



## Introduction to Delhi: A Civil Registration System perspective

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### Abstract

Understanding vital demographic events—births and deaths—is crucial for evidence-based policymaking and population planning. This study examines the performance of the Civil Registration System (CRS) in Delhi, India, against the backdrop of the Registration of Births and Deaths (RBD) Act, 1969, which mandates the compulsory registration of these events. Despite a national registration rate of approximately 92% for 2019, significant disparities persist across states and socio-economic groups. The study highlights Delhi's dual role as both a hub of advanced healthcare and a site of demographic challenges, including high population density and substantial migration. Using descriptive statistics derived from civil registration reports, the findings reveal a decline in registered births and an increase in registered deaths from 2006 to 2022, with notable variations in timeliness and institutional registration. The infant mortality rate (IMR) remains a critical indicator, revealing stagnation in its reduction despite Delhi's lower IMR compared to the national average. Recent amendments to the RBD Act aim to enhance the registration process, promoting timely and accurate data collection. This study underscores the need for targeted interventions to improve registration practices, particularly in marginalized communities, to ensure comprehensive public health planning and resource allocation in Delhi.

### Keywords

Births, Deaths,  
Delhi, CRS, and  
Local Bodies.

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## Introduction

Understanding the vital events of a population is very important to have evidence-based policies and planning (Gupta, 2001; Rao, 2019). There are essentially three demographic events *i.e.*, birth, death and marriage that considered to be vital for an individual or for a population (Mahapatra, Shibuya and Lopez *et al.*, 2007; World Health Organization, 2015). Births generally increase the size, whereas, deaths negate the volume of a population. Births and deaths also affect the age-sex composition of a population (Hobbs, 2004). It happens when unprecedented deaths occur in any age group deterring the prevalent age-specific death rate or fertility remains uncontrollably high in that population (Hobbs, 2004; Chandrasekhar, Ghosh and Roychowdhury, 2006; Setel, Macfarlane and Szreter, 2007). Similarly, understanding marriage pattern in a country like India remains central, as majority of births takes place within the wedlock (Crivello, Roest and Vennam, 2018; Sachdeva, 2021; Uma, 2021).

Given the esteemed usefulness of vital events, an act was enacted in India in the year 1969 to regulate the registration of Births and Deaths and for matters connected therewith (RBD Act, 1969). The act apparently recognized as the Registration of Births and Deaths (RBD) Act, 1969. Under the provisions of RBD Act 1969, the registration of Births and Deaths becomes compulsory in India. Accordingly, the events of births, still births and deaths are registered at the place of occurrence *i.e.*, where the event took place (RBD Act, 1969; Rao and Gupta, 2020). Non-reporting of Births and Deaths, giving false information for inclusion in the register, refusing to put signature in the reporting form/register and

non-registration of events reported to the Registrar is a punishable offence under the Act (RBD Act, 1969). Now, India is celebrating its 75 years of independence (आजादी का अमृत महोत्सव) and more than 50 years have been passed from the enactment of RBD Act, 1969, however, the registration of Births and Deaths has not been cent percent in India (Mahapatra, Shibuya and Lopez *et al.*, 2007). At national level, nearly 92 percent of Births and Deaths are being registered for the year 2019. In absolute numbers, around 2.42 Crores (2,42,22,444) Births and 81.1 Lakhs (81,15,882) Deaths were registered in the year 2020 in India (CRS, 2020). Although, the proportion of registered births and deaths has witnessed a steady increase over the years at national level, there is a large variation in the completeness of registration of events across states and by social groups (Mahapatra, Shibuya and Lopez *et al.*, 2007; Rao and Gupta, 2020). Furthermore, the timeliness of event registrations has not always met the expectations outlined in the RBD Act. Uttar Pradesh – the most populous state of India recorded less than or equal to 50 percent of births and deaths which are being registered within the stipulated time *i.e.*, 21 days from the date of occurrence of events (CRS, 2020). At the national level, just over one-fourth (28 percent) of registered deaths were categorized as institutional deaths. (CRS, 2020). The situation is even worse in disadvantaged geographical regions and among poor socioeconomic groups in the country.

