

DECODING BIRTHS AND DEATHS IN INDIA: THE CASE FOR DIVERSITY IN UNITY!

Issue No. 25, FY22

Date: 30 June 2021

India seems to be progressing in the direction of attaining complete registration of births and deaths with such registrations improving considerably in the last two decades. For the record, in 2019 at all India level, the birth registration stood at 92.7% vis-à-vis 56% in 2000. Similar trend was observed in death registration which increased from 49% in 2000 to 92% in 2019. However, beneath these data, there are some discernible trends that merit attention for evidence-based policy making.

First, in 2000, the registration of death was only 38 lakh, whereas the estimated death was around 78 lakh in the country. However, with the Government's efforts the registration of deaths has been increasing and the gap between the estimation and registration has reduced to only 7 lakh in 2019, with a zero gap in 19 out of 36 States/UTs.

Second, the state-wise trend in both birth and death registration is quite diverse. While 11 states achieved 100% birth registration, 15 states have achieved 100% death registration. There are few states which are exhibiting peculiar characteristics. Sikkim is the only state where death registration is 100% while birth registration was only 61.2%. Conversely, in three states, birth registration has reached 100% mark but death registration is less than 75%: Assam (74%), Arunachal Pradesh (38.6%) and Nagaland (30%). Along expected lines, in Bihar, UP & Jharkhand, death registration is below 75%. Surprisingly, in some advanced states, birth registration is still falling short of 100%.

Third, age-bracket wise death registration for all the major states shows that North Eastern states along with Delhi, Uttar Pradesh and Madhya Pradesh have recorded 20% or above deaths in 15-44 year bracket in their total registered deaths, against all India average at 16%. The death registration share in 45-65 years is almost aligned with overall national share across the states.

Fourth, if we plot the birth and deaths rate (per 100), states in North East and East are concentrated in the quadrant of higher birth and lower death, which shows that going forward these will have higher population growth. The southern states are more concentrated in the low birth and high death quadrant, thus showing a slowing population growth. States in north, central and west India are showing mixed trends with some states witnessing low birth and low death and some other witnessing high birth and high death per hundred, thus making it a tad difficult to find a geographical pattern. However, it can be said that they are most close to all-India average.

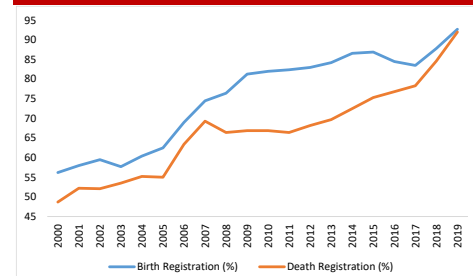
Interestingly, the reason why births are more easy to register compared to deaths is that almost 81% births are institutional in 2019 as compared to only 56% in 2009. However, as 34.5% deaths did not receive any medical attention, the probability of getting them registered is very less. **It also goes on to show that it is quite possible that no diagnosis was undertaken and disease and death underreporting is not a new phenomena in India. This is important in the context of recent debate on measuring the Covid deaths in India through the civil registration system.** Thus, only better medical attention can lead to even better disease profiling and saving of lives in India. Ramping up public health infrastructure and increasing number of public health care professionals is the key to such jigsaw.

Interestingly, in the context of recent COVID devastation, it seems obvious that the impact of COVID-19 must be worse in lower-income countries: for example, the current situation in India and also in Brazil. However, in a recent paper, Nobel Laureate Angus Deaton shows countries with higher per capita income have tended to have higher per capita COVID deaths. However, hypothetically speaking, even if all countries had the same decline in per capita income, the poorer countries would always have larger increase in poverty because they have larger percentage of people near the global poverty line.

BIRTH & DEATH REGISTRATION IN INDIA

- ◆ The Government of India had enacted the Registration of Births and Deaths Act in 1969 to promote the compulsory registration of births and deaths. Further, India is also a signatory to the UN Convention on Child Rights, the article 7 which authorises birth registration mandatory for obtaining a nationality. India's vision was to achieve Universal Civil Registration by 2020. However, the data from latest Civil Registration System report indicates that by 2019 only 11 & 15 states achieved 100% birth & death registration, respectively. But the states are moving in the right direction and will soon achieve the 100% target.

Birth & Death Registration in India (%)



Source: SBI Research

State Matrix of Birth and Death Registration					
30 Major States/UTs		Death Registration			Sub-Total
		100%	75-99%	Below 75%	
Birth Registration	100%	5 (Delhi, Goa, Mizoram, Tripura, WB)	3 (Meghalaya, Telangana, Uttarakhand)	3 (Assam, Arunachal Pradesh, Nagaland)	11
	75-99%	9 (Kerala, Karnataka, Maharashtra, Haryana, Andhra Pradesh, Punjab, Gujarat, Tamil Nadu, Odisha)	4 (Rajasthan, MP, HP, Chhattisgarh)	3 (Bihar, UP, Jharkhand)	16
	Below 75%	1 (Sikkim)	-	2 (J&K, Manipur)	3
Sub-Total		15	7	8	30

