Introduction

The days and weeks following childbirth are crucial for the health and survival of both the mother and the newborn. Given that the health and well-being of women, newborns, and children are inherently linked,[1] the core principle underlying maternal, newborn, and child health programmes is the ‘continuum of care’.[2] Newborn health serves as a sensitive marker of a functional continuum of care and good linkages that serve to address delays in care for both the mother and the newborn during and after childbirth.[3]

Community-based care has been an important component of providing a continuum of care in low-resource communities.[1] Studies[4-6] have shown the cost-effectiveness and early success in averting neonatal deaths when neonatal survival interventions are combined into packages and delivered through family-community-care (FCC) programs.[3] These programs have been an important component of the national health mission in India and have been shown to reduce neonatal and maternal mortality.[4] However, the current study aimed to evaluate and understand the status of the home-based newborn care (HBNC) program in urban areas of India through a health systems approach.

Address for correspondence: Dr. Erin Hannah, National Health Systems and Resource Centre, National Institute of Health and Family Welfare, Baba Gang Nath Marg, Munirka, New Delhi - 110 067, India. E-mail: dr.erinhannah@gmail.com

Received: 15-02-2022
Revised: 28-03-2022
Accepted: 30-03-2022
Published: 30-08-2022

Access this article online

Quick Response Code:  
Website: www.jfmpc.com
DOI: 10.4103/jfmpc.jfmpc_388_22

How to cite this article: Hannah E, Dumka N, Ahmed T, Bhagat DK, Kotwal A. Home-based newborn care (HBNC) under the national health mission in urban India – A cross country secondary analysis. J Family Med Prim Care 2022;11:4505-13.
care in settings with high baseline neonatal mortality and weak health systems. Home-based newborn care (HBNC) package is one such package proven to be ‘very cost-effective’ in terms of programmatic costs borne by the government; at low (54%) or high level (83%) of coverage; cost per death averted; out-of-pocket expenditure averted by the care package; inherent financial risk protection accorded by the package; and in reducing morbidity and mortality.\(^1\)

Effectiveness studies in Indian settings\(^{8,13}\) have shown that HBNC facilitated a substantial reduction of neonatal mortality, improvement in coverage of newborn practices, uptake of routine immunization, early detection, timely referral, and appropriate management of sepsis or other infections. Recognizing its ability to overcome the demand-side barriers in accessing post-natal care at health facilities, HBNC was recommended as a primary strategy for combating neonatal mortality.\(^{14}\) It was initially launched under the National Rural Health Mission (NRHM) in 2011,\(^{11}\) and subsequently subsumed under the National Urban Health Mission (NUHM), a sub-mission of National Health Mission (NHM), in 2013.

Despite a reduction in maternal and child mortality rates over the past two decades,\(^{17}\) neonatal mortality and stillbirths still require sustained attention. There exist rural-urban discrepancies in the country,\(^{19}\) with a differential pace of decline in the indicators of interest between the regions.\(^{16}\) Though rural disparities are higher than their urban counterparts, heterogeneous, complex, and intertwined challenges like improper housing (as in slums), poor access to water and sanitation facilities, larger presence of the private sector, large number of unregistered practitioners serving as the first point of contact, congested secondary and tertiary facilities or underutilized primary facilities, multiple health challenges, inadequate services and poor referrals, non-notified slums, weak demand, struggle for subsistence, and multidimensional vulnerability disproportionately affect the urban poor and people with multiple marginalizing identities in urban spaces.\(^{19}\) Neonatal mortality is a sensitive indicator of healthcare access such as institutional delivery, vaccination, medical treatment of diseases, nutrition, and hygiene.\(^{20}\) In India, neonatal mortality is higher among the urban poor when compared to the urban average.\(^{25}\) Hence, to redress inequity among the urban poor and vulnerable, NUHM was launched to improve the efficiency of the public health system in the cities by strengthening, revamping, and rationalizing existing government primary urban health structure and designated referral facilities.