Delhi, as the national capital, remains relevant for numerous reasons in India. The capital often embodies the nation's identity and house key institutions (Bourdieu, 2018). Capitals have the best healthcare facilities,

including hospitals, specialized clinics, and research institutions. This concentration can improve access to quality medical services for residents and visitors (Bourdieu, 2018; Medhekar, Wong and Hall, 2020). In the year 2017-18, Delhi recorded a very high Human Development Index (HDI) of 0.800, which is significantly higher than the national average of 0.672 (MoSPI, 2018). The healthcare services and infrastructure in Delhi are considered among the best in the country, and in certain cases, they meet the standards of developed societies (Tiwari, 2002; Balarajan, Selvaraj and Subramanian, 2011). However, Delhi also faces major challenges, including demographic issues such as the highest population density and a large volume of migration (ORGI, 2011). According to the 2011 Census, Delhi has a population of 1.68 crores, an increase from 1.39 crores in the 2001 Census. With 11,320 persons per square kilometer, Delhi remained the most densely populated state in the 2011 Census (ORGI, 2011). With such a high population density, Delhi exhibits a number of civic challenges, including sanitation and other related health services (Mallick and Rahman, 2012; Singh, Srinivasan, 2017; Sahu and Agrawal *et al.*, 2019). The high population can overwhelm public services such as education, healthcare, and transportation, leading to diminished quality and accessibility. Addition to this, frequent movement of migrants can also lead to gaps in data collection, more so in the registration of their vital events (births, deaths, marriages) if they move frequently. Against this backdrop, the present study aims to evaluate the performance of the Civil Registration System (CRS) in Delhi. The findings of this study may have several policy implications to ensure timely and complete registration of

vital events, specifically births and deaths, in the region.

### Data Source

The present study reviewed the statutory provisions made in RBD Act 1969, Delhi Registration of Births and Deaths Rules 1999 and the recent amendment to the RBD Act 1969 *i.e.*, RBD (Amendment) Act 2023. Further, the Annual report on Vital Statistics of India based on the Civil Registration System in 2020 and the Annual report on registration of Births & Deaths in Delhi for the year 2022 published by Directorate of Economics & Statistics and Office of The Chief Registrar (Births & Deaths), Government of Delhi available in public domain were studied to understand the level and pattern of registration of vital events by selected covariates in Delhi.

### Methodology

The present study is exploratory in nature, analysed aggregated data from Civil Registration Reports for Delhi and India over various years to understand the levels and patterns of birth and death registrations in the national capital. Descriptive statistics were employed to achieve the study's objectives. Descriptive statistics refer to a set of techniques used to summarize and describe the main features of a dataset, providing simple summaries about the sample and its measures. These statistics offer a clear overview of the data without making inferences or predictions. For better interpretation and understanding, the findings are presented in both tabular and graphical formats.

### Results

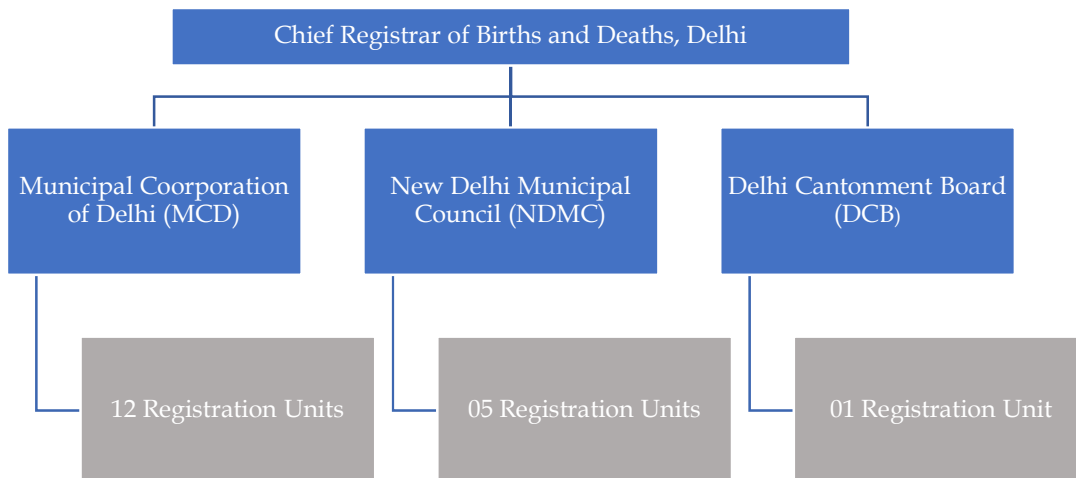
In Delhi, the RBD Act of 1969 came into effect on July 1, 1970. Consequently, the Delhi Registration of Births and Deaths Rules, 1970, were notified on January 1, 1971. Since

then, these rules have been modified periodically to incorporate more user-friendly measures. The most recent modification occurred in December 1999, which took effect on January 1, 2000. Currently, the NCT of Delhi is in the process of notifying rules for the RBD (Amendment) Act 2023.

