

COVID 19: Mega Cities: May Performance Review

06 June 2021

Project: Jeevan Raksha is a initiative of Proxima which focuses on Advocacy, Analytics, and Awareness in the area of healthcare

Mission: Actively contribute towards **Right to Health** as constitutional right of Indian citizen

Project: Jeevan Raksha has been in the forefront of providing sharper analytical insights on emerging pattern of COVID 19 in India to the Central / State Government administrations, media, and general public. The contribution is appreciated by many state Governments.

Project: Jeevan Raksha acknowledges the technical support and guidance of Public Health Foundation of India (**PHFI**)



satyam-eva jayate, Truth alone triumphs, was adopted as the national motto of India on 26 January 1950

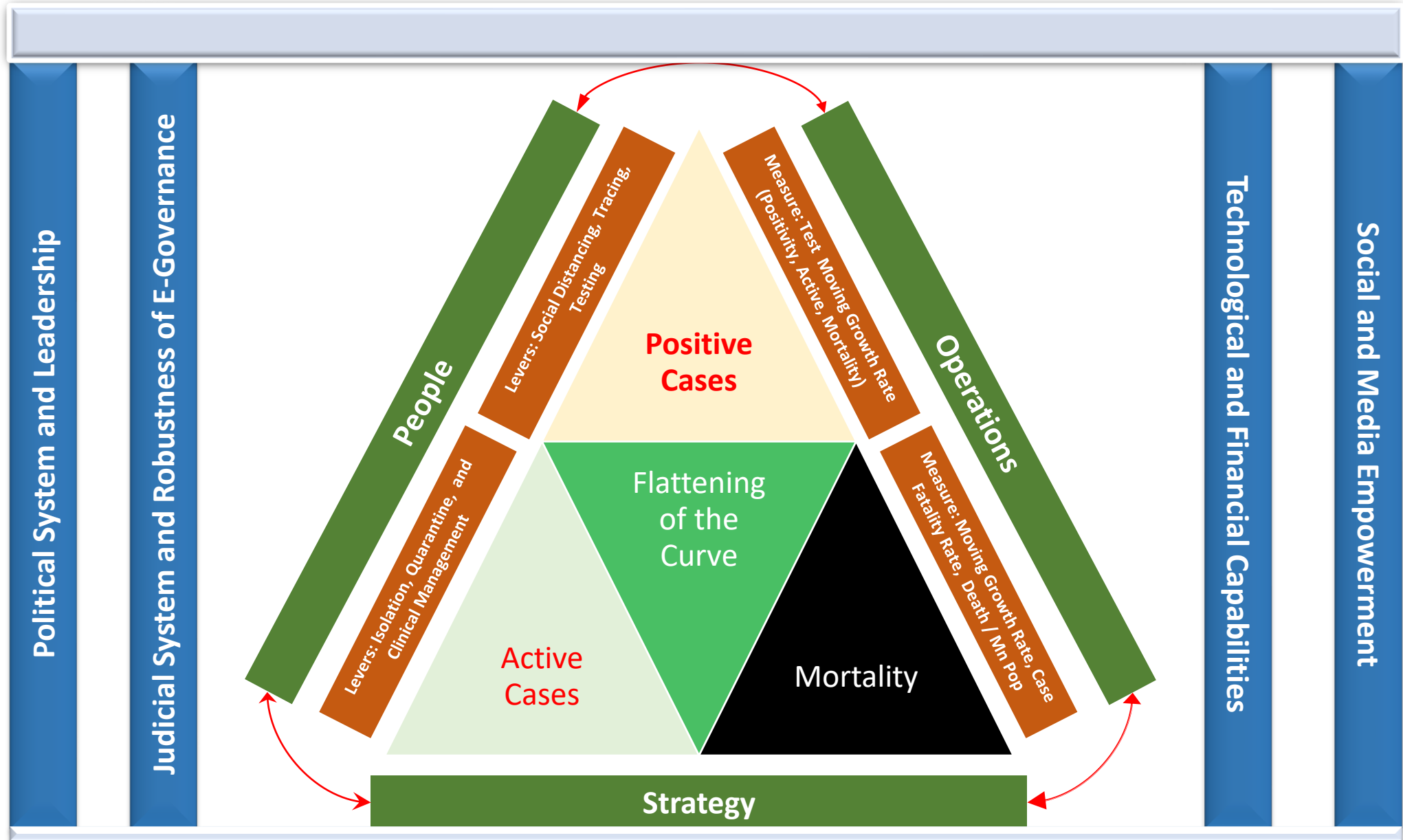
In COVID management, **Truthiness** in the disclosed data (data integrity) of Testing, Positivity, Recovery, and Fatality; or **truthfulness** of a individual about his/her (including family) health condition, is vital for India's efforts to save lives of the people.

