

# Addressing the Challenges of Death Registration in India

## A Path Forward

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India's death registration system faces significant challenges, including regional disparities, gender inequities, and incomplete data capture. These gaps, exacerbated during COVID-19, undermine accurate mortality statistics and effective public health planning. Addressing these issues through digitisation, awareness campaigns, streamlined processes, and robust data integration is crucial for ensuring equitable health outcomes and evidence-based policymaking.

Millions of human lives around the world go tragically unrecorded, rendering entire communities invisible and voiceless. The *Lancet's* groundbreaking "Who Counts 4? The Way Forward" series sheds light on this sobering reality. In low-income countries across Asia and other regions of the world, most individuals are born and die without leaving a trace in any legal record or official statistics (AbouZahr et al 2007). This "scandal of invisibility" persists due to the stagnation of civil registration systems that have gone without adequate development or support for over three decades (Setel et al 2007). A robust civil registration process is fundamental, serving the dual purposes of providing verifiable statistical data while also furnishing individuals with legal documentation that proves their identity and citizenship. Possession of such documents is indispensable for accessing essential state services, claiming rightful entitlements, and safeguarding property rights.

Moreover, the comprehensive birth and death data captured through a well-functioning registration system generates accurate health and demographic statistics, crucial for informing public health policy decisions, guiding resource allocation, and measuring progress towards key development milestones such as the Sustainable Development Goals (especially Goal 3, which focuses on ensuring healthy lives and promoting well-being for all at all ages by targeting issues like maternal mortality, child survival, and universal access to health services). Failing to legally register and account for lives renders entire populations at grave risk of being overlooked and left behind in socio-economic progress.

In India, birth registration coverage has significantly improved over the recent

years. According to the Office of the Registrar General and Census Commissioner, the birth registration rate has reached over 90%. While the nation's overall death registration completeness improved from 58% to 81% between 2000 and 2018, stark disparities still persist across different states and demographic groups (Basu and Adair 2021). The accurate and comprehensive data on death registration is fundamental for effective policy formulation, specifically in public health planning for equitable resource allocation for overall improvement in population health outcomes.

The regional divide in death registration rates is striking (Table 1, p 11). States like Kerala and Tamil Nadu have achieved far higher registration coverage. Kerala, for example, has attained near-universal death registration through its robust health infrastructure and robust administrative practices. In contrast, others like Bihar and Nagaland continue to struggle with lower registration rates. Bihar grapples with infrastructural deficits and administrative inefficiencies that result in significantly lower registration rates. These disparate realities underscore the necessity of tailored, region-specific strategies to comprehensively improve registration coverage nationwide.

In the context of gender disparity, the under-registration of female deaths reflects deeply entrenched patriarchal biases that distort mortality data and impede gender-sensitive health initiatives. In Rajasthan, for instance, the 2018 death registration completeness rate was 87% for males, significantly higher than the 62% rate for females (Basu and Adair 2021). This significant gender divide not only underscores persisting gender inequity but also undermines the accuracy and effectiveness of policies aimed at improving women's health outcomes.

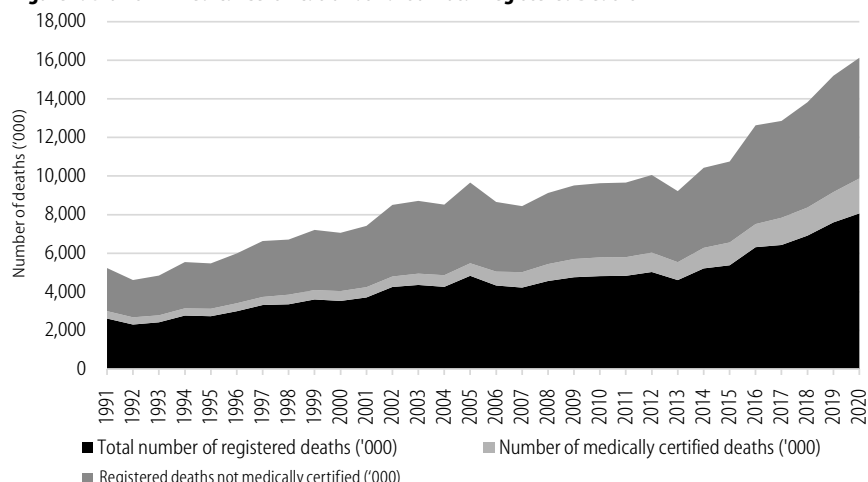
Further, the quality of demographic details captured through death registration, including vital statistics like age and sex, remains inadequate across several states. Accurate demographic data are crucial for calculating key health indicators, such as life expectancy and mortality rates, which guide public health

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decision-making. Alarming, as of 2018, states representing 41% of India's population did not report deaths by age, highlighting significant gaps in the Civil Registration System (CRS) (Kumar et al 2019).