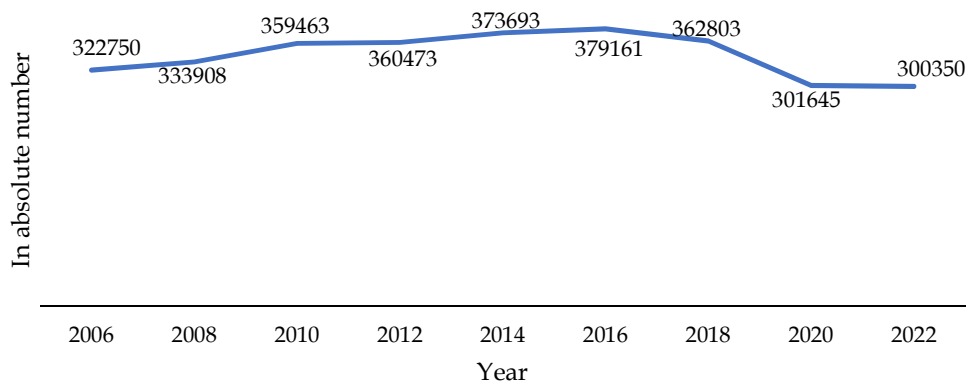
In Delhi, the registration of births and deaths is conducted by three local bodies: The Municipal Corporation of Delhi (MCD), the New Delhi Municipal Council (NDMC), and the Delhi Cantonment Board (DCB). Each local body has a designated Additional Chief Registrar responsible for coordinating

functions within their geographical area and submitting reports on the registration of vital events to the Chief Registrar of Births and Deaths (CRBD) in Delhi. There are 18 registration units across these three local bodies, and all registration units facilitate online or digital registration of births and deaths (Figure 1)

Number of registered Births in Delhi has declined from 322750 in 2006 to 300350 in 2022. In contrast, the number of registered deaths has increased from less than one lakh (*i.e.*, 98908) in 2006 to 128106 in 2022 (Figure 2 and 3).



