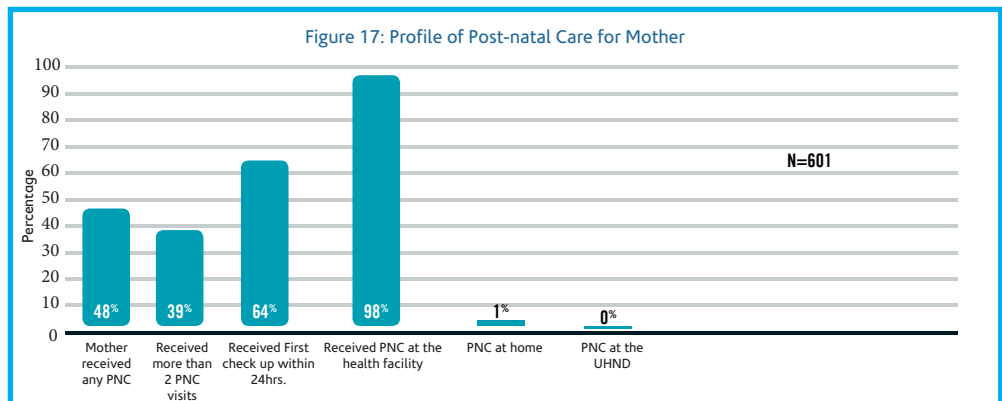
Pre-discharge check-up: About 84% of the RDWs reported that some personnel had physically checked them and their newborn before discharge, the doctor being the most common one (99%). Health of 28% of the mothers and 33% of the babies had been checked within the first hour of delivery.

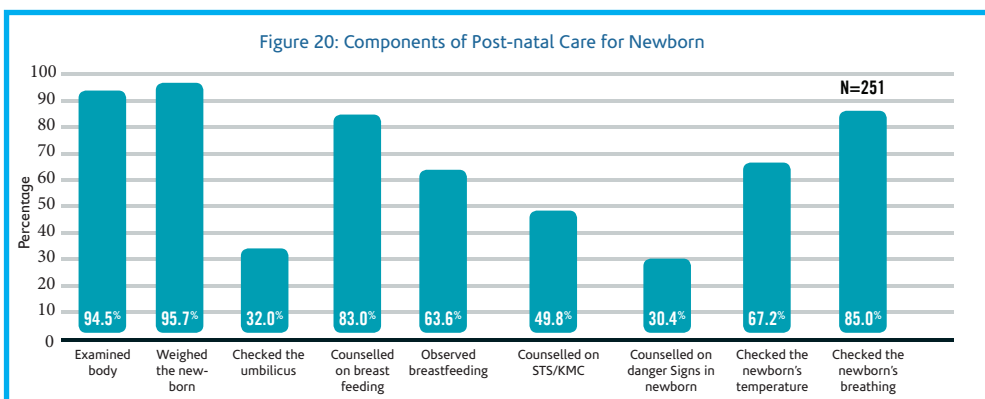
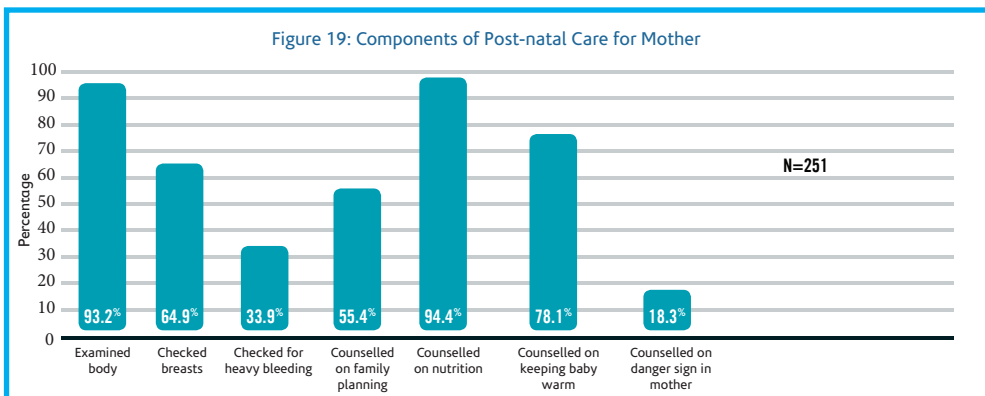
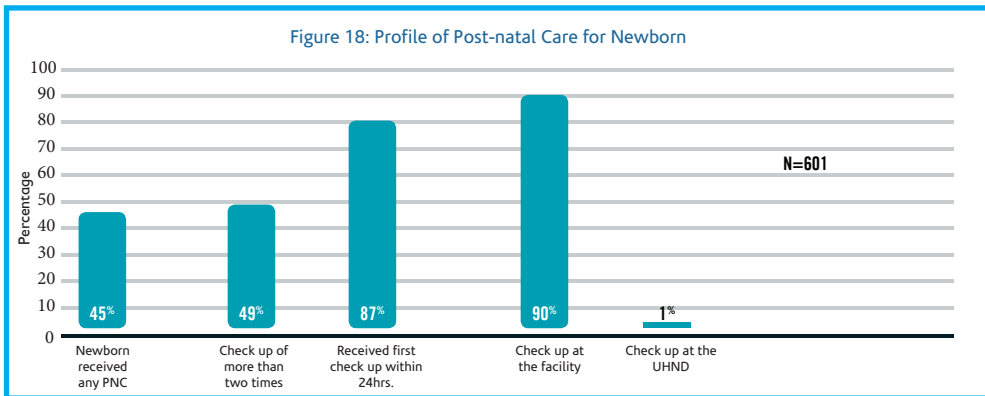
About 48% of the RDWs and 45% of new born received post-natal check up after discharge.



Pre-discharge counselling: About 88% of the RDWs who delivered in institutions mentioned that they had received pre-discharge counselling. The components of the counselling as retrieved through prompting has been shown in Fig. 15 and 16. Counselling was less frequently provided on newborn and maternal danger signs and on family planning.

Check up after discharge from the facility: About 48% of the RDWs and 45% of newborns had received post-natal health's check-up after discharge (denominator also includes those delivered at home) (Fig. 17 and 18). However, the number of times and site (home/ facility) for these post-natal check-ups could not be enumerated.





The respondents appear to be unaware of the care and attention mothers require immediately after delivery

Only 6% of the RDWs reported that had attended an outreach session in the last 6 month.

Sickness in newborn was frequently attributed to evil spirits.

The components of these PNC check-ups are given in Fig. 19 and 20. The respondents appeared to be unaware of the care and attention mothers require immediately after delivery (source: various FGDs and IDIs). This may be due to lack of counselling received during ANC. There was mention about childcare support by some husbands and MILs of the RDWs, but it is largely considered to be the mother's responsibility.

Sources of counselling: Out of the total 601 RDWs, only 43% had been visited by any FLW (Link worker / ASHA, AWW, ANM or other community health worker) in last 6 months – 90% by the AWW. Only 6% of the RDWs reported that had attended an outreach session in the last 6 month. The AWW was the only personnel they had interacted with in such sessions.

Traditional practices (source: FGDs with MILs and Husbands, FLWs): Sickness in newborn was frequently attributed to evil spirits. A black thread was usually tied around the hand/ foot of the baby and the mother-baby dyad quarantined for several days to ward off evil spirits. Some believed that the newborn need not be clothed during the first 5-10 days. The traditional newborn care and feeding practices (honey as prelacteal feeds, discard of colostrum, feeding gripe water and home-prepared top-feeds to 'ease' the baby) were perpetuated through the MILs. The husbands were mostly unaware of these.