Most of the studies undertaken in India on HBNC were in rural/tribal settings, with very few focusing on urban programmatic progress. Hence, a cross-country study was undertaken to evaluate and understand the status of the HBNC program in urban areas of India through a health systems approach. Specific objectives of the study were (i) to understand the resources in place to facilitate safe intrapartum and post-partum care in urban areas, (ii) to assess HBNC coverage in urban areas, and (iii) to review the outcomes achieved through the urban HBNC programme across the states and UTs.

### Methodology

Secondary data available or updated as of the financial year 2019–20 were extracted from health management information system (HMIS) (2019–20), Rural Health Statistics 2019–20, accredited social health activist (ASHA) update (July 2019), and HMIS’ quarterly progress report (QPR HMIS) report (2019–20). Indicators used for analysis were restricted to infrastructure (primary level facilities, sub-distict level, and district level secondary facilities), human resources (frontline workers and facility-based provider status), intrapartum services (home delivery or institutional delivery), post-natal care services (HBNC service components), programmatic outputs (immunization status) and outcomes. Indicators’ descriptions are shared in the Appendix. Proxy indicators for referral and sick-newborn care (i.e., newborn stabilization unit (NBSUs) and newborn care corner (NBCCs) status) were excluded due to a lack of baseline information for assessment. Among union territories, Lakshadweep was excluded from the assessment because it was not covered under the NUHM; information on Jammu and Kashmir was considered inclusive of Ladakh due to unified reporting for the fiscal year (FY) 2019–20 following their reorganization in October 2019, and information on Dadra and Nagar Haveli was combined with Daman and Diu owing to their merger in January 2020.

Analysis was undertaken on anonymised State/UT aggregate reports of urban areas or consolidated reports, wherever applicable. For data management, a preliminary analysis was performed using institutional STATA/MP Version 16.1 to identify the outliers, followed by data cleaning and description in terms of median (M) and interquartile range (IQR). Kruskal Wallis test with a level of significance of 0.05 was performed to determine if there were statistically significant differences between the medians of the groups. Data of indicators that did not apply to a certain group were presented as not applicable (N/Appl), and missing data were presented as not available (Na). The findings of the indicators of interest were presented in four groups-Group A: High Focus States -North-East (NE), Group B: High Focus States – Other than NE, Group C: Non-High Focus States- Large, and Group D: Non-High Focus States- Small and UTs [Table 1].

### Results

#### Infrastructure

Analysis showed that the median density of urban primary level facilities\(^1\) was relatively higher in group D (M = 1.96; IQR = 0.52) and less in group C (M = 0.66; IQR = 0.31). The median density of sub-distict secondary level facilities\(^2\) was relatively higher in group C (M = 2.04; IQR = 1.12), while that of district-level facilities\(^3\) was relatively higher in group A (M = 14.74; 2022)
HBNC visits for home delivery' was less than full HBNC visits for institutional delivery* were relatively high in group D (M = 92.88%; IQR = 6.76%; M = 74.78%; IQR = 9.01%; and M = 56.83%; IQR = 45.24%) [Table 3]. In general, the median percentage of full HBNC visits for institutional delivery was less than one-fifth (< 20%) of the reported institutional deliveries, excepting group D. Whereas for home deliveries, more than half (≥ 50%) of the reported home deliveries received full HBNC visits. The differences between the groups were not statistically significant [Table 3].

Immunization

The median percentage of newborns receiving a birth dose of BCG was over 83 percent across all groups [Table 4]. The median immunization coverage for infants with birth dose of Oral Polio Vaccine (OPV), Hepatitis B vaccine (Hep B) and Pentavalent 1–3 doses was less in group A when compared with the rest (M = 47.98%, IQR = 23.71%; M = 41.72%, IQR = 32.18%; M = 68.12%, IQR = 22.55%). The differences between the medians were not statistically significant [Table 4].