**Figure 1** Administrative set up of the Civil Registration System in Delhi

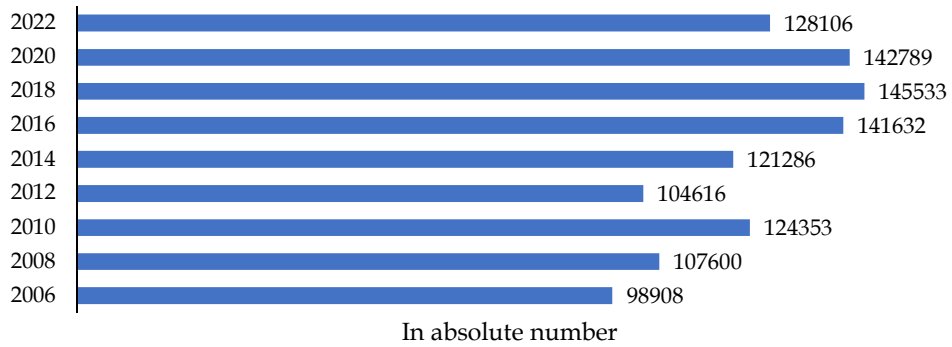


**Figure 2** Number of registered Births in Delhi during 2006 - 2022

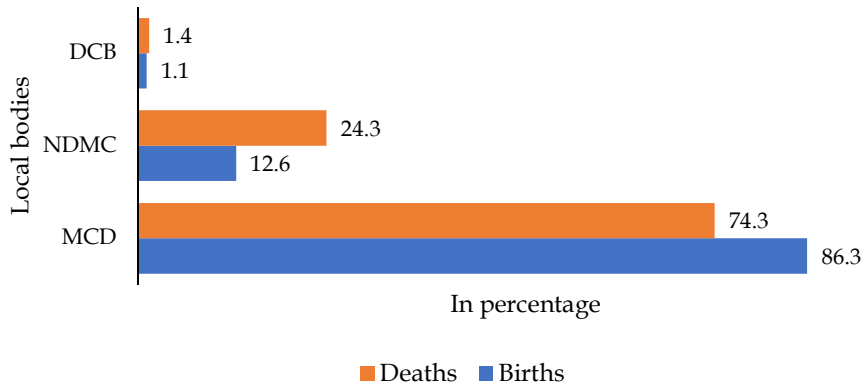
As high as 86 percent of registered births are from MCD followed by 13 percent in NDMC. Similarly, nearly three-fourth (74 percent) and 24 percent of registered deaths are from MCD and NDMC respectively in Delhi for the year 2022 (Figure 4). Out of total (i.e., 300350) registered births, 201545 (67.1

percent) live births are registered on time i.e., within 21 days from the date of birth (Figure 5).

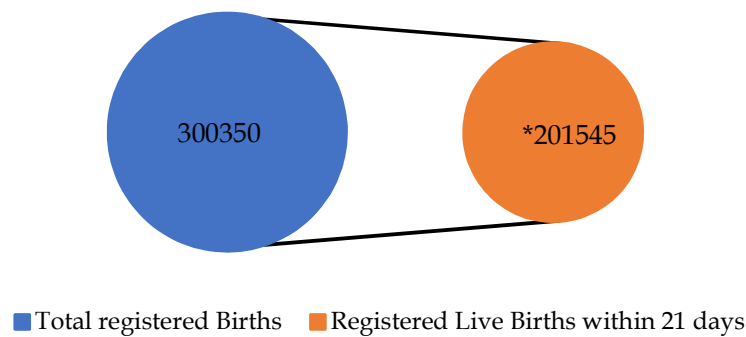
Similarly, 95128 (74.3 percent) deaths are registered on time from the total (128106) registered deaths in Delhi for the year 2022.



**Figure 3** Number of registered Deaths in Delhi during 2006 - 2022



**Figure 4** Registration of vital events by local bodies in Delhi, 2022



\*Might include few births from preceding year i.e., 2021.

**Figure 5** Timeliness of registration of live births in Delhi, 2022

It is observed that, registration of live births on time is lower in MCD (66 percent) than DCB (71 percent) and NDMC (77 percent). The corresponding figure for deaths is lower in NDMC (68 percent) than MCD (76 percent) and DCB (94 percent) in 2022 (Table 1 and 2).

Out of the total (300350) registered births, 282389 (94 percent) births have occurred in

any medical institutions. Similarly, from the total (128106) registered deaths, 81630 (64 percent) of deaths have taken place in any medical institutions in Delhi. It is pertinent to mention that, only 52 percent of registered deaths have occurred in any medical institutions in MCD in 2022 (Figure 6 and Table 3).

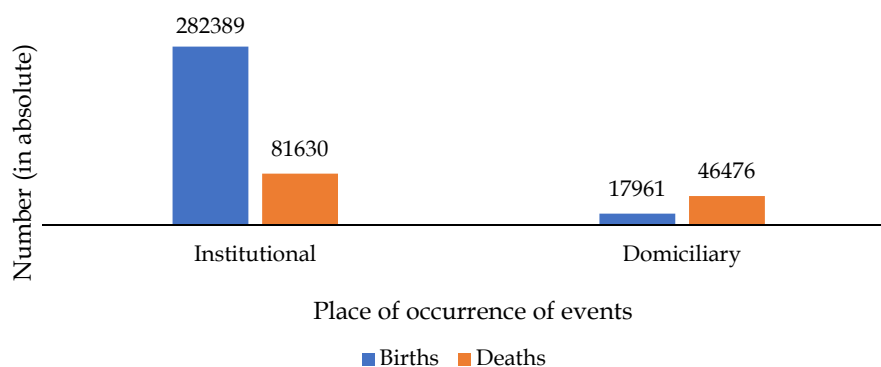
**Table 1** Timeliness of registration of live births by Local Bodies in Delhi, 2022

Local Bodies	Total registered Births	Registered Live Births within 21 days	Proportion (in percentage)
MCD	259052	169848	65.6
NDMC	37975	29333	77.2
DCB	3323	2364	71.1
<b>Total</b>	<b>300350</b>	<b>*201545</b>	<b>67.1</b>

\*Might include few births from preceding year *i.e.*, 2021.