Key Observations:

1. Less than 50% RDWs and newborns had received post-discharge check-up
2. Outreach PNC services by ANM was non-existent

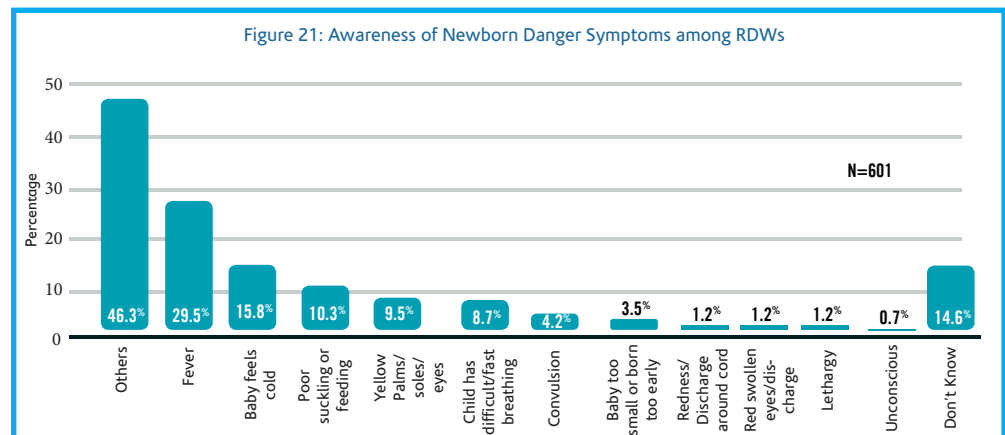
Care of the Sick Newborn

Care of the LBW newborn: 80% of RDWs who perceived that their baby was born smaller than average/ very small reported that they gave extra care to their baby e.g., frequent breast feeding (87.5%), newborn health check-up at a health facility (75%) and skin-to-skin care (30%). These babies were seldom followed-up at home by FLW implying that the outreach tracking system was non-functional.

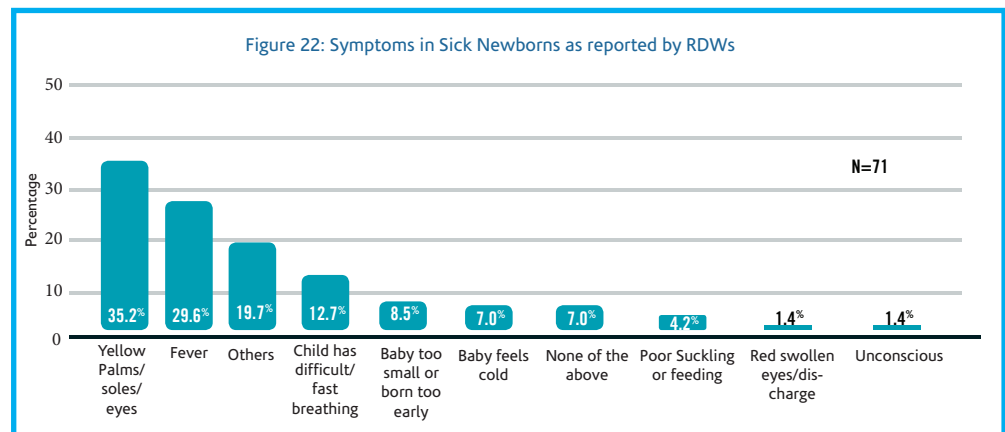
Awareness about newborn danger signs among RDWs: The RDWs were imprecise and provided mostly vague answers when asked about danger signs in the newborn that may need hospitalization. Almost 15% out-rightly mentioned that they did not know of any such signs that would warrant a visit to the health provider.

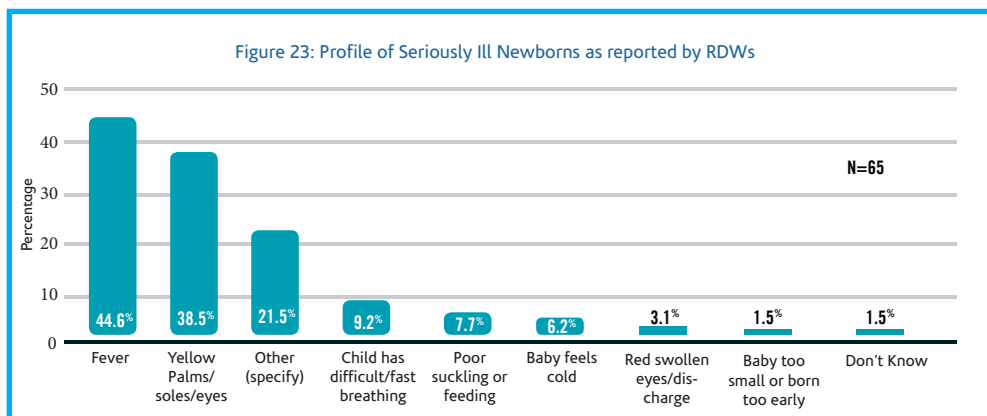
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Symptoms noted in Sick Newborns: Among the 601 RDWs, 12% (n=71) had experienced at least one danger sign in their baby in the first month of life. The symptomatology reported has been given in Figure 22). Among the neonates, 65 (91.5%) were seriously ill most commonly with fever (44.6%) and yellow palms/ soles/ eyes (38.5%) (Fig. 23) and had sought treatment. These babies usually had 2 or more episodes of illness in the first month of life.





74% RDWs had taken their sick child to a private facility and 29% to district hospital at least once.

Reliance on home remedies could delay initiation of formal treatment for new born

Treatment Seeking for Sick Newborns: Care seeking for sick newborns though high (91.5%), was much variegated during the first month of life with some seeking help up to 10 times but with only 7% seeking help more than twice. 74% RDWs had taken their sick child to a private facility and 29% to district hospital at least once. Almost 6% of the mothers had reported that they had sought help from the FLWs. 93.8% of sick babies seeking care had been administered medicines with 89% cure rate. Home remedies had been provided alongside to about 11% of the sick babies. Reliance on home remedies could delay initiation of formal treatment (source: event narrative).

Facility Survey (completed with information from FGDs and IDIs with various stakeholders)

Attribute	Facility Survey (Feb-Mar 2016)	
	Primary level	Higher level
Number of facilities reviewed	5 (4 dispensaries, 1 UHP)	5 (4 secondary, 1 tertiary; all run by PMC)
Distance and Catchment	All facilities are located within 10 minutes by vehicle and 30 minutes by walking from the remotest slum in their catchment (<20 SqKm)	3 within 20 minutes on vehicle; catchment: <10 sqkm for 4 facilities
Logistics and Infrastructure	Small area, inadequate rooms (<6), no separate toilet for men and women, inadequate water availability and storage facilities, no telephone, no power back-up, only 2 have computers with internet	Infrastructure adequate: rooms, separate male and female toilets, 24x7 water supply, power back up, telephone service, computer with internet, habitable staff quarters, functional and clean labour rooms, PNC rooms;
Human Resource (HR)	All five facilities are understaffed (especially, nursing staff) ANC, PNC skill decay perceivable among MO and ANM	All facilities have MO, Nurse and Pharmacist. 2° facilities have full-time/ visiting pediatricians and obstetricians. The tertiary facility has multiple full-time specialists
Operations	OPD timings: 9am to 5pm	OPD timings: 9am to 5pm
MNH Services (overview)	All five facilities provide services related to management of childhood illnesses and immunization. No safe abortion services One facility does not provide PNC (maternal health) and family planning service	OPD: ANC, PNC and identification of new-born and childhood illnesses. IPD: institutional delivery with essential new-born care and referral, C-section services in 3 facilities. 4 had NBCCs with radiant warmer and 2 have functional SNCU/ NBSU
Maternal Care Services (reference period: past 1 year)	No deliveries conducted in all 5 facilities. In 4 facilities: No service for pregnancy confirmation (UPT), basic laboratory tests (Hb, Urine proteins, blood sugar, etc), very few ANC registrations	All the facilities are providing basic MCH services. The tertiary facility provides referral support and advanced specialist care to complicated pregnancy cases along with basic MCH services
Newborn Care Services (reference period: past 1 year)	None except for immunization	Counselling on newborn care, immunization, initial management of sick new-born and referral services provided at all facilities. Tertiary facility provides referral support to secondary level. Onwards referral from tertiary facility for ventilator support and surgery

Attribute	Facility Survey (Feb-Mar 2016)	
	Primary level	Higher level
Child Health Services	All 5 facilities provide services for Identification and management of sick child including referral services, deworming, Vit A supplementation, routine immunization	All the facilities provide child health related services (like identification and initial treatment of sick child; referral of sick children; de-worming; Vit A supplementation) and immunization
Outreach services	No outreach services for MNH. No documentation.	The tertiary facility offers some outreach services but not with a MNH focus; All facilities offer ambulance services
Equipment	One facility does not have an infant weighing machine. No functional USG machine. No autoclaving/ microwaving equipment	Labour room, NBCC, NBSU, SNCU and PNC wards were reviewed and found satisfactory
Drugs and Supplies	Inj Magnesium Sulphate, Tab Misoprostol not available in any facility; no supplies for Emergency Contraceptives, IUDs and sanitary napkins IFA syrup not available in 2 of 5 facilities; No Zinc tablets and antibiotics for newborns in 3 of 5 facilities	Most essential drugs and supplies are available in the five facilities
Financial Management	'Planning of annual budget' for these facilities are made at PMC level. There is no budget planning for outreach services in four facilities (except in only one facility). None of the dispensaries are receiving funds for JSY under RCH (compensation to beneficiary and transport).	In these five facilities there is cash release of funds on requirement. The amount varies for each facility. The annual budget is planned for the facilities centrally by the MOH at the Pune Municipal Corporation (PMC) level. All maternity homes and hospitals receive funds for JSSK.