The weaknesses of India's death registration system were thrown into stark relief during the COVID-19 pandemic, as incomplete and delayed data severely complicated efforts to measure the true mortality rate. The public health crisis exposed the fragility of the CRS, revealing that many deaths, particularly those occurring outside of hospitals, went unrecorded (Banaji and Gupta 2022). Staggeringly, the World Health Organization estimated that India witnessed 4.7 million

**Figure 1: Growth in Medical Certification as Part of Total Registered Deaths**



Source: Office of the Registrar General, India (2022).

**Table 1: Estimated Events and Level of Registration by States, 2019**

Sl No	States/Union Territories	Mid-year Population (in '000)	SRS BR*	Estimated Births	SRS DR**	Estimated Deaths	Level of Registration	
							Births	Deaths
	India	13,38,995	20.00	2,67,79,900	6.20	83,01,769	92.70	92.00
States								
1	Andhra Pradesh	52,315	16.00	8,37,040	6.70	3,50,511	90.20	100.00
2	Arunachal Pradesh	1,507	17.90	26,975	6.00	9,042	100.00	38.60
3	Assam	34,418	21.10	7,26,220	6.40	2,20,275	100.00	74.00
4	Bihar	1,20,114	26.20	31,46,987	5.80	6,96,661	89.30	51.60
5	Chhattisgarh	28,852	22.50	6,49,170	8.00	2,30,816	85.90	81.50
6	Goa	1,543	12.40	19,133	5.90	9,104	100.00	100.00
7	Gujarat	68,245	19.70	13,44,427	5.90	4,02,646	87.30	100.00
8	Haryana	28,807	20.30	5,84,782	5.90	1,69,961	90.60	100.00
9	Himachal Pradesh	7,315	15.70	1,14,846	6.90	50,474	82.50	86.40
10	Jammu and Kashmir	13,531	15.40	2,08,377	4.90	66,302	74.60	66.70
11	Jharkhand	37,581	22.60	8,49,331	5.40	2,02,937	84.30	58.80
12	Karnataka	65,973	17.20	11,34,736	6.30	4,15,630	92.30	100.00
13	Kerala	35,186	13.90	4,89,085	6.90	2,42,783	98.20	100.00
14	Madhya Pradesh	82,613	24.60	20,32,280	6.70	5,53,507	78.80	89.10
15	Maharashtra	1,22,533	15.60	19,11,515	5.50	6,73,932	91.40	100.00
16	Manipur	3,111	14.30	44,487	4.50	14,000	67.70	21.40
17	Meghalaya	3,232	22.10	71,427	5.80	18,746	100.00	97.60
18	Mizoram	1,195	14.80	17,686	4.10	4,900	100.00	100.00
19	Nagaland	2,155	12.90	27,800	3.50	7,543	100.00	30.00
20	Odisha	45,119	18.20	8,21,166	7.30	3,29,369	82.20	100.00
21	Punjab	29,939	14.80	4,43,097	6.60	1,97,597	88.30	100.00
22	Rajasthan	77,601	24.00	18,62,424	5.90	4,57,846	96.40	98.60
23	Sikkim	665	16.30	10,840	4.50	2,993	61.20	100.00
24	Tamil Nadu	75,813	14.70	11,14,451	6.50	4,92,785	84.40	100.00
25	Telangana	37,283	16.90	6,30,083	6.30	2,34,883	100.00	97.20
26	Tripura	4,002	13.00	52,026	5.50	22,011	100.00	100.00
27	Uttarakhand	11,184	16.70	1,86,773	6.20	69,341	100.00	95.60
28	Uttar Pradesh	2,25,967	25.60	57,84,755	6.60	14,91,382	88.70	63.30
29	West Bengal	97,109	15.00	14,56,635	5.60	5,43,810	100.00	100.00
Union territories								
1	A & N Islands	398	11.20	4,458	5.30	2,109	100.00	100.00
2	Chandigarh	1,184	13.30	15,747	4.30	5,091	100.00	100.00
3	D & N Haveli	556	22.90	12,732	3.80	2,113	76.40	100.00
4	Daman and Diu	423	19.60	8,291	4.50	1,904	50.70	61.00
5	Delhi	19,940	14.70	2,93,118	3.30	65,802	100.00	100.00
6	Lakshadweep	68	15.30	1,040	5.60	381	91.00	88.20
7	Puducherry	1,515	13.70	20,756	6.90	10,454	100.00	100.00