- Overall, in the last two decades India has made considerable progress in both birth and death registration and in 2019 at all India level the birth registration was at 92.7%, which has increased from 56% in 2000. Similar trend is observed in death registration also and it has increased from 49% in 2000 to 92% in 2019.
- However, the state-wise trend in both birth and death registration is quite diverse. While 11 states achieved 100% birth registration, 15 states achieved 100% death registration. There are few states which are exhibiting peculiar characteristics. Sikkim is the only state where death registration is 100% while birth registration was only 61.2%. Conversely in three states though birth registration has reached 100% mark but death registration is less than 75%; Assam (74%), Arunachal Pradesh (38.6%) and Nagaland (30%).
- In absolute terms during 2019, 248.2 lakh births and 76.4 lakh deaths were registered in India. One-third of the total births were registered in only two states (UP and Bihar) and one-third deaths in three states (UP, Maharashtra, TN). The uneven trend in birth and death in some of the states does not augur well for their demographic profile in the coming years.

REGISTRATION & ESTIMATED DEATHS IN INDIA

- In 2000, the registration of death was only 38 lakh, whereas the estimated death was around 78 lakh in India. However, with the Government's efforts the registration of death is increasing and the gap between the estimation and registration has reduced to only 7 lakh in 2019. Out of 36 states/UTs, the gap has reduced to nil in 19 states/UTs, which indicates that the efforts at the ground level are increasing with the increase in awareness among people. Interestingly, this nil figure has been achieved by many states during the last 2-3 years, which seems that the digital India initiatives has helped the states/UTs in right direction.
- On the other hand, the CAGR growth of estimated deaths in the last 10 years has declined by 0.3% at all India level, as the health facilities and life expectancy in India have increased but, except 10 states/UTs, in all other states/UTs the death rate is above the national average.

Birth & Death Registration (Top 15 States, 2019)					
Birth Registration			Death Registration		
States/UTs	in lakh	% Share	States/UTs	in lakh	% Share
Uttar Pradesh	51.3	21%	Uttar Pradesh	9.4	12%
Bihar	28.1	11%	Maharashtra	6.9	9%
Rajasthan	18.0	7%	Tamil Nadu	6.3	8%
Maharashtra	17.5	7%	West Bengal	5.5	7%
Madhya Pradesh	16.0	6%	Karnataka	5.1	7%
West Bengal	15.1	6%	Madhya Pradesh	4.9	6%
Gujarat	11.7	5%	Gujarat	4.6	6%
Karnataka	10.5	4%	Rajasthan	4.5	6%
Tamil Nadu	9.4	4%	Andhra Pradesh	4.0	5%
Telangana	8.4	3%	Bihar	3.6	5%
Assam	7.6	3%	Odisha	3.4	4%
Andhra Pradesh	7.5	3%	Kerala	2.7	4%
Jharkhand	7.2	3%	Telangana	2.3	3%
Odisha	6.8	3%	Punjab	2.2	3%
Chhattisgarh	5.6	2%	Haryana	1.9	2%
India	248.2	100%	India	76.4	100%

Source: CRS 2019; SBI Research

CAGR Deaths in India (%)			
States/UTs	2000-2010	2010-2019	2000-2019
India	1.0	-0.3	0.3
Andhra Pradesh	0.3	-5.1	-2.3
Arunachal Pradesh	1.5	2.5	1.8
Assam	-0.1	-1.3	-0.7
Bihar	-3.1	0.6	-1.3
Chhattisgarh	-0.4	2.1	0.8
Goa	1.7	1.6	1.8
Gujarat	0.7	1.9	1.1
Haryana	0.5	1.4	1.0
Himachal Pradesh	1.2	0.9	0.8
Jammu & Kashmir	0.7	0.0	0.4
Jharkhand	-1.1	-0.8	-0.9
Karnataka	0.4	2.2	1.2
Kerala	1.5	1.3	1.5
Madhya Pradesh	-0.3	-0.8	-0.5
Maharashtra	0.3	-0.5	-0.2
Manipur	-1.7	3.5	0.3
Meghalaya	0.0	-1.0	-0.6
Mizoram	3.0	2.3	2.0
Nagaland	0.5	-0.7	-0.1
Odisha	-0.9	-0.2	-0.6
Punjab	0.8	1.3	1.0
Rajasthan	-0.9	0.2	-0.2
Sikkim	1.5	-0.3	0.5
Tamil Nadu	-0.9	2.4	1.4
Telangana	-	7.0	-
Tripura	0.4	6.0	3.0
Uttarakhand	-0.5	1.2	0.5
Uttar Pradesh	-0.5	-0.8	-0.6
West Bengal	-0.2	0.4	-0.1
Delhi	3.8	1.7	3.2

Source: SBI Research

AGE-BRACKET WISE DEATH REGISTRATION

- ◆ We also analysed available age-bracket wise death registration for all the major states. Data for some of the states is not available in CRS report (like Bihar, Jharkhand, Haryana, etc.). The data for all available states indicates that at all India level the lowest death registered in less than 14 years bracket (which should ideally be the case too and is a good sign also) and maximum in more than 65 years. However the state wise trend is disturbing for some of the states: **(i)** Meghalaya and UP registered much more death in up to 14 years bracket which indicates the lacuna of health facilities, **(ii)** Six states, including major states like Uttar Pradesh and Madhya Pradesh have recorded 20% or more deaths in 15-44 year bracket in their total registered deaths. This is the most alarming sign as this is the most productive age and future of economic development depends on this bracket, and **(iii)** death registration share in 45-65 years is almost aligned with national share (except in a few states).