Mega Cities Overview

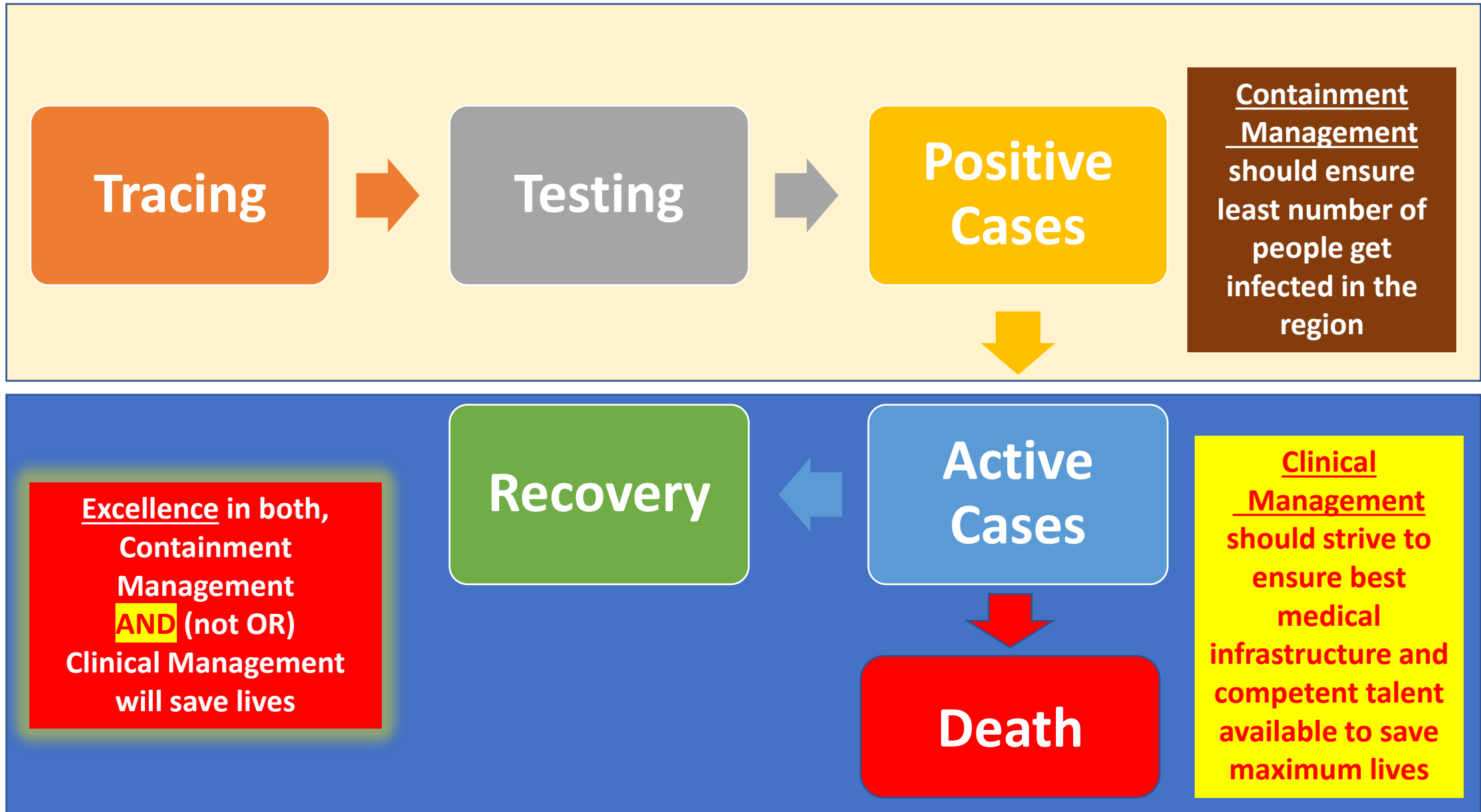


- 8.45 Mn people (6% of India's population) live in 6 Mega Cities – Amdavad, Bengaluru, Chennai, Delhi. Kolkata and Mumbai
- 4.2% of total population of these 6 Mega Cities are infected with COVID 19
- 15% of COVID Patients in India live in these 6 mega cities. As on 02nd June, the cumulative number of Positive cases in these 6 cities are 4347816
- 12% of Active COVID Patients in India live in these 6 mega cities. As on 02nd June, the cumulative number of Active cases in these 6 cities are 210104
- 1 in every 5 deaths in India, occur in these 6 mega cities. As on 02nd June, the cumulative number of COVID deaths in these 6 cities are 68308
- Each Mega City has developed its own COVID Management strategy and witnessing mixed results.
- Death Per Million Population has crossed 1,000 mark in Bengaluru and Delhi

Proxima Pandemic & Epidemic Management System (PPMS)



Qualitative and Quantitative Testing will determine the fate of the people