Perceptions and Views on Urban Health Systems and Policies (Source: IDIs with System Stakeholders)

System Re-engineering due to NUHM: According to NUHM- Urban PHC, Urban Family Welfare Centers were established but no specific or special facilities had come up. Only human resource had increased (at PMC level; not at the state office). More human resource was required for monitoring. 30% increase in staff strength was envisaged.

Training and capacity building of the staff: Training on MNH was piecemeal and comprehensive training was lacking. There was considerable learning-on-the-go among MOs and SNs which added to their confidence.

Availability of services and human resources:

- Officials opined that MNH services were available through facility based care and selected outreach sessions at subsidized rates / free of cost.
- Unavailability of staff for recruitment at all levels (Class I to IV) majorly hampered service provisioning and scale up. Unattractive pay scales and contractual recruitment were blamed.
- Specialist doctors were being employed as visiting consultants wherever full-time positions lay vacant. Administrative positions as warranted under NUHM were being fast filled.
- Private sector had better availability of specialists, equipments and service customization.
- Public Private Partnership options were being explored for improved service provisioning.

30% shortage reported in staff strength at Urban PHC and Urban Family Welfare Centers

Training on MNH to staff was piecemeal

Outreach Services: System based providers opined that outreach services were provided by the ANMs. However, the nature, purpose, frequency of these outreach sessions was heterogeneous and seemingly, of little structure.

Follow-up services: Most of the ANMs (source: IDI-1, 2 and 3) said that they were not able to conduct outreach and home visits for follow up of PNC and sick newborn cases.

Specialized Services for Mothers and Newborns (Source: IDIs with providers at secondary level public health facilities)

- PNC services like post-delivery check-up, breast feeding counselling, family planning services were available at secondary level but pediatric set-up was unavailable. Sick newborns were referred to the tertiary health facilities.
- Coordination with philanthropic NGOs helped provide subsidized services in the private sector.
- The network of facilities offering MNH care on out-patient basis and with timing convenient for beneficiaries (12-8 PM) was being expanded— 2 new urban centres under NUHM were being planned.

Barriers related to co-ordination and communication: The lack of formal technical linkages between Health Department and UDD (Inter-sectoral coordination) or with other departments outside PMC (e.g, ICDS), impeded service provisioning.

Needs Identified and Way Forward

- **Strengthen MNH services at outreach level:** Make it uniform and universal through formal planning, staffing and mechanisms for monitoring for quality. Opportunities with recruitment of ASHAs and leveraging on existing community processes (e.g., MAS) should be explored.
- **Strengthen Post Natal Care component of MNH** services both at outreach as well as facility level with robust tracking and follow-up mechanisms.
- **Improve services at primary level facilities:** (i) expand basket (curative and diagnostic) and quality of services, (ii) optimize duty hours as per client convenience, and (iii) ensure comprehensiveness of subsidized services so that out of pocket expenditure is reduced.
- **Rationalize distance of facility from slum community** through geographic mapping of health facilities (existing and upcoming)
- **Undertake vigorous social behavior change messaging** to improve MNH awareness in the slum populations and persuade care seekers from private providers to the public health system.
- In order to **ensure functional status of services**, regular review of facilities and equipment must be undertaken.
- **Make staff positions in the health system attractive** to applicants by offering 'permanent' instead of 'contractual' recruitment along with competitive remuneration packages.

PNC services were available at secondary level but paediatric setup unavailable

Lack of formal technical linkages between PMC and other departments impedes service provisioning

- *Improve inter-sectoral coordination for efficient service provisioning:* Develop Terms of References for co-ordination between various departments and the municipal corporation. Engagement with private health sector should be undertaken for data sharing and cross-referral.
- *Predictive planning:* Be cognizant that timely disbursements of program entitlements to beneficiaries and reduction in out-of-pocket expenses will require due budgetary provisions in the Program Implementation Plan and make necessary arrangements.

Conceptual Model for Pune City Health Plan

3.a. Health Systems Model				
Objective	Required Policy Guidelines	Systems and Strategies	Outputs	Outcomes
<p>Universal coverage with comprehensive affordable, accessible and quality health services to reduce out of pocket expenditure, particularly for the urban poor and the unreached.</p>	<ol style="list-style-type: none"> 1. Spread and scope of CHWs and Vasti level clinics 2. Coordination with ICDS at various levels 3. Monthly health needs assessment and morbidity surveillance 4. Behaviour change communication system and strategy 5. Definition of urban poor and mechanisms for identifying them 6. Human resource policy correlated to proposed infrastructure 7. Policy for capacity building, skills development and performance appraisal 8. PPP and outsourcing policy 9. Location distribution, timing, cost etc. of services for improving availability and accessibility of health services 10. Population norms for outreach, primary and secondary level facilities 11. Diagnostic facilities and lab tests available at each level, mechanism for linkage with clinical services 12. Drugs and supplies and material management policy 13. Linkages between outreach, primary, secondary and tertiary levels 14. Functional referral system 15. Supervision and monitoring system 16. Health Management information system 17. Quality assurance 18. Roles and responsibilities of MAS 19. Community participation and community based monitoring 20. Norms for budgetary allocation and fund flow 	<ol style="list-style-type: none"> 1. Well defined outreach system 2. Coordination with WCD and ICDS system for establishing outreach 3. Well defined system for monthly health needs assessment and morbidity surveillance. 4. Well defined system for generating demand and changing health behaviors 5. System for identifying the poorest and most marginalized to ensure equity 6. Adequate deployment of human resources at primary, secondary and tertiary levels 7. Capacity building strategy 8. Performance appraisal mechanism and parameters, rewards and recognition 9. Public private partnerships (CSR) and outsourcing systems 10. Availability, accessibility and utilization of quality health services at all levels 11. Minimum diagnostic facilities at various levels 12. Adequate procurement and material management system 13. Well defined linkages between outreach, primary, secondary and tertiary levels 14. Well defined functional referral system 15. Supervision and monitoring system 16. Health management information system with provision for behavior tracking 17. Quality assurance system 18. Community participation and community based monitoring system by MAS/VHC 19. Efficient financial management and fund flow system 20. Interdepartmental policy for communications 21. Mechanism for developing annual programme implementation plan (PIP) & budget 	<p>Direct:</p> <ol style="list-style-type: none"> 1. Universal coverage with comprehensive health services 2. Universal coverage with maternal, neonatal health services 3. Universal coverage with Reproductive health services 4. Universal coverage of child health services 5. Universal coverage with completed immunization coverage of children under 5 years 6. Measurable change in key health seeking and utilization behaviours <p>Indirect:</p> <ol style="list-style-type: none"> 1. Policy guidelines 2. Implementation guidelines 3. HR policy 4. Measurable improvement in staff skills 5. Effective Lab. facilities 6. Effective HMIS 7. Inter-sectoral convergence between WCD, UCD & Health 8. Protocols and materials developed for various strategies and systems 9. Materials developed for various strategies and systems 	<ol style="list-style-type: none"> 1. Measurable improvement in quality of health services 2. Reduction in prevalence of maternal, reproductive and neonatal morbidity 3. Reduction in prevalence of communicable and non-communicable illnesses 4. Measurable reduction in out of pocket expenditure for the urban poor living in slums

