Temporal Analysis of Infant and Child Health Indicators from Health Management and Information System of a Vulnerable District of India: Tracking the Road toward the Sustainable Development Goal-3

Sir,

In 2015, the world began working toward a new global development agenda, seeking to achieve, by 2030, new targets set out in the Sustainable Development Goals (SDGs).[1] In Global SDG index 2017, India ranked at 116 of 157 countries, when Sri Lanka ranked at 89 and Bangladesh ranked at 111 of 188 countries.[2] The proposed SDG target 3.2 for child mortality aims to end, by 2030, preventable deaths of newborns and children under 5 years of age, bringing down the neonatal mortality rate to at least as low as 12/1000 live births (LBs) and under five mortalities to at least as low as 25/1000 LBs.[3] To improvise and intensify ongoing efforts toward attaining SDG-3, it is important to improve health indicators surrounding infant health at the grassroot level and act accordingly. Gathering reliable data on infant and child health indicators is no easy task in developing world. Although National Family Health Survey (NFHS) has played a highly significant role in monitoring of demographic data for India since its inception from 1992, the gap between two NFHS sometimes is as long as a decade. To achieve continuous flow of good-quality information on inputs, outputs, and outcome indicators to facilitate regular monitoring and evaluation for up to subdistrict level, the Ministry of Health and Family Welfare, Government of India (GOI), launched Health Management Information System (HMIS) in 2008.[4]

With the aim to track and explore the current status of newborn and infant health performance indicators against the SDG for one of the most vulnerable yet otherwise high-performing districts of West Bengal, we performed a temporal analysis using HMIS data from the GOI portal for the decade 2008–2018. The district of South 24 Parganas is a complex one, with varied geography stretching from the metropolitan Kolkata to the remote riverine villages. With the Sundarbans spread over 13 of the 29 development blocks in the district, any health system delivery strategy in this ecologically fragile environment must be carefully designed and implemented.

While analyzing HMIS data, it was seen that the district has witnessed significant improvement in neonatal and infant health indicators over the past decade. There was an overall decline in the infant mortality from 1060 infant deaths in 2009–2010 and 537 infant deaths in 2013–2014, after which a rise to 1422 infant deaths was reported by 2017–2018. The temporal variation of Infant Mortality Rate (IMR) was not regular and ranged from 3.9 to 12.7 deaths per thousand LBs for the decade, with an average of 7.5 deaths per thousand LBs and 11.8 deaths per thousand LBs in 2017–18. As compared to our study, the NFHS reported a consistent decline in IMR to 15 deaths per thousand LBs in South 24 Parganas.[5] Similar fluctuations were seen in an absolute number of infant deaths and IMR through Annual Civil Registration Reports.

The District Level Household and Facility Survey-4 (DLHS-4) (12-13) reported the percentage of children weighed at birth to be 73.4%. Our study reported a remarkable rise in reporting of birth weight, from 78% to 99.6% over the decade [Table 1]. While DLHS-4 (12-13) reported that only 4.9% of the children weighed at birth were underweight, our study reported a rise in percentage of Low Birth Weight (LBW) children over the decade from 8% to almost 12%. Percentage of newborns breastfed within 1 h of birth reported a rise from mere 18% in 2009 to 76% in 2018 as per HMIS [Table 1]. In contrast, the NFHS-4 reported a decline to 59.3% in the breastfeeding initiation. Percentage of children fully immunized against reported LBs was seen to be more than 100% almost throughout the decade [Table 1]. The NFHS-4 also reported remarkable improvement in immunization rates, with 94.8% fully immunized children in the age group of 12–23 months as compared to 70.8% from DLHS-3 and 70.5% from DLHS-4.

Hence, it can be concluded that there is a good scope of utilizing HMIS-generated data for better micromonitoring of performance indicators against SDG to take suitable and timely interventions at the local level; the full potential, however, is yet to be yielded. Better coordination between different departments as well as introducing provision for incentives for the complete registration may catalyze the process. Furthermore, rather than sending the nil reports, imposing penalties under the RBD Act may further improve vital registration system in the state. At the same time, overreporting and duplication is to be avoided. Unless a greater amount of dedication, expertise, and sophistication is applied in microplanning and management at the district level with customized local initiatives, it is still difficult to achieve the SDGs within the stipulated timeframe.

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Table 1: Compiled table depicting newborn care indicators over years

Years (April to March)	2009-2010	2010-2011	2011-2012*	2012-2013	2013-2014	2014-2015 Till July*	2015-2016	2016-2017	2017-2018
Percentage reported live births against estimated live births	83	88	98.8	94.8	46	99.1	88.4	98.9	98.9
Percentage of newborns weighed against reported live births	78	76	85	76	73	73.8	77	99.8	99.6
Percentage of newborns weighed <2.5 kg against newborn weighed	8	15	12.2	11	10	13.4	14	11.5	11.8
Percentage of newborns breastfed within 1 h of birth against reported live births	18	69	84	74	71	70.6	74	75.4	75.8
Fully immunized against reported births (%)	97	97	96	101	92	112	108	113.7	120.8
Measles given against reported births (%)	124	102	104.5	114	100	104.4	114	117.1	121.4

Conflicts of interest

There are no conflicts of interest.

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