\*SRS BR: Sample registration system birth rate 2018, \*\*SRS DR: Sample registration system death rate 2018.

Source: For mid-year population: Population Projections for India and states 2011–36, A Report of the Technical Group on Population Projections constituted by the National Commission on Population.

excess deaths during 2020–21, around one-third of the global pandemic toll, exposing significant gaps in the country's registration system. The absence of real-time death registration data prior to the pandemic has significantly hindered our ability to assess India's vulnerability to health shocks and to adequately prepare for future public health emergencies.

To address disparities in death registration, the Registrar General of India initiated the digitisation of the process in 2015, significantly enhancing access to registration services and ushering in greater transparency. These digital systems streamline the workflow, reduce manual errors, and enable real-time data access. However, since registration responsibilities fall on individual states, discrepancies in functionality and reporting have surfaced nationwide. While national-level data suggest a death registration coverage of 92.7% (GoI 2021), the National Family Health Survey indicates a much lower rate of 70% (Saikia et al 2022). States like Kerala have successfully integrated digital registration, yet others, such as Uttar Pradesh and Assam, significantly lag behind in adopting these improvements (Basu and Adair 2021).

Furthermore, while the death registration processes document the cause of death, these data are self-reported and can be inaccurate if not verified against the Medical Certification of Cause of Death (mccd). Figure 1 illustrates the substantial discrepancy between death registration and mccd compliance, highlighting significant gaps in capturing accurate mortality

data. This misalignment severely undermines the reliability of health statistics, which are essential for designing effective public health interventions and policies.

According to the MCCD Report (2020), the implementation of the MCCD under the CRS has been sporadic and inconsistent across states and union territories. The current system primarily includes only certain hospitals designated by the Chief Registrar of Births and Deaths, predominantly covering deaths occurring within these medical institutions. Consequently, many deaths occurring outside such facilities remain uncertified, leading to incomplete mortality data. The implementation scope of the MCCD varies significantly across regions, ranging from only covering medical colleges and specialised hospitals to an extension to district hospitals and primary health centres. This lack of uniformity further undermines the accuracy and comprehensiveness of the death certification data.

Despite high overall registration coverage, certain states lag significantly in medical certification (Table 2). In response, the Registrar General of India has emphasised the need for all states and union territories to expand MCCD coverage to include all medical facilities, both public and private, as well as private medical practitioners in both rural and urban settings. This broadening of coverage is crucial to ensure that all deaths are medically certified, significantly enhancing the accuracy and reliability of the recorded mortality data.

The online registration process has, to some extent, eliminated issues such as infrastructure and bureaucratic impediments. However, addressing the persistent gaps in death registration requires tackling both demand- and supply-side barriers. On the demand side, increasing public awareness about the benefits of death registration is crucial. Many individuals, particularly those below the poverty

line or without property, lack incentives to engage with the system due to the higher opportunity cost of investing time in the registration process. On the supply side, constraints predominantly stem from deficiencies in digital infrastructure. For instance, internet accessibility significantly impacts the efficiency of registration portals, with urban regions experiencing more reliable service compared to rural areas. Consequently,

these infrastructural limitations hinder registration preferences. Reducing the need for physical movement to access registration services would likely increase enrolment rates, as easier access to digital platforms correlates with higher participation.