3.b. Maternal and Newborn Health Model

Objective of City Health Plan for MNH	Policy guidelines required for city Health Plan on MNH	Systems and strategies	Outputs	Outcomes
To reduce maternal morbidity and neonatal morbidity focusing on reducing low birth weight	<ol style="list-style-type: none"> 1. Spread and scope of CHWs and Vasti level clinics 2. Coordination with ICDS at various levels 3. Human resource policy correlated to proposed infrastructure 4. Policy for capacity building, skills development and performance appraisal 5. Location, distribution, timing, cost, etc. of services for improving availability and accessibility of MNH health services 6. Population norms for outreach, primary and secondary level facilities 7. Diagnostic facilities and lab tests available at each level, mechanism for linkage with clinical services 8. Drugs and supplies and material management policy for MNH 9. Linkages between outreach, primary, secondary and tertiary levels 10. Functional referral system 11. Supervision and monitoring system 12. Roles and responsibilities of MAS 13. Community participation and community based monitoring 14. Norms for budgetary allocation and fund flow 	<ol style="list-style-type: none"> 1. Well defined outreach system 2. Coordination with WCD and ICDS system for establishing outreach 3. Well defined system for monthly health needs assessment and morbidity surveillance. 4. Adequate deployment of human resources at primary, secondary and tertiary levels 5. Capacity building strategy 6. Performance appraisal mechanism and parameters, rewards and recognition 7. Public private partnerships (CSR) and outsourcing systems 8. Availability, accessibility and utilization of quality health services at all levels 9. Minimum diagnostic facilities at various levels 10. Adequate procurement and material management system 11. Well defined linkages between outreach, primary, secondary and tertiary levels 12. Well defined functional referral system 13. Health management information system with provision for behavior tracking 14. Community participation and community based monitoring system by MAS/VHC 15. Mechanism for developing annual programme implementation plan 	<p>Direct:</p> <ol style="list-style-type: none"> 1. Universal coverage with comprehensive MNH services 2. Universal coverage with maternal, neonatal health services 3. Universal coverage with Reproductive health services 4. Measurable change in key health seeking and utilization behaviours <p>Indirect:</p> <ol style="list-style-type: none"> 1. Policy guidelines 2. Implementation guidelines 3. HR policy 4. Measurable improvement in staff skills 5. Effective Laboratory facilities 6. Inter-sectoral convergence between WCD, UCD and Health 7. Protocols and materials developed for MNH services 	<ol style="list-style-type: none"> 1. Measurable improvement in quality of MNH services 2. Reduction in prevalence of maternal, reproductive and neonatal morbidity 3. Measurable reduction in out of pocket expenditure for the urban poor living in slums

3.c. Key Interventions for Health Systems Development

Key Interventions	Roles and responsibilities of PMC	Roles and responsibilities of SC-I
Population demarcation for facilities	<ul style="list-style-type: none"> Designating point person and team for rapid survey of all facilities 	<ul style="list-style-type: none"> Sharing findings from situation analysis study Developing excel sheet with key indicators for the rapid facility survey
Population distribution by facilities (primary health facilities)	<ul style="list-style-type: none"> Freezing of current slum populations vis-à-vis the facilities Creation of chart with clear distribution of population and facilities 	<ul style="list-style-type: none"> Creation of database of information with vulnerable areas identified
Convergence with ICDS	<ul style="list-style-type: none"> Coordination with ICDS for involving ANM as link workers Meeting with ICDS team (CDPO, Commissioner) by Health department Working out of amount that the AWW will gain (incentives based on the components under NUHM) Attaching AWW with reference health facility Formulation of MOU Seeking necessary administrative approvals Establishing monitoring and exchange mechanism between AWW and health facilities (Sharing of data, discussion on various issues) 	<ul style="list-style-type: none"> Support in drafting of MOU Development of proposal for convergence Process documentation of innovation
MAS formulation strategy	<ul style="list-style-type: none"> Initiating concept notes & justification and MOU with the UCD 	<ul style="list-style-type: none"> Facilitating preparation of strategy
PPP strategy and identification of CSR resources	<ul style="list-style-type: none"> Identification of areas for PPP and CSR Budgetary provision for hiring consultants for identifying resources 	<ul style="list-style-type: none"> Development of PPP and CSR strategy paper Facilitate development of TOR for consultants
Integration of services at ward level	<ul style="list-style-type: none"> Initiating policy level efforts 	
Interdepartmental policy for communications	<ul style="list-style-type: none"> Draft an inter-departmental communications policy 	<ul style="list-style-type: none"> Facilitate drafting of the policy
Human Resources Plan	<ul style="list-style-type: none"> Formulating HR development committee within Health Department Policy on performance appraisal Reward and recognition policy Partnerships and collaborations with professional bodies/ institutes/ Medical colleges Salary revision process and norms to be submitted to PMC, state government and NUHM 	
Development of uniform MIS	<ul style="list-style-type: none"> Proposal for Uniform HMIS Identifying required HR, defining salaries and budgetary provisions to be incorporated in the proposal 	<ul style="list-style-type: none"> Advocacy for approval of proposal submitted to NUHM
Referral mechanism	<ul style="list-style-type: none"> Formulating technical committee on referral Finalizing technical protocols Linking community and facility-based MIS Sustainability plan after the handing over of referral mechanism from SC-I 	<ul style="list-style-type: none"> Contracting agency for providing technical support on referral Facilitating defining of levels of service delivery Inputs to strengthen MIS Drafting a matrix on roles and responsibilities for sustaining the mechanism
Comprehensive diagnostics & laboratory services at 17 secondary and tertiary facilities	<ul style="list-style-type: none"> Proposal formulation Identifying required HR, defining salaries and budgetary provisions to be incorporated in the proposal 	<ul style="list-style-type: none"> Advocacy for approval of proposal submitted to NUHM
Defining the specific activities to be covered under outreach	<ul style="list-style-type: none"> Job responsibility chart for outreach staff Develop and implement training plan for Outreach ANMs 	<ul style="list-style-type: none"> Facilitate content development

3.d. Key Interventions for development of MNH model

Key Interventions	Roles and responsibilities of PMC	Roles and responsibilities of SC-I
Household visits	<ul style="list-style-type: none"> Organizing outreach ANMs and their overall responsibility matrix Clear guidelines for identification of danger signs, initial management and referral 	<ul style="list-style-type: none"> Facilitate training and capacity building
Home-based care	<ul style="list-style-type: none"> Clear guidelines on collaboration between AWWs,ASHAs & ANMs 	<ul style="list-style-type: none"> Assist in standardization of service provisions
Urban Health and Nutrition Days	<ul style="list-style-type: none"> Monthly planning Defining spots and aligning it with facilities Capacity building of the staff Clear guidelines for identification of danger signs, initial management and referral 	
ANC/PNC clinics	<ul style="list-style-type: none"> Policy on standardization and uniform service provision at UPHCs Clear guidelines for identification of danger signs, initial management and referral 	<ul style="list-style-type: none"> Facilitating formulation of policy
Upgradation of 6 MH (UCHCs) to CE-mONC services	<ul style="list-style-type: none"> Plan for upgradation Identifying financial requirements and budgetary provisions Defining Service delivery packages for both BEmONC and CEmONC 	<ul style="list-style-type: none"> Assist in developing upgradation plan listing standardized services based on IPHS standards Developing protocols and standards of care
Essential diagnostics	<ul style="list-style-type: none"> Rolling out quality of care as per IPHS standards 	<ul style="list-style-type: none"> Assist in identifying opportunities and partners for collaborations
Establishment of Obstetric & Neonatal ICU at Kamla Nehru and 2 NICUs at two other secondary facilities	<ul style="list-style-type: none"> Plan for upgradation Identifying financial requirements and budgetary provisions 	<ul style="list-style-type: none"> Assist in developing upgradation plan listing standardized services based on IPHS standards
Establishing newborn stabilization units (NBSU) at all maternity hospitals	<ul style="list-style-type: none"> Proposals (for NBSU) to be submitted NUHM Recruiting skilled staff at MCH with NBSU Filling up vacant positions by PMC (already sanctioned) MOU with medical colleges for providing skilled professionals at maternity hospitals 	<ul style="list-style-type: none"> Facilitate development of MOUs Facilitate capacity building of

Logic Model for Operationalizing Pune City Health Plan

Outcome: To reduce maternal morbidity and neonatal morbidity focusing on reducing low birth weight

i. Outreach

Specific objective, sub-objectives, interventions, monitoring indicators, and time line