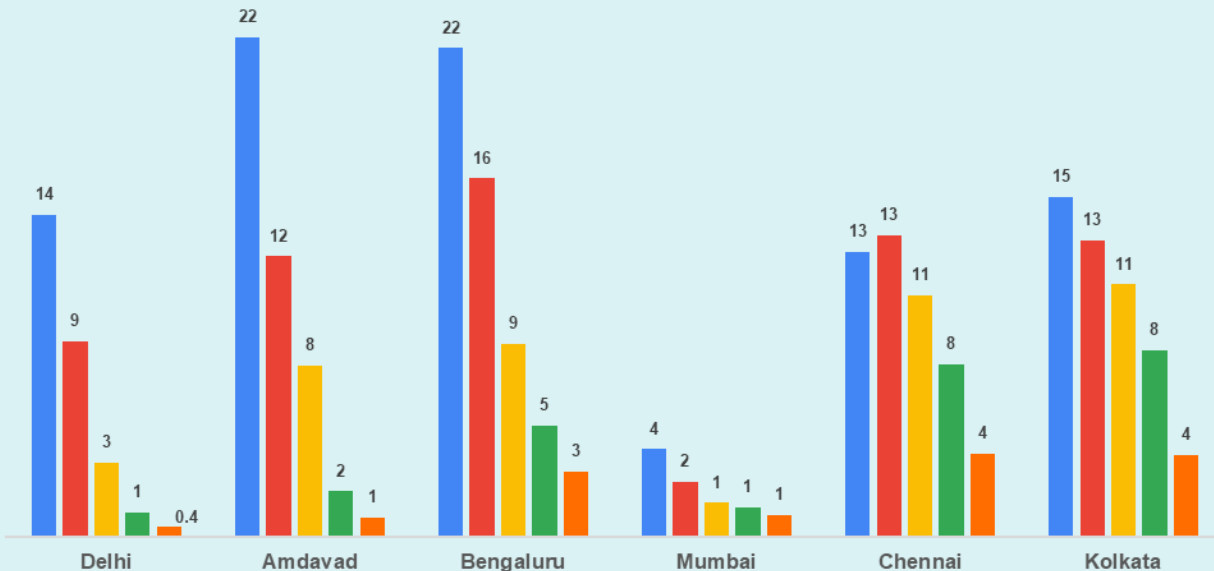


Sharp Decline in Positivity Cases Moving Growth Rate. Good Sign

- Substantial improvement in Containment Management: In the week ending 5th May, Mega Cities added 4.35 Lakh new COVID cases. Thereafter, it dropped to 3.6 Lacs, 2.26 Lacs, 1.37 Lacs, and 0,75 lacs. MGR
- 7-Day Moving Growth Rate Drops below 2%: In a Pandemic, any city or state which achieves less than 2% 7-Day Positive Cases below 2% for Consecutive Weeks reflects substantial success in containing the spread of virus.
 - Mumbai:** Successful in maintain MGR below 2% for over 4 weeks. The city is ready for substantial removal of movement restriction with appropriate safeguard
 - Delhi and Amdavad:** Successful in maintaining 7-Day MGR below 2% for 2 weeks. These 2 cities are ready for easing of people movement
 - Bengaluru, Chennai, and Kolkata:** Successful in reducing 7-Day MGR, but little over 2%. It is safer to ease restriction after achieving minimum 2% MGR for next 2 weeks before easing the curbs.

