Maternal and Newborn Health
Situation of in Urban Slums of Pune

Summary Report

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

System Re-engineering due to NUHM: The network of Urban PHC and Urban Family Welfare Centers was being expanded. However, only human resource and staff 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. Considerable learning-on-the-go among MOs and SNs 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.

Outreach Services: System based providers opined that outreach services were provided by the ANMs. However, the nature, purpose, frequency was not-structured.

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

Specialized MNH Services (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 linkages between PMC and other departments (e.g., Urban Development Department) impeded service provisioning.

Working towards…

Based on the study results, deliberations and a series of consultative meetings with the Pune Municipal Corporation (PMC), Government of Maharashtra and the Urban Health Advisory Committee for Pune city, Save the Children and PMC are closely working together on the following:

a. Development of City Health Plan prioritizing health system strengthening for MNH
b. Formulating a framework for the operationalization of the City Health Plan
c. Assessing the underserved vulnerable pockets for establishment of Vasti (Community) Clinics
d. Defining population norms for service provision at the outreach and UPHCs
e. Establishment of appropriate referral mechanism for delivering health services to mothers and newborns
f. Convergence of the roles and services of FLWs of the health, social development and ICDS department to improve outreach and utilization of primary health care

Acknowledgements

This Situation Analysis was carried out by Save the Children’s Saving Newborn Lives (SNL) Program in collaboration with the Pune Municipal Corporation (PMC) and the National Health Mission—Government of Maharashtra. The team extends its sincere thankfulness to the National Health Mission—Government of India for the constant encouragement and support. The team is grateful to the National Technical Advisory Group constituted under the program for its continuous inputs and guidance. Acknowledgement goes to all the study participants (recently delivered women, their families; the slum communities, and representative members and organizations/committee workers; health care providers and staff in the public and private healthcare systems; the Municipal Corporation and State Government Officials) who spared their time and enthusiastically participated in the study. The SNL Program is funded by the Bill & Melinda Gates Foundation.
1.0 Background
The slum population in Indian cities is rapidly expanding (25.1% decadal growth – Census 2011). This urban poor population offers complex challenges of vulnerability for adverse maternal and newborn health (MNH) outcomes. Public health care provisioning for MNH in urban slums is mostly unstructured, fragile and with almost non-existent outreach. Health service utilization is compromised due to limited capacity for decision making, neglect and delayed care seeking, issues of 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 disempowerment and constraint for this population. The National Urban Health Mission (NUHM), launched in 2013, advises for improving the health of the urban slum populations through a need-based city-specific urban health care system that includes a refurbished primary care system, targeted outreach, equitable access, and involvement of the community and urban local bodies (ULBs). The lack of formative information and disaggregated data impedes efficient urban health policy-making and programming.

2.0 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:

a) To understand the community needs, behaviors and perceptions for MNH in urban poor settings.

b) To explore various factors (both demand and supply side, and environmental factors) affecting care seeking for MNH.

c) To assess the preparedness of the urban health system for providing MNH services at various levels of care in terms of infrastructure, human resource (HR) availability and capacity, logistics, drugs & equipment, referral, recording & reporting, supervision, governance and financial modalities.

3.0 Methodology
Study design and Sample Selection
This cross-sectional situation analysis used mixed methods research design for data collection (Jan-April, 2016)(Box1). The study was conducted with approval from Institutional Review Board of Sigma Research and Consulting, India and Save the Children- US Ethics Review Committee.

Box 1: Methodology

A. Quantitative Component
1. Slum-level Survey
Participants: A total of 601 recently delivered women (RDW; those who had a live birth in the past 1-6 months) were selected from 30 slum clusters using house-to-house enumeration and informed consenting with 20 RDW in each.

Sample selection: Multi-stage cluster sampling
Stage 1: Slum concentrations were identified using Geographical Information System(GIS) maps in the 5 ward-zones of the city (total 10374 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 clusters were selected for the study – 26 notified and 4 non-notified clusters. The notified clusters were selected using Probability-Propportional-to-Size sampling while the non-notified slum clusters were selected purposively (with due consideration to select slums from across the city). 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 were 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
I. 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).