Outreach Services			
Specific Objective (Coverage)	Sub-objectives (Output)	Interventions	Monitoring indicators
Health needs of >80% HHs will be identified every month	More than 80% HHs will be visited by AWWs every month - 10 HHs daily for 20 days	<ul style="list-style-type: none"> Coverage by one UHP = 30,000 1 ANM will cater 10,000 population 	Number/ (%) of HH visited by AWW per month
		1 ANM attached to 10 AWWs (1 AWW caters to 1000 population/200HH)	
		AWW will do the HH visits covering 200 HH every month	No. of ANC cases identified
		ANC visits during routine HH visits by AWW	<ul style="list-style-type: none"> No. of home visits conducted for motivating and facilitating ANC. No. of home visits conducted against expected no. of ANCs
		Pregnancy with danger signs identified and referred by AWW during HH visits	<ul style="list-style-type: none"> Number of cases identified No. of cases referred out of identified
		High risk cases visited/seen by outreach ANM	<ul style="list-style-type: none"> No. of identified cases seen by outreach ANM No. of cases directly went to the facility after referral.
	>80% HH in need of routine PNC provided HBPNC	Identified newborns and mother will be visited twice a month by ANM (Total visits to newborn = 2 visits by ANM+ visit to UHND+ AWW worker's HH visit)	
		<ul style="list-style-type: none"> No of postnatal mothers visited by AWW No of RDW with complications identified by AWW 	<ul style="list-style-type: none"> No of postnatal women referred to ANM No. of postnatal women seen by outreach ANM
		<ul style="list-style-type: none"> Number of LBW newborns seen during HH by AWW Number of babies with sickness identified Danger signs in newborns identified and referred by AWW during HH visits High risk newborns visited/seen by outreach ANM 	<ul style="list-style-type: none"> Number/ (%) of home visits done by ANM to neonates in a month No. of newborns seen by outreach ANM No of sick newborns referred by ANM after 1st dose of Inj. Gentamicin No. of newborns directly went to the facility after referral.
	Health needs assessment and morbidity surveillance will be conducted for >80% HHs	HH survey will be done quarterly by AWW – twice a year updating & register every marriage (every month)	Number/ (%) of HHs visited every month
	Health needs assessment and morbidity surveillance will be conducted for >80% HHs	Health problems identified during HHs – has to be carried out on a monthly basis through HH visits	No. of cases identified (danger sign- e/ gender wise (newborn)/Month/ Day wise)

Outreach Services

Specific Objective (Coverage)	Sub-objectives (Output)	Interventions	Monitoring indicators
>80% ANC / PNC cases will be provided Quality MNH services through UHNDs	>80% UHNDs will be conducted in AWC out of total planned	UHNDs for ANC/PNC/Immunization once a month (for 5 AWWs) = 2 UHNDs in a month for covering 10 AWWs	<ul style="list-style-type: none"> Number of UHND conducted per month Number/ (%) of early registration for pregnancy
	>80% pregnant women and newborn will receive MNH at UHND	ANC/PNC cases referred /brought to UHND by AWW	<ul style="list-style-type: none"> Number/ (%) of ANC/PNC attended UHND No. of women given take away ration
	>80% pregnant women will receive tests during UHND	The basic tests like HB, urine albumin and other examination like height, weight, BP, blood glucose, VDRL, HIV, Hep.B can be taken care by ANM during UHND with the help of AWW	Number of routine lab tests done for ANCs
	>80% of babies (0-42 days) will be Immunized through UHNDs	Babies in need of immunization are mobilized to UHND by AWW/ANM	Number of babies received /required immunization doses
	>80% women demanding contraceptives will be provided services referred to UPHC for initiation and continuation through UHND	Women in need of contraceptive services are referred to UHND	Number/ (%) of eligible couples seek contraceptive services at UHND
	80% of cases with other problems (communicable & non communicable) received required services at UHND	<ul style="list-style-type: none"> Cases identified during HH and seen by ANM are brought to UHND for further treatment 	No. of cases received the required treatment/services
	Linkages established with corporates for the outreach activities (routine and diagnostic services)	Meeting with diagnostic centers and PMC who would like to get engage in special diagnostic tests	No of meetings held with corporates
		Organizing budget for Diagnostic tests. Tie up with CSR for kits for UHNDs for basic tests	
	Ensure sectoral convergence with ICDS for outreach activities	Linking supervisors from ICDS to UHP for monitoring of outreach services	Number of monitoring visits done (by ICDS supervisors)
			Number of meetings conducted at UHP with ICDS supervisors
		Quarterly meetings between CDPO and Health facility in-charge and PMC health department officials	No of meeting conducted between CDPOs and Facility in-charge
>80% of the required MAS are activated and are participating in community mobilization activities	>80% of the AWW catchment areas have MAS activated	Regular group sessions by the MAS, where the AWW and ANMs participated	No. of meetings by the MAS in a month
	>80% of the ANC & PNC were provided with MNCH information by the MAS	Awareness generation among women on routine ANC and PNC check ups	% of women received information of ANC/PNC through MAS members
		Informing beneficiaries about UHNDs	Number / % of Pregnant women and recently delivered women received information about UHND sessions
		Providing support in case of emergencies	Number / % of women and children received support in case of emergencies
		Playing active role for sanitation related issues	Number of sanitation related activities / drive conducted by the MAS in the last one month

Outreach Services

Specific Objective (Coverage)	Sub-objectives (Output)	Interventions	Monitoring indicators
		Providing support in case of emergencies	Number / % of women and children received support in case of emergencies
		Playing active role for sanitation related issues	Number of sanitation related activities / drive conducted by the MAS in the last one month

ii. Primary Health Care

Specific objective, sub-objectives, interventions, monitoring indicators, and timeline

Strengthening Primary Health Facilities

Specific Objective	Sub-objectives	Interventions	Monitoring indicators
> 80% of expected pregnancies receive quality OPD MNCH care	Beneficiaries identified during UHNDs will be linked for services on subsequent defined day of ANC/PNC clinic at UPHC.	Ensure weekly ANC / PNC clinic at UPHC level by specialists	Number/% of beneficiaries identified during UHND avail services at UPHC
		Services provided at UHNDs and UPHCs should be displayed as citizen charters.	Number/% of the UPHCs with displayed citizen charter
	>80% Beneficiaries will receive routine diagnostic tests at UPHC	Ensure availability of standardized diagnostics-Hb, Urine Albumin test, Sugar Test, RDK for malaria, UPT	Number/% of ANMs performing routine diagnostic tests (Monthly)
	>80% beneficiaries from slum population under the jurisdiction of UPHC will receive minimum standard ANC, PNC and NNC	<ul style="list-style-type: none"> • Pregnancy testing (UPT), registration and counseling • Complete ANC with quality- IFA Tab. , TT,Weight, BP,Abdominal examination/ PV examination, Hb, Urine, Blood Sugar, RDK for malaria, counselling including information on danger signs • Identification and referral for danger signs- (administration of antenatal corticosteroids in case of preterm labour. • Counselling and provision of spacing methods including interval IUCD • PNC of mothers and newborns (physical examination, BF support, counselling- Danger signs, nutrition, IFA, Cal. Personal hygiene, cord care, warmth of baby) • Identification, stabilization and initial management of complications of sick newborns before referral and prompt referral. • Immunization of newborns as per GOI schedule 	<ul style="list-style-type: none"> • No. of pregnancy registered in first trimester • No. of pregnant women completed 3+ ANCs • No. of pregnant women identified and referred • No. of IUCDs inserted • No. of OCP/ ECs/ Condom distributed. • No. of postpartum complication identified and referred • No. sick newborns identified and referred • No. sick newborns given pre referral dose of antibiotics • No. of newborns completely immunized till 6 weeks of age.
	>80% beneficiaries will be linked to nearest ultra-sound Sonography centres	Services to be provided through PPP/ CSR/ referral hospital	Number of Sonography conducted.
	>80% slum population under the jurisdiction of UPHC will receive their entitlements	A nodal person to be identified at UPHC level for management of entitlement based services,	<ul style="list-style-type: none"> • Number/% the of the deliveries utilize the JSY services (Identify the beneficiary, documentation in the outreach) • Number/% of the deliveries receive the JSSK services
	To strengthen referral services between primary, secondary, secondary plus; and tertiary level health facilities.	Referral linkages to be strengthened (facilities to be identified, referral transport vehicle and two-way feedback mechanism)	<ul style="list-style-type: none"> • % of referrals done • % referral through public transport. • % of services utilization be referred beneficiary