**Table 2** Timeliness of registration of Deaths by Local Bodies in Delhi, 2022

Local Bodies	Total registered Deaths	Registered within 21 days	Proportion
MCD	95165	72237	75.9
NDMC	31106	21162	68.0
DCB	1835	1729	94.2
<b>Total</b>	<b>128106</b>	<b>95128</b>	<b>74.3</b>



**Figure 6** Place of occurrence of registered events in Delhi, 2022

**Table 3** Registered events occurred in institutions by Local Bodies in Delhi, 2022

Local Bodies	Proportion of Institutional Events (in percentage)		N	
	Births	Deaths	Births	Deaths
MCD	93.1	51.7	241120	49242
NDMC	99.9	98.7	37950	30692
DCB	99.9	92.4	3319	1696
<b>Total</b>	<b>94.0</b>	<b>63.7</b>	<b>282389</b>	<b>81630</b>

Assessing infant mortality rate (IMR) is an important indicator for understanding the developmental status of any region. In this context, it is noteworthy that Delhi (12) records an IMR lower than the national average (28) (SRS, 2020). However, the proportion of IMR to total registered deaths from the Civil Registration System (CRS) indicates that there has been no significant improvement in IMR over the past decade. The proportion of IMR to total registered deaths was 5.9 percent in 2006, which declined slightly to 5.6 percent in 2022

(Figure 7). From the registered deaths that occurred in medical institutions, it is observed that, infectious and parasitic diseases (21 percent) and diseases of the circulatory system (20.8 percent) remained as the leading cause of deaths in Delhi for the year 2022 (Figure 8). Contrary to this, for infants, Hypoxia, birth asphyxia and other respiratory conditions (13.8 percent) followed by slow fetal growth, fetal malfunction and immaturity (13 percent) remained as the leading cause of death in 2022 (Figure 9).

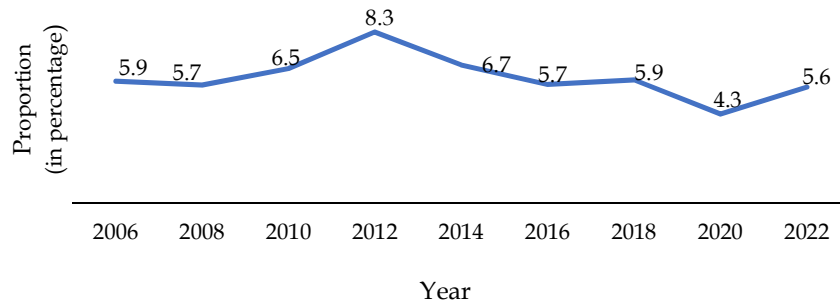


Figure 7 Proportion of Infant deaths to total registered deaths from 2006 to 2022 in Delhi, 2022