Outcomes

Analysis of pregnancy outcomes [Table 4] revealed that the median percentage of newborns who weighed less than 2.5 kg was comparatively high in group D (M = 13.27%; IQR = 2.06%). The median percentage of newborns breastfed within one hour of birth was least in group D (M = 72.97%; IQR = 12.48%). The median percentage of full HBNC visits* delivered to the newborns in urban areas of groups A, B, and C was less than one-fifth (< 20%) of the total reported live births. The median share of newborn deaths to infant deaths was comparatively high in groups B and C (> 72%), while the median total reported maternal deaths was comparatively high in group C (M = 86, IQR = 72.50). The differences between the medians were not statistically significant [Table 4].

### Post-natal care

The median percentage of women receiving the 1st postpartum checkup within 48 hours of home delivery as well as full HBNC visits for home delivery and full HBNC visits for institutional delivery were relatively high in group D (M = 92.88%; IQR = 6.76%; M = 74.78%; IQR = 9.01%; and M = 56.83%; IQR = 45.24%) [Table 3]. In general, the median percentage of full HBNC visits for institutional delivery was less than one-fifth (< 20%) of the reported institutional deliveries, excepting group D. Whereas for home deliveries, more than half (≥ 50%) of the reported home deliveries received full HBNC visits. The differences between the groups were not statistically significant [Table 3].

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Discussion

The study's findings show that the HBNC visits undertaken in urban areas across the states are differential. Reflecting the NUHM framework, the service delivery and utilisation of the HBNC package in urban areas are concentrated majorly among the vulnerable and socially disadvantaged population. This may reflect as suboptimal service coverage if the entire urban cohort is considered. Future studies may explore HBNC service coverage and uptake among different groups in urban areas.

It is known that the HBNC program needs the integration of community care subsystems and healthcare facilities with well-equipped and skilled professionals. The findings on the infrastructural density indicate the structures in place for the programme. However, it needs to be interpreted alongside factors like the level of urbanisation within the groups, geographical terrain, slum settlements/concentration, and the presence of private providers in the urban areas of each state and UT. Regardless, all groups have a considerably higher density of district-level facilities which may be due to the high caseload from both rural and urban populations at the district level facilities. In the case of group A, a comparatively high density of district-level facilities may also be attributed to less population in the North-east (NE) region.

HBNC programme also depends on the presence of higher-level healthcare facilities for the management of sick newborns identified and referred by FLWs during home visits. The reported density of specialised newborn care facilities for the urban population is low, which may be due to, but not limited to, actual lack of infrastructure in the urban public health facilities or due to under-reporting of facilities not meeting the functionality criteria. The same is reflected in other studies, thereby warranting more field-level exploration in urban areas and focused actions for deficiencies, if any.