Strengthening Primary Health Facilities

Specific Objective	Sub-objectives	Interventions	Monitoring indicators
	----% beneficiaries with complications out of expected complications will be referred to secondary, secondary plus and tertiary level	<ul style="list-style-type: none"> Operationalize formal referral system between primary, secondary, secondary plus; and tertiary level health facilities. 	
		<ul style="list-style-type: none"> Identification and referral of danger sign of pregnant women and RDWs 	<ul style="list-style-type: none"> Identification and referral of danger sign of pregnant women and RDWs
		<ul style="list-style-type: none"> Identification, initial management and prompt referral of sick newborns 	<ul style="list-style-type: none"> % of sick newborn referred to higher level facilities
		Identification and referral of danger sign of pregnant women and RDWs	Identification and referral of danger sign of pregnant women and RDWs
		Identification, initial management and prompt referral of sick newborns	% of sick newborn referred to higher level facilities

iii. Secondary Health Care

Specific objective, sub-objectives, interventions, monitoring indicators, and timeline

Strengthening Secondary Health Facilities

Specific Objective	Sub-objectives	Interventions	Monitoring indicators
> 80% of expected pregnancies receive quality care	To define and reallocate minimum basic services which needs to be delivered - Secondary & Secondary plus)	<ul style="list-style-type: none"> Assessment of all maternity homes/ secondary facilities. Development of service delivery packages based on GOI's MNH tool kit Reorganization/ upgradation of existing facilities to provide CEmONC and one SNCU (1 CEmONC for every 2 secondary- BEmONC) 	
	Accreditation of all secondary & secondary plus facilities	Accreditation through appropriate Board.	No. of facilities accredited (To be reviewed biannually)
	To establish mentoring mechanism for all lower level facilities by identified medical college (1 Medical college for 2 secondary plus, 3 secondary and 25 UPHCs)	Development of linkage and mentoring mechanisms between various levels of facilities	No. of mentoring visits in a month
	To develop a comprehensive capacity building plan for all level of health staff		% of health staff trained in various packages of service delivery
	Establishment of skill lab for refresher training of health staff	To be established in KEM hospital a nodal person to be designated by PMC to follow up with DPMU	No. of batches trained on quarterly basis
	To strengthen referral services between secondary and secondary plus; and tertiary level health facilities.	Operationalize formal referral system between secondary and secondary plus; and tertiary level health facilities.	No. of referral made

Strengthening secondary health facilities

Specific Objective	Sub-objectives	Interventions	Monitoring indicators
		Ensure BEmONC services including NBSU	<ul style="list-style-type: none"> • % women with complications (ANC,INC,PNC) out of total deliveries
		PNC services for mothers and newborns	<ul style="list-style-type: none"> • Malaria, diabetes, Eclampsia, PPH out of total registered pregnant women
	MTP services	MTP services other than of complicated cases which are to be referred to secondary Plus care	<ul style="list-style-type: none"> • Proportion of complicated cases managed out of total complications • Intrapartum still birth rate
	Intranatal care	Normal/ assisted vaginal deliveries	<ul style="list-style-type: none"> • No. of babies resuscitated at birth
		Management of complication other than requiring Secondary Plus care	<ul style="list-style-type: none"> • Initiation of breast feeding within 1 hour (%) • % of newborns received Inj. Vit. K at birth
		Stabilization of obstetric emergencies and referral to secondary plus level	<ul style="list-style-type: none"> • NBSU admission rate • NBSU referral rate
		Antenatal steroids for preterm deliveries before referring to secondary plus	<ul style="list-style-type: none"> • NBSU mortality • % of newborns immunized as per schedule
	Post natal	48 hour stay post delivery	<ul style="list-style-type: none"> • % of out referrals among total complicated case (ANC, INC, PNC) • % of samples collected from Labour room showing significant contamination
	FP services	FP services- sterilization, PPIUCD, counselling	<ul style="list-style-type: none"> • % of pregnant women screened for HIV • % women with HIV positive out of total screened • Distribution of maternal deaths as per cause • Proportion of postpartum sterilization against total sterilizations • Proportion of PPIUCD insertions against the number of deliveries

iv. Secondary Plus Health Care

Specific objective, sub-objectives, interventions, monitoring indicators, and timeline

Strengthening secondary plus health facilities

Specific Objective	Sub-objectives	Interventions	Monitoring indicators
> 80% of expectant mothers and newborns receive quality care	To define and reallocate CEmONC services which needs to be delivered at 6 secondary plus facilities	<ul style="list-style-type: none"> • All interventions available at secondary level facilities • Upgradation of 6 existing secondary level facilities to provide CEmONC and fully equipped SNCUs • SNCUs with KMC unit (Ref: Checklist for CEmONC & SNCUs services) 	<p>All indicators of secondary level, PLUS</p> <ul style="list-style-type: none"> • % of C-section • % of SNCU admissions • No. of newborn morbidity and mortality • Case fatality rate in SNCU • Case fatality rate for obstetric complication • % of samples collected from OT showing any contamination • % C-section given blood transfusion • Proportion of 2nd trimester MTP • No. of in-referral and out-referral rate • No. of preterm babies • No. of LBW babies • No. of newborn with LBW/ prematurity managed with KMC • No. of newborns discharged from SNCU followed until one year

Strengthening secondary plus health facilities contd..

Specific Objective	Sub-objectives	Interventions	Monitoring indicators
	To accredited all 6 secondary plus facilities	Accreditation through competent authority/ Board.	
	To strengthen referral services between secondary plus and tertiary level health facilities.	Operationalize formal referral system between secondary plus; and tertiary level health facilities.	No. of referral made

v. Tertiary level Health Care

Specific objective, sub-objectives, interventions, monitoring indicators, and timeline

Strengthening tertiary level health facilities

Specific Objective	Sub-objectives	Interventions	Monitoring indicators
> 80% of all maternal and newborn complicated cases receive quality care	To define comprehensive management of all maternal and newborn emergencies including surgeries at Sasoon Hospital	<p>All interventions available at secondary and secondary plus level facilities plus-</p> <ul style="list-style-type: none"> • Provision of Obstetric ICU • Establishment of Neonatal ICU with KMC unit • For all kind of maternal and newborn complications and surgeries 	<p>ADDITIONAL INDICATORS</p> <ul style="list-style-type: none"> • No. of babies ventilated • No. of surgeries performed- maternal and newborn • Case fatality rate in NICU • Case fatality rate for obstetric complication • No. of in-referral • No. of preterm babies • No. of newborn with LBW/ prematurity managed with KMC • No. of newborns discharged from NICU followed until one year



Plan for Developing Models for Other Thematic Components of Health

As mentioned earlier, since the Saving Newborn Lives program of Save the Children brings in the expertise on the thematic component of maternal and newborn health, the MNH logic model has been jointly prepared by Save the Children (SC) and PMC team with the guidance and support from the core committee. SC team shall further facilitate the formulation of logic models for other thematic components of public health, wherein core committees or special panels of professionals will be invited to provide support and guidance in developing these models.

Sr. no.	Thematic Component	Timeline
1	Child Health and Immunization	November 2016
2	Adolescent Health	December 2016
3	Sexual, reproductive health and Family Planning	January 2017
4	Communicable diseases	January 2017
5	Non-communicable diseases	December 2016
6	Trauma care	January 2017

SC team shall further facilitate the formulation of logic models for other thematic components of public health, wherein core committees or special panels of professionals will be invited to provide support and guidance in developing these models.