II. 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 (pediatrician, obstetrician, medical officer, staff nurse: n=10).

Fig 1: Map and Profile of Pune City

Fig 2: Conceptual Framework for the Study


4.0 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.

Public Health Service Delivery and Access (source: FGDS and Quantitative Survey):

Awareness of program entitlements was poor among the slum population. There was minimal public health service outreach in the slums through the ANMs and the MOs. The AWW provided pregnancy registration services and nutrition counselling for pregnant women. The respondents were unable to differentiate between AWWs and ANMs.

Antenatal Care Practices:

Registration of Pregnancy: Registration of pregnancy was near universal (99%). Of 601 RDWs, 483 (80.4%) had come to know about their pregnancy in the 1st trimester itself; 431 (71.7%) had registered their pregnancy in the 1st trimester with almost equal proportions registering at public and private facilities. Around 42% of the women got registered within same month when they came to know that they are pregnant, while 28% registered in the following month. Women without formal education (5 versus 1-2% among those who ever attended school, staying in kuchha houses (3.2% versus 0.7% in those residing in pucca/ semi-pucca houses) and in non-notified slums (2.5% versus 0.8% in notified slums), and from the lowest socio-economic quintile (2.5 versus 0.8-1.7%) were more likely to miss registration (throughout the pregnancy). This highlights inequities within slum communities.

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

Role of FLWs: 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 reported 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

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. Among RDWs who reported visiting a private provider, 37% felt more comfortable with private providers while 29% said that they were available at all times (Fig. 5).

Through FGD with family members, additional information emerged about poor reputation of public facilities due to unavailability of quality service under one roof, unfriendliness of staff, and inconvenience (distance, transport, OPD timings, waiting time, high referral rates, and unforeseen out of pocket expenses).

- 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
- 70% of women aged 15-29 yrs. had experienced more than 2 pregnancies
- 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)
- 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

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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 1/3 could name any one danger sign Fig. 8). RDWs who sought ANC from private providers/facilities had a better recalling danger of 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.

**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 local 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). This information contrasted from that retrieved from the beneficiaries, possibly, the effectiveness of the ANMs’ (especially at the outreach) is negligible.

**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**

*Fig. 9: Place of Delivery*

- The population reported 99.3% institutional delivery rate. About 35% 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%).

*Fig. 10: Mode of Travel to Facility for Delivery*

- 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.
- Non-accessing government transportation services may be due to 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.

**Fig. 11: Person accompanying at the Time of Delivery**

- 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, ANM, AVH, etc) from some NGO alongside at the time of delivery to take care of the newborn.

**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 15000-20000 whereas, a c-section would range between INR 30000-40000 (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).

**Key Observations:**
1. Birth preparedness mostly restricted to financial arrangements.
2. Institutional deliveries was almost universal (99.3%).
3. Uptake of program entitlements (e.g., JSY, JSSK) was low.
4. Compliance to onward referral for delivery complications was poor.
5. Newborn was placed on the mother in 27% of deliveries in private set-ups (public facility: 15.4%; home delivery: 12.5%).
6. Breastfeeding was universal but only 3/4 did so on day 1 and only 30% within first hour of delivery.

**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 four ANC check-ups.
Breast feeding: Almost all (99.8%) the RDWs had breastfed their newborns but only about 3/4 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% suggested 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 34% 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 (Fig. 13).

Around 37% and 47% of RDWs who reported complications at labor in public and private facilities had received referral advice respectively (N=121). 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.

Post Natal Care

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 FGDs with MILs and husbands, FLWs was less frequently provided on newborn and maternal danger signs and on family planning.

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 31% of the babies had been checked within the first hour of delivery.

Check up after discharge from the facility: About 48% of the RDWs and 45% of newborns had received post-natal check-up after discharge - mostly at facility with negligible PNC services at community and home levels (Fig. 17 and 18). However, the number of times and site (home/facility) for these post-natal check-ups could not be enumerated. The components of these PNC check-ups are given in Fig. 19 and 20. Counselling on danger signs was low (mothers 18%; newborn 30%)

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, ANI or other community based health) 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...
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.