Table 2: Infrastructure and human resources

| Domains                      | Indicators                                                                 | High Focus States-NE (A) | High Focus States-Other Than NE (B) | Non-High Focus States-Large (C) | Non-High Focus States-Small and UTs (D) | Kruskal Wallis α=0.05 |
|------------------------------|-----------------------------------------------------------------------------|--------------------------|-------------------------------------|----------------------------------|----------------------------------------|----------------------|
| Infrastructure               | Density of primary level facilities per 50,000 population                   | Med 1.46                | 0.74                                | 0.66                             | 1.96                                   | 0.42                 |
|                              |                                                                             | IQR 0.59                | 1.50                                | 0.31                             | 0.52                                   |                      |
|                              | Density of sub district secondary level facilities per 5,00,000 population  | Med 1.01                | 1.84                                | 2.04                             | 0.6                                    | 0.24                 |
|                              |                                                                             | IQR 1.58                | 1.32                                | 1.12                             | 0.16                                   |                      |
|                              | Density of DH*** and DH level facilities per 10,00,000 population           | Med 14.74               | 3.54                                | 2.25                             | 5.05                                   | 0.16                 |
|                              |                                                                             | IQR 8.70                | 1.88                                | 1.52                             | 0.42                                   |                      |
|                              | Density of SNCUs††† per district in the state                              | Med 0.53                | 1.11                                | 1.42                             | 1                                      | 0.10                 |
|                              |                                                                             | IQR 0.20                | 0.41                                | 0.61                             | 1.15                                   |                      |
|                              | Density of NRC‡‡‡ beds per 10,00,000 population                            | Med 0                    | 0.06                                | 0.18                             | 0.0                                    | 0.42                 |
|                              |                                                                             | IQR 0                    | 0.64                                | 0.86                             | 0.0                                    |                      |
| Human resources              | ASHAs in position under NUHM (%)                                           | Med 100                  | 88.02                               | 90.33                             | 74.78                                  | 0.11                 |
|                              |                                                                             | IQR 5.33                 | 22.27                               | 12.94                             | 50.70                                  |                      |
|                              | ASHAs trained in module 6&7 (%)                                           | Med 97.34                | 87.63                               | 83.27                             | 47.34                                  | 0.11                 |
|                              |                                                                             | IQR 15.67                | 25.74                               | 35.18                             | 47.34                                  |                      |
|                              | ASHAs with HBNC kits (%)                                                   | Med 92.18                | 49.34                               | 44.26                             | 51.54                                  | 0.41                 |
|                              |                                                                             | IQR 100                  | 99.91                               | 100.62                            | 83.34                                  |                      |
|                              | Density of frontline workers per 50,000 population                        | Med 7.55                 | 14.41                               | 8.56                              | 6.22                                   | 0.30                 |
|                              |                                                                             | IQR 8.03                 | 14.15                               | 2.97                              | 7.70                                   |                      |
|                              | Density of facility-based workers per 50,000 population                   | Med 1.6                  | 1.30                                | 1.33                              | 3.49                                   | 0.31                 |
|                              |                                                                             | IQR 1.59                 | 0.55                                | 1.00                              | 1.08                                   |                      |
|                              | Density of facility - based workers per 5,000,000 population              | Med N/App                | 4.85                                | 4.90                              | 4.19                                   | 0.25                 |
|                              |                                                                             | IQR N/App                | 5.9                                 | 5.76                              | 6.1                                    |                      |

***District Hospital (DH). †††Special Newborn Care Units (SNCUs). Nutrition Rehabilitation Centres (NRCs)
Given the programmatic needs, frontline workers at the community level, doctors at the primary healthcare level, and specialists at the secondary level of care are important components for effective programmatic implementation and coverage. Considering the evidence on the vital role of community health workers (CHWs) in improving maternal and newborn care, expanding HBNC in areas without their coverage is likely to pose a challenge. Hence, the status of ASHAs/CHWs deployed, trained, and equipped with HBNC kits needs more attention. Similarly, the importance of having trained and well-equipped health care professionals during childbirth to avoid obstetric complications and maternal mortality is well documented. Human resource requirements of FBPs at the primary and secondary level healthcare facilities ought to be met based on the requirements of their respective geographical and population needs.

While the overall percentage of reported home deliveries in urban areas is low, state-level records of 2019–20 revealed that a few states/UT (Meghalaya, Arunachal Pradesh, Bihar, Himachal Pradesh, Punjab, and Andaman and Nicobar Islands) reported high home deliveries in urban areas within their respective groups. Even among them, very few had assistance from skilled birth attendants. Though the present study is limited in understanding the reasons for home delivery in urban areas, a cross-country analysis has highlighted that women delivering at home in urban areas were 3.5 times more likely to be from socioeconomically disadvantaged neighbourhoods. Given the study’s findings, components envisioned under the NUHM to redress inequity in access and utilisation need focused attention to reach the beneficiaries.

The study’s finding of high institutional delivery (> 98%) across the groups indicates an increasing proportion of births attended by medically trained providers and is known to have a positive association with reducing maternal and neonatal mortality. Yet, intra-country disparities in facility birth in urban areas can be deduced from a relatively low level of reported institutional deliveries from States like Arunachal Pradesh, Meghalaya, and Andaman and Nicobar islands (<40%). A similar finding was reported in a study assessing the contribution of NHM to maternal health, which showed that though there was an increase of 40.2 percentage points of institutional delivery post-NRHM/NHM era, inter and intra-state disparities remain.