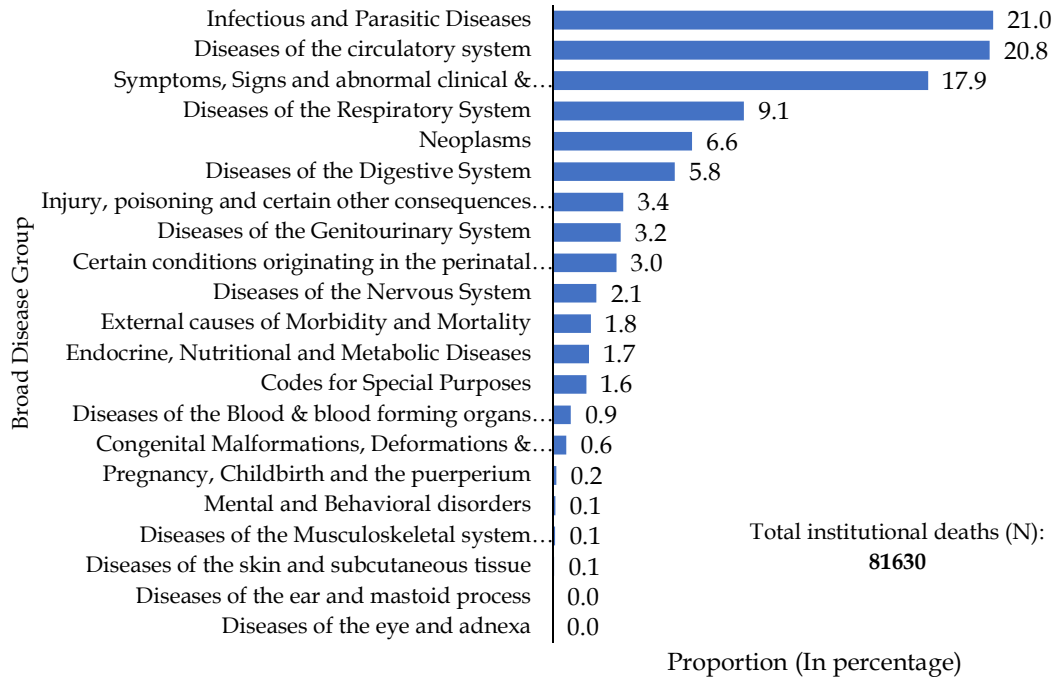
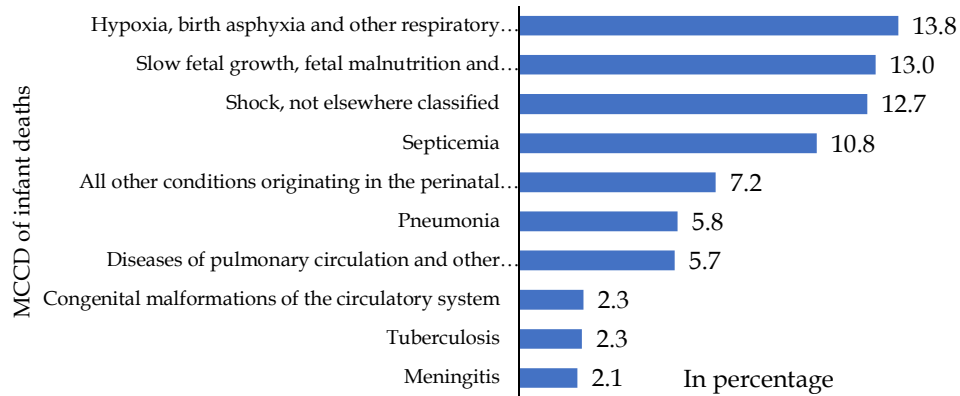


Figure 8 Broad Classification of MCCD of Institutional deaths in Delhi, 2022



**Figure 9** Distribution of major causes of infant deaths as per MCCD in Delhi, 2022

### Discussion

Delhi, as the capital of India, plays a crucial role in the registration of vital events, ensuring a comprehensive digital record across its local bodies, including MCD, NDMC, and DCB. The MCD accounts for the majority of births and deaths registered in the city.

Interestingly, a higher percentage of deaths (74%) are registered on time (within 21 days) compared to births (67%). The registration of live births shows delays even among those occurring in medical institutions; for instance, out of 282,389 institutional births, only 201,545 (71.4%) live births were registered within 21 days. The promptness in registering death events can be attributed to the benefits, services, and support that require proof of death, such as pensions and social security for bereaved families. In contrast, delays in registering births, even among institutional births, may stem from a lack of urgency from beneficiaries in obtaining the certificate, as well as potential administrative issues prevalent in the health institutions. In NDMC and DCB, nearly all registered births occur in medical facilities, while the figure for MCD is 93%. Regarding deaths, 98.7% of registered deaths in NDMC

occurred in medical institutions, whereas only 52% of registered deaths in MCD took place in such settings (Annual Report on Registration of Births and Deaths in Delhi, 2022). Since nearly three-fourths (74%) of registered deaths in Delhi in 2022 were from MCD, the low level of institutional deaths there presents a significant public health issue. This trend may hinder access to necessary medical care prior to death and complicate the institutional registration of these events, including the assignment of medical cause of death.