Among the 601 RDWs, 12% (n=71) had experienced at least one danger sign in their baby in the first month of life. Almost 15% outrightly mentioned that they did not know of any such signs that would warrant a visit to the health provider. The RDWs were imprecise and provided mostly vague answers when asked about danger signs in the newborn that may need hospitalization.

Almost 6% of the mothers had reported that baby had sought help from the FLW. Almost 65% (n=71) had sought help from the FLW. Almost 65% (n=71) had sought help from the FLW at least once. Home remedies had been provided alongside to home deliveries had been provided alongside home deliveries. Among the 71 sick neonates, 65 (91.5%) had sought treatment. 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 FLW. Among the 409 RDWs, 12% (n=71) had experienced at least one danger sign in their baby, e.g., fever, fast breathing, or skin rash. These babies were seldom followed-up at home by FLW implying that the outreach tracking system was non-functional.

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

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Facility Survey (Feb-Mar 2016)</th>
<th>Higher level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of facilities reviewed</td>
<td>5 (4 dispensaries, 1 UPH)</td>
<td>5 (4 secondary, 1 tertiary, all run by PMC)</td>
</tr>
<tr>
<td>Distance and Catchment</td>
<td>All facilities are located within 10 minutes by vehicle and 30 minutes by walking from the remotest slum in their catchment (&lt;20 SQM)</td>
<td>3 within 20 minutes on vehicle, catchment: &lt;10 slum for 4 facilities</td>
</tr>
<tr>
<td>Logistics and Infrastructure</td>
<td>Small area, inadequate rooms (&lt;4), 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</td>
<td>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;</td>
</tr>
<tr>
<td>Human Resource (HR)</td>
<td>All five facilities are understaffed (especially nursing staff)</td>
<td>All facilities have MO, Nurse and Pharmacist.</td>
</tr>
<tr>
<td>Operations</td>
<td>ANC, PNC skill decay perceived among MO and ANM</td>
<td>2 facilities have full-time visiting pediatricians and obstetricians.</td>
</tr>
<tr>
<td>MNH Services (overview)</td>
<td>All five facilities provide services related to management of childhood illnesses and immunization; no safe abortion services</td>
<td>The tertiary facility has multiple full-time specialists</td>
</tr>
<tr>
<td>Maternal Care Services (reference period: past 1 year)</td>
<td>No deliveries conducted in all 5 facilities. In 4 facilities: no service for pregnancy confirmation (UPT), basic laboratory tests (Hb, Urine protein, blood sugar, etc), very few ANC registrations</td>
<td>OPD timings: 9am to 5pm</td>
</tr>
<tr>
<td>Newborn Care Services (reference period: past 1 year)</td>
<td>None except for immunization</td>
<td>OPD: ANC, PNC and identification of newborn and childhood illnesses.</td>
</tr>
<tr>
<td>Child Health Services</td>
<td>All 5 facilities provide services for identification and management of sick child including referral services, deworming, Vit A supplementation, routine immunization</td>
<td>PDD: institutional delivery with essential newborn care and referral, C-section services 3 facilities.</td>
</tr>
<tr>
<td>Outreach services</td>
<td>No outreach services for MNH. No documentation.</td>
<td>All the facilities are providing basic MCH services.</td>
</tr>
<tr>
<td>Equipment</td>
<td>One facility does not have an infant weighing machine. No functional USG machine. No suctioning/microwaving equipment.</td>
<td>The tertiary facility offers some outreach services but not with a MNH focus.</td>
</tr>
<tr>
<td>Drugs and Supplies</td>
<td>Iru Magnesium Sulphate, Tbl Mifepristone not available in any facility; no supplies for Emergency Contraceptives, IUDs and sanitary napkins</td>
<td>All facilities offer ambulance services</td>
</tr>
<tr>
<td>Financial Management</td>
<td>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 JY under RCH (compensation to beneficiary and transport).</td>
<td>Labour room, NBB, NSCU, NBS and PNC wards were reviewed and found satisfactory</td>
</tr>
</tbody>
</table>

Among the 490 RDWs, 12% (n=71) had experienced at least one danger sign in their baby, e.g., fever, fast breathing, or skin rash. These babies were seldom followed-up at home by FLW implying that the outreach tracking system was non-functional.