The study showed that most of the women with home deliveries were given the 1st PNC within 48 hours after birth. Yet, full HBNC visits for home and institutional deliveries in urban areas were suboptimal across the groups with intra-group variations. It may be implied that CHWs may have lesser engagement in states with less coverage, either because their baseline neonatal health outcomes are better, or alternative modes of neonatal care delivery are more effective, or due to unidentified socioeconomic challenges, just as elucidated in a modelling analysis. It may be conjectured from the study that CHWs are more effective in mobilising the beneficiaries for intrapartum services over post-partum services in urban areas. Nonetheless, cost-effectiveness studies on HBNC packages for various levels of coverage present a strong case for increasing the coverage of HBNC services in urban areas.

One of the programmatic outputs achievable through HBNC mobilisation include immunisation of newborns with a birth dose

### Table 3: Intra-partum and postnatal care

| Domains                        | Indicators                                                                 | High Focus States-NE (A) | High Focus States-Other Than NE (B) | Non-High focus States-Large (C) | Non-High Focus States-Small and UTs (D) | Kruskal Wallis α=0.05 |
|-------------------------------|---------------------------------------------------------------------------|--------------------------|-------------------------------------|----------------------------------|------------------------------------------|----------------------|
| Intra-Partum                  | Home deliveries to total reported deliveries (%)                          | Med 0.51                 | 1.31                                | 0.03                             | 0.53                                     | 0.07                 |
|                               | Home deliveries attended by SBA (%)[18]                                   | Med 12.5                 | 25.32                               | 49.47                            | 0.71                                     | 0.46                 |
|                               | Institutional deliveries to total reported deliveries (%)                 | Med 99.49                | 98.69                               | 99.97                            | 99.47                                    | 0.07                 |
| Postnatal                     | Women receiving 1st postpartum check-up within 48 hours of home delivery | Med 69.05                | 92.41                               | 85.15                            | 92.88                                    | 0.31                 |
| care                          | Newborns reported to have received full HBNC visits for home deliveries (%) | Med 75                   | 70.14                               | 57.33                            | 74.78                                    | 0.83                 |
|                               | Newborns reported to have received full HBNC visits for institutional deliveries (%) | Med 6.33                 | 17.37                               | 11.81                            | 56.83                                    | 0.16                 |

[18]Skilled Birth Attendant (SBA)
of Bacille Calmette-Guerin (BCG), Oral Polio vaccines, and Hep B/Penta 1. Given the lack of disaggregated information on the role of HBNC services in mobilising infants for immunisation, the potential association of HBNC visits on immunisation uptake in urban areas could not be explored. Nevertheless, the findings of birth dose immunisation coverage in urban areas present an opportunity to improve immunisation uptake through strengthened HBNC activities.

In the continuum of care, outcomes of low birth weight and uptake of newborn care practices like immediate breastfeeding are more closely associated with pre-partum services than with post-partum services. Even though the study is limited by the lack of disaggregates and reports on HBNC follow-up undertaken on low birth weight or sick newborns, evidence supports that HBNC visits, referral, and follow up of low birth weight infants mitigate the risk of mortality; while counselling of mothers on newborn care practices increases the chances of survival. Commensurately, the present study also showed a high percentage share of newborn deaths to total infant deaths in groups B and C where HBNC coverage was poor, especially for home-delivered newborns, thereby calling for focussed and time-bound visits to the urban population.

**Limitations**

Data integrity of reports in HMIS posed a limitation on the quality of extracted data. It was addressed by removing the outliers and by presenting the median values of the distribution. Despite that, it is recommended to interpret the findings under each group and indicator with caution as perceived poor performance may be due to good reporting by States/UTs and vice versa.