Analyzing the causes of infant deaths helps identify gaps in healthcare services, leading to targeted improvements in prenatal, neonatal, and postnatal care. Although the National Capital Territory (NCT) of Delhi registered an infant mortality rate (IMR) of 12, lower than the national average of 28 (SRS, 2020), the share of IMR to total registered deaths remained unchanged from 2006 to 2022. In fact, the share of registered IMR to total registered deaths in Delhi has increased to 5.6% in 2022, up from 4.3% in 2020 and 3.7% in 2021. The leading causes of infant death continue to be conditions like hypoxia and birth asphyxia (14%) and slow fetal growth, fetal malnutrition, and



immaturity (13%). In contrast, infectious and parasitic diseases (21%) and diseases of the circulatory system (20.8%) are the primary causes of overall institutional deaths in Delhi as of 2022. Studies have found that, air pollution can degrade the quality of oxygen that pregnant women breathe, potentially leading to lower oxygen levels in the bloodstream and adversely affecting fetal oxygenation (Jana, Banerjee and Khan, 2022; Ayseli and Cetinkaya, 2024). Further, increased exposure to air pollution is associated with a higher risk of preterm birth, which can elevate the likelihood of complications such as birth asphyxia (Smith, Beevers and Gulliver et al., 2020; Jana, Banerjee and Khan, 2022; Ayseli and Cetinkaya, 2024).

Reliable registration provides accurate data on births, deaths, and other vital events, which is crucial for public health analysis and planning. To achieve this objective, consistent efforts are made to ensure 100% registration of vital events in the country. In this regard, the RBD Act of 1969 has been recently amended and is now referred to as the RBD (Amendment) Act, 2023. The RBD (Amendment) Act, 2023 introduces several notable changes to ensure timely and complete registration of vital events. Notably, the birth certificate will now be the sole document used to prove a person's date and place of birth, effective from October 1, 2023. The amended Act also mandates registrars to provide certificates of events, electronically or otherwise, to the informant within seven days of registration completion. Furthermore, all medical institutions, regardless of ownership, are now required to issue a certificate indicating the cause of death to the registrar and provide a copy to the nearest relative. Additionally, the RBD (Amendment) Act, 2023 includes legal provisions to facilitate

the registration process for adopted, orphaned, abandoned, or surrogate children, as well as for children of single parents or unwed mothers.

Finally, the Act empowers the Registrar General of India and the Chief Registrar of each state to maintain a database of registered births and deaths at both the national and state levels. This database may be shared with relevant authorities dealing with other databases at the national and state levels, subject to the approval of the Central Government or state government, as applicable (RBD (Amendment) Act, 2023).

### **Conclusion**

In summary, Delhi's role in the registration of vital events is pivotal for effective public health management and policy formulation. The disparities in timely registration of births and deaths underscore significant public health challenges, particularly within the MCD, where a lower percentage of institutional deaths raises concerns about access to medical care and accurate cause-of-death documentation. Enhancing awareness through electronic and print media about the importance of registering these events could lead to positive outcomes in improving registration rates and overall health data accuracy.

Despite having a lower infant mortality rate than the national average, the increasing share of infant deaths to total registered deaths calls for targeted interventions in prenatal and neonatal care. The analysis of infant mortality reveals critical areas for improvement in healthcare services, especially concerning conditions like hypoxia and birth asphyxia. Tackling environmental factors like air pollution may be crucial in reducing the risks associated with this condition.

The recent amendments to the RBD Act, 1969, through the RBD (Amendment) Act, 2023, represent a significant step toward enhancing the efficiency and reliability of vital event registration. By ensuring timely issuance of birth and death certificates and facilitating the registration process for various family structures, these changes aim to create a more inclusive and responsive system.

Ultimately, reliable registration and accurate data collection are essential for informed public health strategies, enabling Delhi to better address health disparities and improve the overall well-being of its population. Continuous efforts toward achieving comprehensive registration will be vital in safeguarding public health and fostering a healthier future for all residents.

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**Disclaimer:** The findings and opinions expressed in this paper are of author and do not necessarily reflect the views of his affiliated institution or organization. This research is based on the available data from the Civil Registration System (CRS) and other official records in the public domain. While every effort has been made to ensure the accuracy and reliability of the information presented, the author acknowledges that limitations exist, and interpretations may vary. Therefore, readers may consult multiple sources while considering the findings within a broader context.

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