Mega Cities: Positive Cases: 7-Day Moving Growth Rate % (MGR)

■ 05-May ■ 12-May ■ 19-May ■ 26-May ■ 02-Jun



Mega Cities: Weekly New COVID Cases

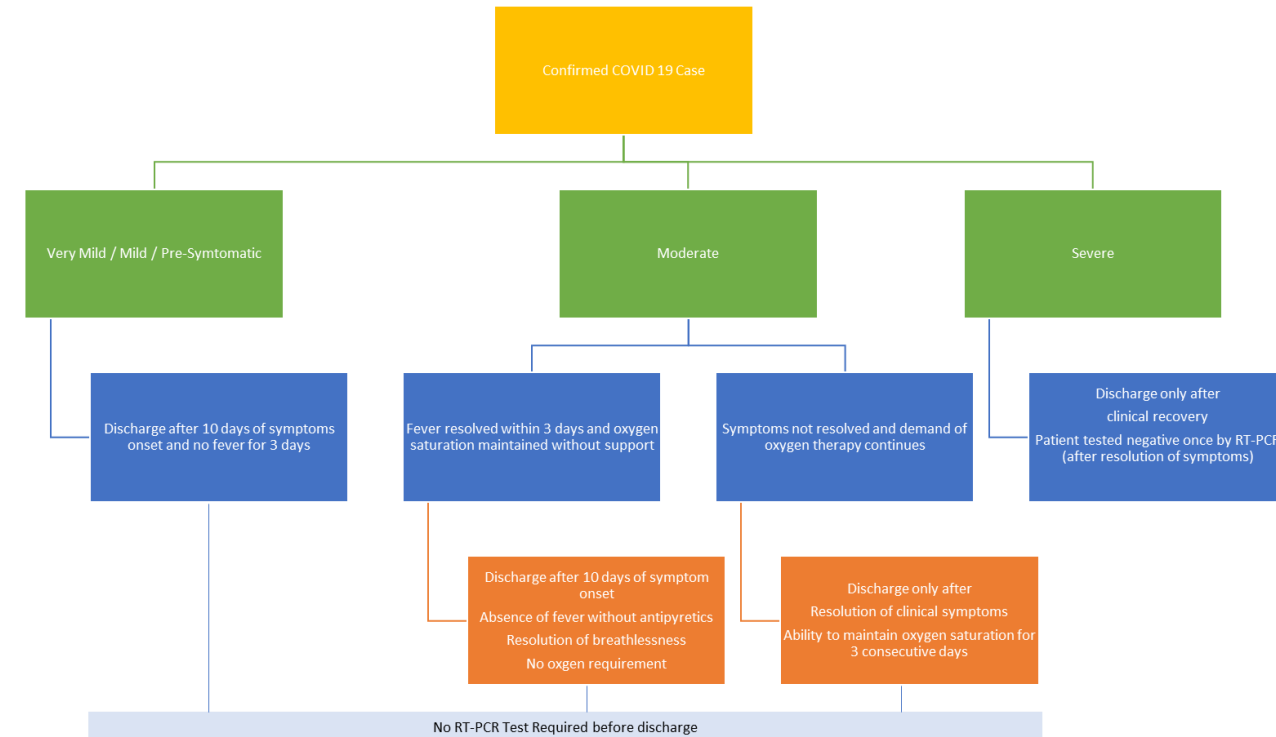
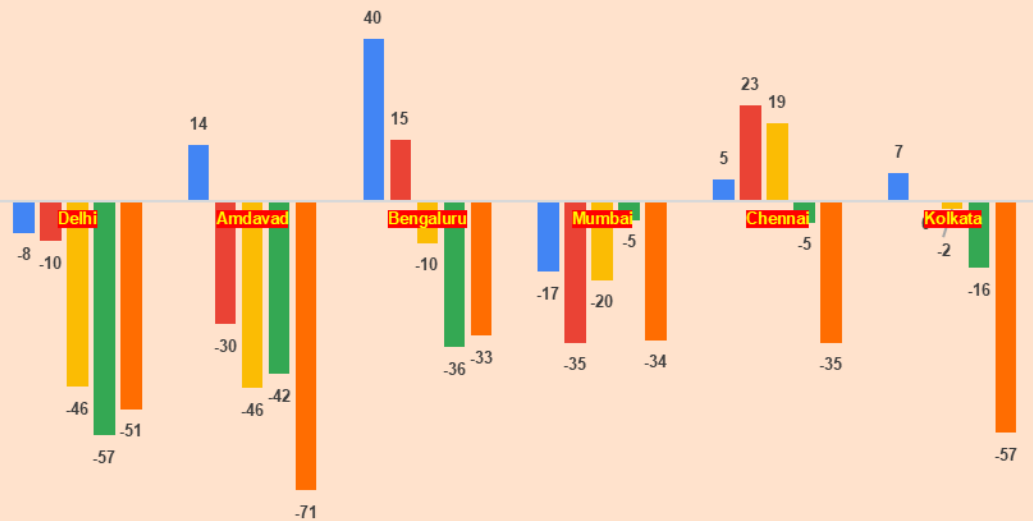
| Mega Cities | 05-May | 12-May | 19-May | 26-May | 02-Jun |
|--------------------|---------------|---------------|---------------|---------------|--------------|
| Delhi | 155851 | 108084 | 44733 | 14758 | 5962 |
| Ahmedabad | 34235 | 23464 | 16100 | 4592 | 2002 |
| Bengaluru | 153033 | 136425 | 85039 | 53085 | 32813 |
| Mumbai | 24648 | 16176 | 10119 | 8988 | 6701 |
| Chennai | 40629 | 48424 | 43991 | 34701 | 18037 |
| Kolkata | 27522 | 27639 | 26583 | 21835 | 10307 |
| Mega Cities | 435918 | 360212 | 226565 | 137959 | 75822 |