**Conclusion and Recommendations**

The study clearly shows that HBNC coverage in urban areas is highly differential within the states and across the country. The intricacies of the urban population nested in an environment characterised by multiple options, vulnerabilities, and social

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**Table 4: Immunization and outcomes**

| Domains                     | Indicators                                                                 | High Focus States-NE (A) | High Focus States-Other Than NE (B) | Non-High Focus States-Large (C) | Non-High Focus States-Small and UTs (D) | Kruskal Wallis A=0.05 |
|-----------------------------|-----------------------------------------------------------------------------|---------------------------|------------------------------------|-----------------------------------|------------------------------------------|-----------------------|
| Immunization                | Infants who received BCG vaccination against the total reported live births (%) | Med 85.17                 | 92.69                              | 83.66                             | 103.19                                   | 0.20                  |
|                             |                                                                            | IQR 36                    | 26.47                              | 19.88                             | 17.3                                     |                       |
|                             | Infants who received OPV Vacination against the total reported live births (%) | Med 47.98                 | 83.33                              | 81.63                             | 88.75                                    | 0.23                  |
|                             |                                                                            | IQR 23.71                 | 33.99                              | 21.69                             | 40.79                                    |                       |
|                             | Infants who received Hep-B Vaccination against the total reported live births (%) | Med 41.72                 | 73.49                              | 74.20                             | 84.86                                    | 0.30                  |
|                             |                                                                            | IQR 32.18                 | 29.52                              | 29.22                             | 44.80                                    |                       |
|                             | Infants who received Pentavalent 1-3 Vaccination against the total reported live births (%) | Med 68.12                 | 115.58                             | 69.87                             | Na                                       | 0.17                  |
|                             |                                                                            | IQR 22.55                 | 64.32                              | 16.89                             | Na                                       |                       |
| Outcomes                    | Newborns reported to weigh less than 2.5kg against total reported live births (%) | Med 8.58                  | 7.01                               | 6.75                              | 13.27                                    | 0.16                  |
|                             |                                                                            | IQR 5.49                  | 5.88                               | 3.99                              | 2.06                                     |                       |
|                             | Newborns breastfed within 1 hour of birth against total reported live births (%) | Med 94.22                 | 96.45                              | 88.75                             | 72.98                                    | 0.17                  |
|                             |                                                                            | IQR 15.51                 | 9.56                               | 22.34                             | 12.48                                    |                       |
|                             | Newborns reported to have received full HBNC visits out of the total reported live births (%) | Med 17.54                 | 17.65                              | 12.34                             | 56.16                                    | 0.17                  |
|                             |                                                                            | IQR 40.04                 | 27.53                              | 17.50                             | 44.50                                    |                       |
|                             | Share of newborn deaths to infant deaths (%)                                | Med 44.09                 | 82.03                              | 72.38                             | 33.23                                    | 0.34                  |
|                             |                                                                            | IQR 36.65                 | 11.97                              | 15.12                             | 70.49                                    |                       |
|                             | Total reported maternal deaths                                              | Med 1.5                   | 13.5                               | 86.00                             | 0                                         | 0.28                  |
|                             |                                                                            | IQR 4.75                 | 72.00                              | 72.50                             | 8.00                                     |                       |
practices challenge assessing its coverage/uptake when measured with the yardstick meant for rural health systems. To overcome this, primary studies to understand HBNC service coverage among population subsets in urban areas and referral linkages are needed, followed by an evidence-informed increase in programmatic coverage in urban areas. This also calls for simultaneous strengthening of referral linkages to specialised newborn care facilities, ensuring skilled personnel at varying levels of facilities, and improving community engagement of frontline workers in urban areas under the NUHM.