While India has made laudable progress in enhancing death registration, continued efforts to tackle the remaining disparities and improve data quality

**Table 2: Percentage of Medical Certification in States/Union Territories during 2018–20**

S.No	States/Union Territories	Total Registered Deaths			Medically Certified Deaths (Total)			Percentage of Medically Certified Deaths to Total Registered Deaths		
		2018	2019	2020	2018	2019	2020	2018	2019	2020
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1	Andhra Pradesh	3,75,777	4,01,472	4,55,000	55,933	51,659	1,01,353	14.90	12.90	22.30
2	Andaman and Nicobar Islands	2,237	2,616	2,951	1,331	1,573	1,871	59.50	60.10	63.40
3	Arunachal Pradesh	3,860	3,490	3,475	1,271	1,166	1,160	32.90	33.40	33.40
4	Assam	1,42,605	1,63,057	1,87,085	17,118	28,048	36,785	12.00	17.20	19.70
5	Bihar	2,13,989	3,59,349	4,25,047	29,112	18,233	14,591	13.60	5.10	3.40
6	Chandigarh	23,330	23,592	18,370	16,757	17,564	12,200	71.80	74.40	66.40
7	Chhattisgarh	1,77,549	1,88,211	1,91,938	35,149	40,208	41,358	19.80	21.40	21.50
8	Dadra and Nagar Haveli and Daman and Diu	2,174	2,705	3,414	1,175	1,255	2,269	54.00	46.40	66.50
	Daman and Diu**	1,169	1,162	–	1,062	629	–	90.80	54.10	–
9	Delhi	1,45,533	1,45,284	1,42,789	90,701	89,668	80,866	62.30	61.70	56.60
10	Goa	13,072	13,851	14,601	13,071	13,851	14,601	100.00	100.00	100.00
11	Gujarat	4,33,256	4,62,284	5,23,892	1,01,166	98,563	1,07,983	23.40	21.30	20.60
12	Haryana	1,85,842	1,88,910	2,12,238	37,819	36,641	29,699	20.40	19.40	14.00
13	Himachal Pradesh	41,833	43,633	44,449	6,289	5,688	6,445	15.00	13.00	14.50
14	Jammu and Kashmir*	39,410	44,227	53,070	NA	NA	NA	NA	NA	NA
15	Jharkhand	1,02,729	1,19,374	1,19,037	4,709	6,911	7,313	4.60	5.80	6.10
16	Karnataka	4,83,511	5,08,584	5,51,808	1,50,415	1,54,526	1,58,603	31.10	30.40	28.70
17	Kerala	2,58,530	2,70,567	2,50,983	30,894	31,511	28,192	11.90	11.60	11.20
18	Ladakh	–	–	742	–	–	NA	–	–	–
19	Lakshadweep	314	336	342	298	322	341	94.90	95.80	99.70
20	Madhya Pradesh	4,24,257	4,93,328	5,24,454	44,467	44,915	35,105	10.50	9.10	6.70
21	Maharashtra	6,67,900	6,93,800	8,08,783	2,32,416	2,65,132	3,45,760	34.80	38.20	42.80
22	Manipur	4,476	2,990	2,230	2,299	2,013	2,266	51.40	67.30	100.00
23	Meghalaya	14,779	18,298	19,191	6,370	6,023	4,566	43.10	32.90	23.80
24	Mizoram	5,525	6,606	6,703	3,254	3,428	3,329	58.90	51.90	49.70
25	Nagaland	828	2,266	2,509	238	273	191	28.70	12.00	7.60
26	Odisha	3,28,799	3,42,947	3,62,982	36,407	43,191	59,296	11.10	12.60	16.30
27	Puducherry	12,839	13,255	12,923	9,499	9,455	10,231	74.00	71.30	79.20
28	Punjab	2,13,234	2,15,045	2,29,846	36,448	37,607	39,621	17.10	17.50	17.20
29	Rajasthan	4,43,173	4,51,315	4,77,151	58,145	62,782	77,626	13.10	13.90	16.30
30	Sikkim	3,386	3,308	3,543	1,438	1,510	1,648	42.50	45.60	46.50
31	Tamil Nadu	5,746	6,33,897	6,87,212	2,58,259	2,78,887	2,95,539	45.00	44.00	43.00
32	Telangana	1,36,528	2,28,294	2,03,127	51,068	63,236	62,796	37.40	27.70	30.90
33	Tripura	29,080	30,419	31,645	6,481	10,258	11,160	22.30	33.70	35.30
34	Uttarakhand	47,894	66,313	62,219	5,318	5,876	7,305	11.10	8.90	11.70
35	Uttar Pradesh	9,06,653	9,44,596	8,73,419	46,310	61,335	1,09,688	5.10	6.50	12.60
36	West Bengal	4,90,530	5,51,695	6,06,714	63,336	77,603	99,931	12.90	14.10	16.50
	Total	69,50,607	76,41,076	81,15,882	...	...	...	...	...	...
	Total MCCD reporting states/union territories	69,11,197	75,96,849	80,62,070	14,56,023	15,71,540	18,11,688	21.10	20.70	22.50