Mega Cities: Sharp Drop in Active Cases, need to be cautious

- Sharp Drop in average daily cases is resulting in drop in Active cases and helping India to achieve higher recovery rate.
- All Mega Cities, 7-Day Active Cases MGR is below 2% for over 3 weeks. This enables the city to ease the imposed movement restriction
- Need to strengthen the Discharge Policy in order to mitigate the risk of 3rd wave
 - According to MoHFW Discharge guidelines, RT-PCR Test is NOT required before declaring a Mild / Moderate COVID patient as 'Recovered' and discharging.
 - Instances of declaring COVID patients as 'RECOVERED' prior to the completion of mandatory Isolation period seems to be high.

Mega Cities: Active Cases: 7-Day MGR

■ 05-May ■ 12-May ■ 19-May ■ 26-May ■ 02-Jun

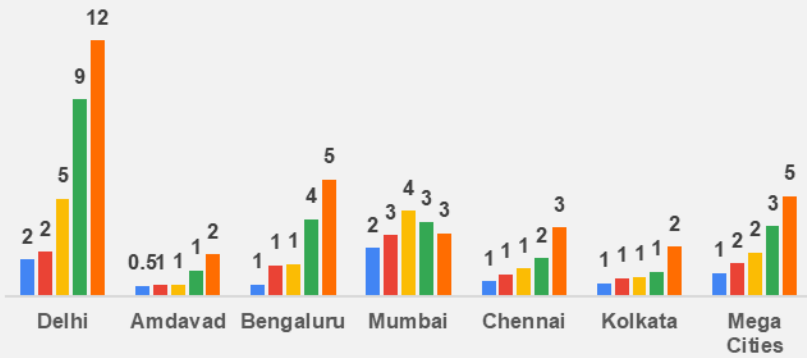


Mega Cities: Case Fatality Rate (CFR) is increasing. Why?