STATE-WISE BIRTH & DEATH RATE

- ◆ If we plot the birth and deaths per 100, states in North East and East are concentrated in the quadrant of higher birth and lower death, which shows that going forward these will have higher population growth.
- ◆ The southern states are more concentrated in the low birth and high death quadrant, thus showing a slowing population growth.
- ◆ States in north, central and west India are showing mixed trends with some states witnessing low birth and low death and some other witnessing high birth and high death per hundred, thus making it difficult to find a geographical pattern. However, it can be said that they are most close to all-India average.

MEDICAL ATTENTION RECEIVED AT THE TIME OF BIRTH AND DEATH

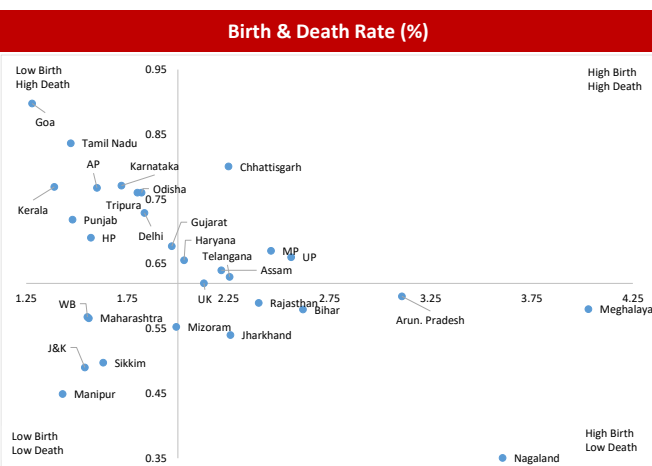
- ◆ The reason why births are more easy to register compared to death is that almost 81% births are institutional as in 2019 as compared to only 56% in 2009. This indicates that in just one decade people have become more aware regarding safe births. However, as 34.5% deaths did not receive any medical attention the probability of getting them registered is very less. It also goes on to show that it is quite possible that no diagnosis was made and disease and death underreporting is not a new phenomena in India. The scale might be lesser as compared to the recent COVID-19 deaths but more medical attention can lead to even better disease profiling and saving more lives in India. In this regard, ramping up public health infrastructure and increasing the number of public health care professionals holds the key.

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Age-Bracket wise Death Registration Share (2019)				
State	1 Year - 14 Year	15 Year - 44 Year	45 Year - 64 Year	65 Year and above
Andhra Pradesh	1%	17%	33%	49%
Arunachal Pradesh	1%	9%	16%	74%
Assam	2%	7%	32%	58%
Chhattisgarh	3%	19%	33%	45%
Goa	1%	13%	27%	59%
Gujarat	2%	17%	30%	51%
Himachal Pradesh	1%	11%	25%	63%
Jammu & Kashmir	1%	2%	11%	85%
Karnataka	2%	16%	30%	52%
Kerala	1%	6%	24%	70%
Madhya Pradesh	3%	20%	30%	47%
Meghalaya	9%	29%	31%	31%
Mizoram	4%	28%	29%	39%
Nagaland	1%	28%	37%	34%
Odisha	2%	15%	31%	52%
Punjab	1%	15%	29%	55%
Rajasthan	1%	17%	32%	51%
Tamil Nadu	1%	13%	32%	55%
Telangana	1%	9%	27%	63%
Tripura	1%	14%	34%	51%
Uttar Pradesh	7%	21%	30%	43%
West Bengal	1%	13%	34%	52%
Delhi	4%	23%	34%	40%
All India	2%	16%	31%	52%

Source: CRS 2019; SBI Research



Source: SBI Research; X axis: Birth rate; Y axis: Death rate

Medical attention at the time of birth/death					
Medical attention at the time of birth			Medical attention at the time of death		
%	2009	2019	%	2009	2019
Institutional	56.0	81.2	Med Attn Institution & other	40.0	45.6
Physician/Nurse/ Mid Wife	19.0	8.4	No Medical Attention	-	34.5
Un-Trained Midwife/Dai	7.0	4.5	Qualified Medical Practitioner	21.0	3
Others/Domiciliary	12.0	3.2	Others	33.0	11.6
Not Available	6.0	2.7	Not Available	6.0	4.4

Source: CRS 2009/2019; SBI Research

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