**Financial support and sponsorship**
Nil.

**Conflicts of interest**
There are no conflicts of interest.

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## Description of the indicators

| Indicators                                             | Description                                                                                                                                 |
|--------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| Density of primary level facilities per 50,000 population | Primary level facilities include Sub health centres (as available in respective States) and Urban- Primary health centres (U PHC)  
50,000 population - Catchment norms under the NUHM  
Density – concentration of facilities as per the catchment norms |
| Density of sub-district secondary level facilities per 5,00,000 population | Sub-district secondary level facilities include Urban Community health centres and sub-district hospitals (SDH- common for both rural and urban areas)  
5,00,000 population – Catchment norms under the NUHM for sub-district facility (UCHC)  
Density – concentration of facilities as per the catchment norms |
| Density of DH and DH level facilities per 10,00,000 population | District level health facilities include District hospitals (DH - common for both rural and urban areas) and other district-level health facilities  
10,00,000- Arbitrary population assigned for estimation; based on IPHS (2012) denominator used for estimating minimum bed requirement in DH  
Density – concentration of facilities as per the catchment norms |
| Density of SNCUs per district in the state | Density - Concentration of facilities per district in the state (as reported in HMIS for the state)  
Estimated using total SNCUs and districts in the state |
| Density of NRC beds per 10,00,000 population | Density- Concentration of NRCs beds (as reported in HMIS for urban areas) per 10,00,000 population (arbitrary population assigned for estimation at the district level)  
Estimated using urban ASHAs in position and total urban ASHAs targeted under NUHM for the respective States and UTs |
| Percentage of ASHAs in position under NUHM | Estimated using urban ASHAs in position and total urban ASHAs targeted under NUHM for the respective States and UTs |
| Percentage of ASHAs trained in modules 6 and 7 | Estimated using urban ASHAs trained and total urban ASHAs in position for the respective States and UTs |
| Percentage of ASHAs with HBNC kits | Estimated using urban ASHAs with HBNC kits and total urban ASHAs in position for the respective States and UTs |
| Density of frontline workers per 50,000 population | Frontline workers include- Urban ASHAs, Health workers (Female/ANM) at urban primary level facilities [UPHCs and SCs (wherever available)]  
Density- concentration of CBPs as per the catchment norms of urban areas |
| Density of facility-based providers per 50,000 population | Facility-based Providers per 50,000 population include Allopathic doctors and nursing staff at Urban PHCs |
| Density of facility-based providers per 5,00,000 population | Facility-based Providers per 5,00,000 population include General Medical Duty Officers (GDMOs), nursing staff and specialists (Surgeons, OB&GY, Physicians and Paediatricians) at urban CHC (sub-district level) in urban areas |
| Percentage of home deliveries to total reported deliveries | Home deliveries include reported deliveries in urban areas (attended and not attended by SBA)  
Total reported deliveries include total home deliveries and institutional deliveries reported in urban areas |
| Percentage of home deliveries attended by SBA | Estimated using reported home deliveries attended by SBA and total reported home deliveries in urban areas |
| Percentage of Institutional deliveries to total reported deliveries | Estimated using total reported institutional deliveries and total reported deliveries in urban areas |
| Percentage of women receiving 1st post-partum check-up within 48 hours of home delivery out of the total reported home delivery | Estimated using women receiving 1st PNC within 48 hours of home delivery and total reported home delivery in urban areas |
| Percentage of newborns reported to have received full HBNC visits for home deliveries | Estimated using newborns reported to have received full HBNC visits for home delivery (7 visits) and total reported home deliveries in urban areas |
| Percentage of newborns reported to have received full HBNC visits for institutional deliveries | Estimated using newborns reported to have received full HBNC visits for institutional delivery (6 visits) and total reported institutional deliveries in urban areas |
| Percentage of newborns reported to weigh less than 2.5kg against total reported live births | Estimated using newborns reported to weigh less than 2.5 kg and total reported live births in urban areas  
Total reported live births include male & female live births in urban areas |
| Percentage of newborns breastfed within 1 hour of birth against total reported live births | Estimated using newborn breastfed within 1 hour of birth and total reported live births |
| Percentage of newborns reported to have received full HBNC visits out of the total reported live births | Estimated using newborns reported to have received full HBNC visits and total reported live births |
| Share of newborn deaths to infant deaths (%) | Estimated using the total number of newborn deaths (occurring within 24 hours and up to 4 weeks of birth) and the total number of infant deaths (birth to 12 months) |