- **Low, Slow, Inadequate, Irrelevant Testing:** The administration is not tracing and testing right people at the right time. This is leading to increase in mortality Rate in all Mega Cities
- **Under Reporting:** Due to under-reporting of COVID Cases, the denominator value decreases which leads to increase in Case Fatality Rate. Due to higher numerator value

Mega Cities: Weekly Case Fatality Rate (CFR) %: Pattern

05-May 12-May 19-May 26-May 02-Jun



Delay in getting Hospitalised

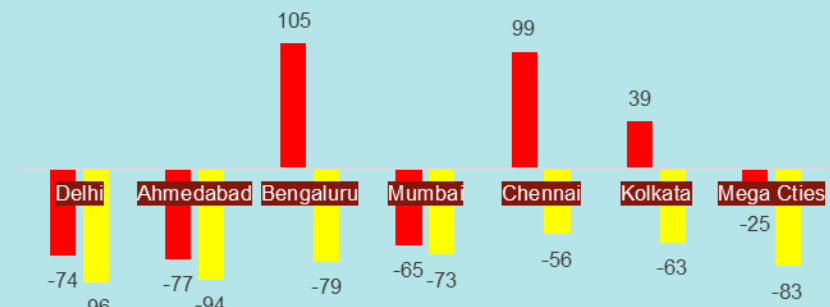
Over 80% of the population do not have any kind of Insurance cover for hospitalisation, especially lower and middle income segment of the population. The fear of exorbitant hospitalisation expenses is making people to delay the hospitalisation.

On the other hand, according to the study conducted by Project: Jeevan Raksha, in Mega States, amongst the people who succumbed to COVID:

- 1 in every 5 COVID death occurred on the same day of hospitalisation
- 80% of death has occurred within 100 hours of hospitalisation.

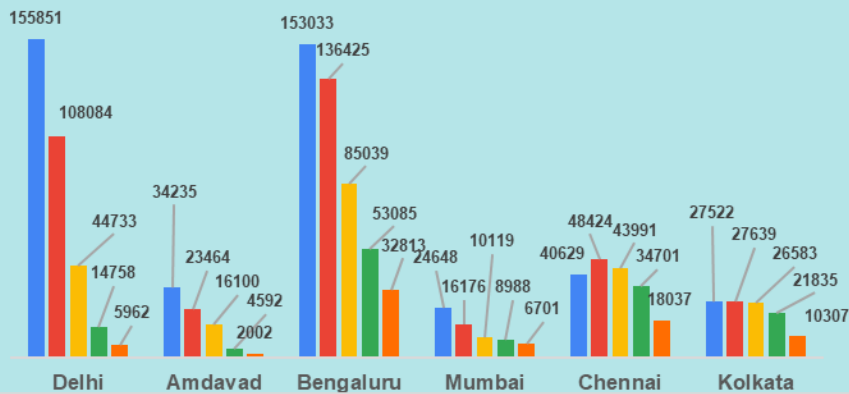
28-Day MGR: Weekly Cases and Deaths

Mortality Positivity



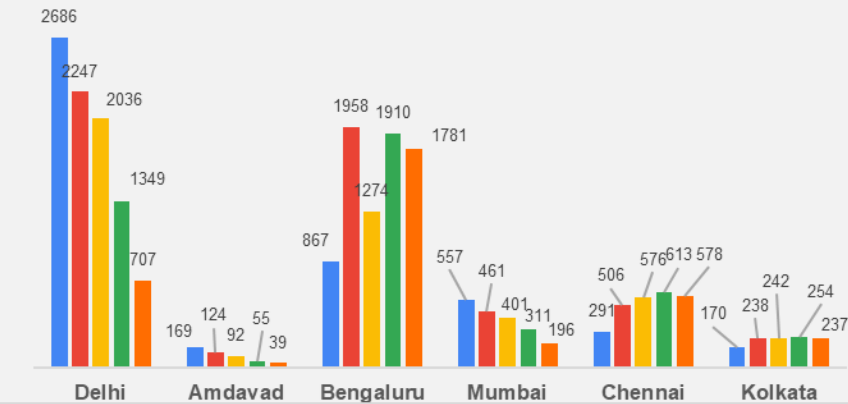
Mega Cities: Incremental New COVID Cases during 05th May - 02 June