Timelines and Budgetary Provision

Health Systems Model

Key Interventions	Timeline	Budgetary provision
Population demarcation for facilities	September 2016	PMC
Population distribution by facilities (primary health facilities)	October 2016	PMC
Convergence with ICDS	October 2016	PMC
MAS formulation strategy	November 2016	PMC
PPP strategy and identification of CSR resources	December 2016	PMC
Integration of services at ward level	December 2016	PMC
Interdepartmental policy for communications	December 2016	PMC
Human Resources Plan	February 2017	PMC
Development of uniform MIS	January 2017	NUHM
Referral mechanism	June 2017	PMC
Comprehensive diagnostics & laboratory services at 17 secondary and tertiary facilities	August 2017	PMC and NUHM
Defining the specific activities to be covered under outreach	November 2016	PMC

Maternal and Newborn Health Model

Key Interventions	Timeline	Budgetary provision
Household visits	November 2016	PMC
Home-based care	November 2016	PMC
Urban Health and Nutrition Days	October 2016	NUHM
ANC/PNC clinics	November 2016	NUHM
Upgradation of 6 MH (UCHCs) to CEmONC services	From November 2016 to March 2018	PMC and NUHM
Establishment of Obstetric & Neonatal ICU at Kamala Nehru and 2 NICUs at two other secondary facilities	June 2018	PMC PMC and NUHM
Establishing newborn stabilization units (NBSU) at all maternity hospitals	June 2017	PMC and NUHM

Summary of Outputs and Outcomes

Outputs and Outcomes

- Health System model

Direct Outputs:

1. Universal coverage with comprehensive health services
2. Universal coverage with maternal, neonatal health services
3. Universal coverage with Reproductive health services
4. Universal coverage of child health services
5. Universal coverage with completed immunization coverage of children under 5 years
6. Measurable change in key health seeking and utilization behaviors

Indirect Outputs:

1. Policy guidelines
2. Implementation guidelines
3. HR policy
4. Measurable improvement in staff skills
5. Effective Laboratory facilities
6. Effective HMIS
7. Inter-sectorial convergence between WCD, UCD and Health
8. Protocols and materials developed for various strategies and systems
9. Materials developed for various strategies and systems

Outcomes:

1. Measurable improvement in quality of health services
2. Reduction in prevalence of maternal, reproductive and neonatal morbidity
3. Reduction in prevalence of communicable and non-communicable illnesses
4. Measurable reduction in out of pocket expenditure for the **urban poor living** in slums

Outputs and Outcomes

– MNH model

Direct Outputs:

1. Universal coverage with comprehensive MNH services
2. Universal coverage with maternal, neonatal health services
3. Universal coverage with Reproductive health services
4. Measurable change in key health seeking and utilization behaviours

Indirect Outputs:

1. Policy guidelines
2. Implementation guidelines
3. HR policy
4. Measurable improvement in staff skills
5. Effective Laboratory facilities
6. Inter-sectorial convergence between WCD, UCD and Health
7. Protocols and materials developed for MNH services

Outcomes:

1. Measurable improvement in quality of MNH services
2. Reduction in prevalence of maternal, reproductive and neonatal morbidity
3. Measurable reduction in out of pocket expenditure for the urban poor living in slums

Non-negotiables

1. A defined Human Resource policy so as to devise; salary structure along with reward and recognition mechanisms
2. Training and Capacity Building Plan to be worked out and the plan to be submitted for supplementary PIP
3. Funds to be made available for procurement of medicine and other aspects
4. 24 × 7 Diagnostics and laboratory facilities at all maternity homes

Non-negotiables and Negotiables for Implementation of City Health Plan

Non-negotiables

1. A defined Human Resource policy so as to devise; salary structure along with reward and recognition mechanisms
2. Training and Capacity Building Plan to be worked out and the plan to be submitted for supplementary PIP
3. Funds to be made available for procurement of medicine and other aspects
4. 24 × 7 Diagnostics and laboratory facilities at all maternity homes
5. Basic diagnostic facilities at UPHCs
6. Population coverage norms for outreach, primary and secondary level facilities
7. Operational definition of outreach and widening of scope for CHWs and Vasti level clinics
8. Infrastructural norms for the facilities e.g. functionality, amenities, signage, equipment etc.
9. Adopting Standard Treatment Guidelines (STGs) including prescribed audit mechanisms.
10. Appropriate referral for all services and referral tracking mechanism
11. Establishment of HMIS
12. Setting up of grievance redress mechanism
13. Display of citizen charters

Negotiables:

1. GPS mapping of the facilities and population/slum clusters
2. Blood storage/ blood bank (Secondary/Tertiary level) and transfusion services
3. Defined intervention packages/services for primary, secondary and tertiary levels of care
4. Efficient supply chain management
5. Quality assurance mechanism – SOPs, guidelines, accreditations etc.
6. Monthly health needs and morbidity surveillance
7. PPP policy and outsourcing
8. Financial management and fund-flow mechanism

Monitoring and Assessment

For the effective implementation of city health plan, an implementation review committee (IRC) is being constituted for regular review and monitoring under the chairmanship of Commissioner, PMC. Mr. Kunal Kumar.

The IRC shall comprise of the officials of the PMC Health Team, Save the Children, India, academicians and professionals from medical colleges and the professional bodies, Corporators and members of eminent NGOs working in the area of urban health in Pune city.

The IRC shall meet once a quarter and share their suggestions and feedback on the visits made to the facilities and locations where the city health plan is being implemented. It shall also provide technical guidance and inputs to the implementers as and when necessary and required. The IRC will be assess the work happening at all levels through a checklist or a matrix of key indicators that shall focus on 4 types of indicators: inputs, outputs, process and quality of care.

The IRC will also be instrumental in suggesting and developing and citizens feedback mechanism on the health services being provided to them.

Implementation Review Committee (IRC) has been setup under the chairmanship of Commissioner, PMC. The members include officials of the PMC Health Team, Save the Children (India), academicians and professionals from medical colleges and the professional bodies, corporates and members of eminent NGOs working in the area of urban health in Pune city.

Annexure-I

Pune Municipal Corporation Maternity Homes- Gap Assessment Study

Table No. 1- NBCC set up and instruments

SR. No.	Name of Maternity Home	No of functional beds for MNH	Functional New born care corner (functional radiant warmer with neo-natal ambu bag)	Available Radiant warmer	Stethoscope with neonatal chest	Designated place for resuscitation	Resuscitation equipment present	Suction apparatus present
1	Jayabai Sutar maternity hospital	10	No	No	Yes	Yes	Yes	Yes
2	Homi Bhabha Maternity hospital	16	Yes	Yes	Yes	Yes	Yes	Yes
3	Sakharam Kodre Maternity Hospital	11	Yes	Yes	Yes	Yes	Yes	Yes
4	Sanjay Gandhi Maternity Hopsital	10	No	No	No	Yes	Yes	Yes
5	Ramabai Ambedkar Maternity Hospital	10	No	No	No	Yes	Yes	Yes
6	Maltibai Kachi Maternity Hospital	7	No	No	No	Yes	Yes	Yes
7	Rajiv Gandhi Maternity Hospital	7	Yes	Yes	Yes	Yes	Yes	Yes
8	Dalvi Maternity Hospital	13	Yes	Yes	No	Yes	Yes	Yes
9	Genuji Shivarkar Maternity Hospital	28	No	No	No	Yes	Yes	Yes
10	Annasaheb Magar Maternity Hospital	10	No	No	No	Yes	Yes	Yes
11	Guruwar Peth Maternity Hospital	00	No	No	No	Yes	Yes	Yes
12	Kondhva Maternity Hospital	10	Yes	Yes	Yes	Yes	Yes	Yes
13	Sonawane Maternity Hospital	80	Yes	Yes	Yes	Yes	Yes	Yes
14	Pashan Maternity Hospital	10	Yes	Yes	No	Yes	Yes	Yes
15	Mitramandal Maternity Hospital	25	Yes	Yes	No	Yes	Yes	Yes
16	Aundh Kuti Maternity Hospital	11	No	No	No	Yes	Yes	Yes

Table No. 2A- Labour room and equipments

SR. No.	Name of Maternity Home	Labor table	Wall clock with 'seconds' hand	New born Weighing machine	Stethoscope with neonatal chest	Non-Invasive BP monitor	Heart rate/ Apnea monitor	Pulse oxi-meter
		Functional	Functional	Functional	Functional	Functional	Functional	Functional
1	Jayabai Sutar maternity hospital	Yes	Yes	Yes	Yes	No	No	No
2	Homi Bhabha Maternity hospital	Yes	Yes	Yes	Yes	No	No	Yes
3	Sakharam Kodre Maternity Hospital	Yes	Yes	Yes	Yes	No	No	No
4	Sanjay Gandhi Maternity Hopsital	Yes	Yes	Yes	No	No	No	Yes
5	Ramabai Ambedkar Maternity Hospital	Yes	Yes	Yes	No	No	No	Yes
6	Maltibai Kachi Maternity Hospital	Yes	No	Yes	No	No	No	Yes
7	Rajiv Gandhi Maternity Hospital	Yes	Yes	Yes	Yes	No	No	Yes
8	Dalvi Maternity Hospital	Yes	Yes	Yes	No	No	No	Yes
9	Genuji Shivarkar Maternity Hospital	Yes	Yes	Yes	No	No	No	Yes
10	Annasaheb Magar Maternity Hospital	No	No	No	No	No	No	No
11	Guruwar Peth Maternity Hospital	Yes	Yes	Yes	No	No	No	Yes
12	Kondhva Maternity Hospital	Yes	Yes	Yes	Yes	No	No	Yes
13	Sonawane Maternity Hospital	Yes	Yes	Yes	Yes	No	No	Yes
14	Pashan Maternity Hospital	Yes	Yes	Yes	No	No	No	Yes
15	Mitramandal Maternity Hospital	Yes	Yes	Yes	No	No	No	Yes
16	Aundh Kuti Maternity Hospital	Yes	Yes	Yes	No	No	No	Yes