NA: Data not available, \* includes figures of Ladakh union territory of 2018 and 2019 in total registered deaths.

\*\* Daman and Diu data merged with Dadra and Nagar Haveli.

are imperative. By streamlining CRS across states, India can ensure more equitable, accurate mortality data. This multifaceted approach involving technological advancements, legislative reforms, and robust community engagement will enable India to realise its goal of complete, accurate death registration, hence paving the way for better health planning and improved public health outcomes nationwide. Moving forward, India must also focus on linking MCCD with CRS. Without precise, comprehensive data, policymakers cannot effectively identify and address health inequities, potentially leaving the most vulnerable populations bereft of the support they desperately need.

### Policy Recommendations

Rectifying this disparity requires targeted public awareness campaigns highlighting the importance of registering female deaths. Gender disparities require a gender-sensitive, culturally nuanced approach. Nationwide multimedia awareness campaigns addressing patriarchal mindsets and underscoring the importance of registering female deaths are critical. Collaborating with respected community groups like women's self-help collectives and local non-governmental organisations (NGOs) can effectively disseminate messaging and facilitate equitable registration. Training dedicated female health workers as certified death registrars can further help close the gender gap through empathetic, unbiased registration.

Data quality hinges on simple, standardised reporting formats. A uniform, nationwide, digital platform mandating the entry of complete details, like age and sex, can significantly enhance data accuracy. Regular capacity-building for registration staff on proper data management protocols and its impacts on public health planning is essential.

To address challenges in death registration, India should leverage its widespread mobile connectivity to implement a simple mobile/sms-based registration system. This would allow families, especially in remote areas, to easily register deaths via basic mobile applications or sms without needing to physically visit registration offices. Partnering

with telecom providers to send automated reminders could further boost compliance. Crucially, integrating death registration with the Aadhaar unique ID system would link every registered death to an official individual record, minimising discrepancies and enhancing overall data accuracy.

This comprehensive strategy on MCCD and CRS will ensure uniform adoption of digital registration systems, eliminating gaps in death data and enhancing the overall accuracy of nationwide mortality statistics. Integration of the civil registration system with other health data repositories like hospital records, insurance databases, and community surveys can create a centralised, comprehensive mortality database. This would enable more precise public health interventions and policies. A real-time mortality dashboard accessible to policymakers can drive rapid, informed decision-making.

Finally, to enhance the effectiveness of digital death registration, the Government of India should develop and implement a composite metric, the Vital Statistics Performance Index (VSPi). This index would systematically evaluate the performance of Civil Registration and Vital Statistics (CRVS) systems across various states. While robust CRVS systems are typically associated with high-income countries, exemplary models from Mexico, Moldova, and Serbia demonstrate that comprehensive and effective CRVS systems can be achieved even under financial constraints. These examples underscore that the efficacy of CRVS systems hinges not merely on economic wealth but on strategic implementation and robust management. Adopting this metric in India could drive significant improvements in

registration accuracy and completeness, thereby enhancing public health monitoring and planning.

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## EPW Index

An author-title index for *EPW* has been prepared for the years from 1968 to 2012. The PDFs of the Index have been uploaded, year-wise, on the *EPW* website. Visitors can download the Index for all the years from the site. (The Index for a few years is yet to be prepared and will be uploaded when ready.)

*EPW* would like to acknowledge the help of the staff of the library of the Indira Gandhi Institute of Development Research, Mumbai, in preparing the index under a project supported by the RD Tata Trust.