Table No. 2B- Labour room and equipments

SR. No.	Name of Maternity Home	Low reading clinical thermometer	Radiant warmer	Photo therapy machine	Self-inflating bag & Mask	Foot operated suction pump/mucus trap	Filled oxygen cylinder	Oxygen concentrator
		Functional	Functional	Functional	Functional	Functional	Functional	Functional
1	Jayabai Sutar maternity hospital	Yes	No	No	Yes	No	Yes	No
2	Homi Bhabha Maternity hospital	Yes	Yes	No	Yes	electric	Yes	Yes
3	Sakharam Kodre Maternity Hospital	Yes	Yes	Yes	Yes	electric	Yes	Yes
4	Sanjay Gandhi Maternity Hospital	Yes	No	Yes	Yes	electric	Yes	No
5	Ramabai Ambedkar Maternity Hospital	Yes	No	Yes	Yes	electric	Yes	Yes
6	Maltibai Kachi Maternity Hospital	Yes	No	Yes	Yes	electric	Yes	Yes
7	Rajiv Gandhi Maternity Hospital	Yes	Yes	Yes	Yes	electric	Yes	Yes
8	Dalvi Maternity Hospital	Yes	Yes	No	No	electric	Yes	No
9	Genuji Shivarkar Maternity Hospital	Yes	No	No	Yes	electric	Yes	No
10	Annasaheb Magar Maternity Hospital	Yes	No	No	No	No	No	No
11	Guruwar Peth Maternity Hospital	Yes	No	No	Yes	electric	Yes	Yes
12	Kondhva Maternity Hospital	Yes	Yes	Yes	Yes	electric	Yes	Yes
13	Sonawane Maternity Hospital	Yes	Yes	Yes	Yes	electric	Yes	Yes
14	Pashan Maternity Hospital	Yes	Yes	No	Yes	electric	Yes	Yes
15	Mitramandal Maternity Hospital	Yes	Yes	Yes	Yes	electric	Yes	Yes
16	Aundh Kuti Maternity Hospital	Yes	No	No	Yes	electric	Yes	Yes

Table No. 2C- Labour room and equipments

SR. No.	Name of Maternity Home	Auto clave	Crash cart (A trolley to keep emer- gency tray?)	Feto- scope	Measure tape	Stretcher with trolley	Wheel Chair	Separate examination table	Cheatele forcep
		Functional	Functional	Func- tional	Func- tional	Functional	Functional	Functional	Functional
1	Jayabai Sutar maternity hospital	Yes	No	Yes	Yes	Yes	No	Yes	No
2	Homi Bhabha Maternity hospital	Yes	Yes	Yes	Yes	Yes	No	Yes	No
3	Sakharam Kodre Maternity Hospital	Yes	No	Yes	Yes	Yes	No	No	No
4	Sanjay Gandhi Maternity Hospital	Yes	Yes	Yes	Yes	Yes	No	No	No
5	Ramabai Ambedkar Maternity Hospital	Yes	Yes	Yes	Yes	Yes	No	Yes	No
6	Maltibai Kachi Maternity Hospital	Yes	Yes	Yes	Yes	Yes	No	Yes	No
7	Rajiv Gandhi Maternity Hospital	Yes	Yes	Yes	Yes	Yes	No	Yes	No
8	Dalvi Maternity Hospital	Yes	No	No	Yes	No	No	Yes	No
9	Genuji Shivarkar Maternity Hospital	Yes	Yes	No	Yes	Yes	No	Yes	No
10	Annasaheb Magar Maternity Hospital	No	No	No	No	No	No	No	No
11	Guruwar Peth Maternity Hospital	Yes	Yes	Yes	Yes	No	No	Yes	No
12	Kondhva Maternity Hospital	Yes	No	Yes	Yes	Yes	No	No	No
13	Sonawane Maternity Hospital	Yes	Yes	Yes	Yes	Yes	No	No	No
14	Pashan Maternity Hospital	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
15	Mitramandal Maternity Hospital	Yes	Yes	No	No	Yes	No	Yes	No
16	Aundh Kuti Maternity Hospital	Yes	Yes	No	No	Yes	No	Yes	No

Table No. 2D- Labour room and equipments

SR. No.	Name of Maternity Home	Foot stool / foot steps	Delivery tray	Episiotomy tray	Sterilizers (water boiler)	Emergency tray	Partograph	Refrigerator	Wall Mounted Thermometer for room temperature
		Functional	Functional	Functional	Functional	Functional	Functional	Functional	Functional
1	Jayabai Sutar maternity hospital	No	Yes	Yes	Yes	Yes	No	Yes	No
2	Homi Bhabha Maternity hospital	Yes	Yes	Yes	Yes	Yes	No	Yes	No
3	Sakharam Kodre Maternity Hospital	Yes	Yes	Yes	No	Yes	No	No	No
4	Sanjay Gandhi Maternity Hospital	Yes	Yes	Yes	No	Yes	No	No	No
5	Ramabai Ambedkar Maternity Hospital	Yes	Yes	Yes	Yes	Yes	No	Yes	No
6	Maltibai Kachi Maternity Hospital	No	Yes	Yes	No	Yes	No	Yes	No
7	Rajiv Gandhi Maternity Hospital	Yes	Yes	Yes	Yes	Yes	No	Yes	No
8	Dalvi Maternity Hospital	Yes	Yes	Yes	No	Yes	No	Yes	No
9	Genuji Shivarkar Maternity Hospital	Yes	Yes	Yes	No	Yes	No	Yes	No
10	Annasaheb Magar Maternity Hospital	No	No	No	No	No	No	No	No
11	Guruwar Peth Maternity Hospital	Yes	Yes	Yes	Yes	Yes	No	Yes	No
12	Kondhva Maternity Hospital	Yes	Yes	Yes	No	Yes	No	No	No
13	Sonawane Maternity Hospital	Yes	Yes	Yes	Yes	Yes	No	No	No
14	Pashan Maternity Hospital	Yes	Yes	Yes	No	Yes	No	Yes	No
15	Mitramandal Maternity Hospital	Yes	Yes	Yes	Yes	Yes	No	Yes	No
16	Aundh Kuti Maternity Hospital	Yes	Yes	Yes	No	Yes	No	Yes	No

- Most of the equipments like measuring tape, scissors, stethoscope colour coded bins are commonly used in labour room and maternity ward. They don't keep 2 separate sets for labour room and maternity ward.
- There is no separate examination table in labour room as well as in maternity ward.
- Most of the maternity homes have land line numbers but all the land lines are not in working condition.
- Partograph is not maintained in any of the hospital.
- Wall mounted thermometer is no there is any of the labour rooms in all the MH.
- Puncture proof containers are replaced by the can in which the syringes are inserted.
- Separate colour coded bins are not kept in maternity wards but bins in labour room are used for putting waste of maternity wards.
- Disposable gloves are not available at each place.

Summary of costing parameters for establishment:

	NBCC	NBSU(4 bed unit)	SNCU (12 bed unit)
One time establishing cost, does not include cost of trainings			
Renovation and civil work	10,000	3,00,000	16,00,000
Equipment and Furniture	75,000	2,75,000	25,00,000
Sub-total	85,000	5,75,000	41,00,000
Recurring cost (does not include staff salaries)			
Consumables	5,000	25,000	3,50,000
Maintenance cost	15,000	1,50,000	6,50,000
Sub-total	20,000	1,75,000	10,00,000

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