05-May 12-May 19-May 26-May 02-Jun



Mega Cities: Weekly Incremental New COVID Deaths during 5th May - 02 June

05-May 12-May 19-May 26-May 02-Jun

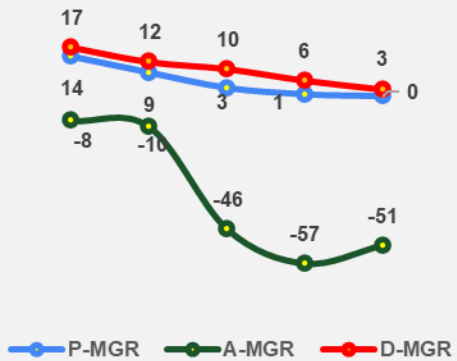


Review of Positive Cases , Active Cases, and Death Moving Growth Rate in Juxtaposition will give holistic view on the situation

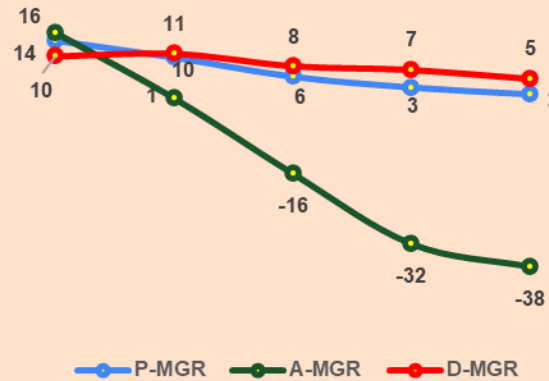
P-MGR: Positivity Moving Growth Rate
A-MGR: Active Cases Moving Growth Rate
D-MGR: Death Moving Growth Rate

- **Moving Growth Rate** is %ge expression of growth of the value during the period as % of value at the beginning of the period.
- **Higher Moving Growth Rate** indicates shorter doubling period; or increase in daily average number.
- **Lower Moving Growth Rate** indicates longer doubling period; or decrease in daily average number. Sign of recovery.
- **Target:** 7-Day Moving Growth Rate: Less than 2% for 2 consecutive weeks before easing of lockdown /Restrictions

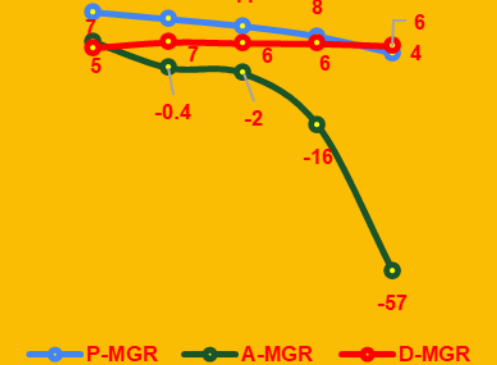
Delhi: 7-Day Moving Growth Rate (MGR) %



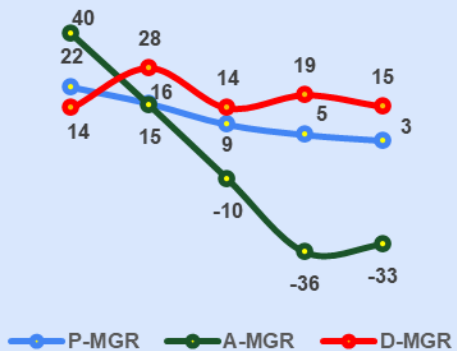
Mega Cities: 7-Day Moving Growth Rate



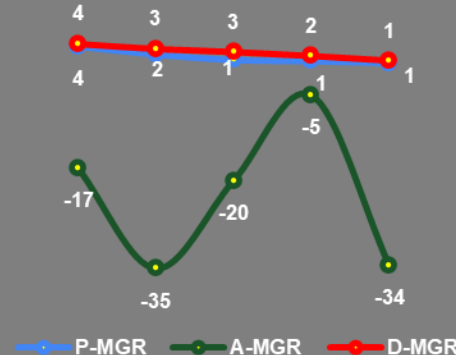
Kolkata: 7-Day Moving Growth Rate (MGR) %



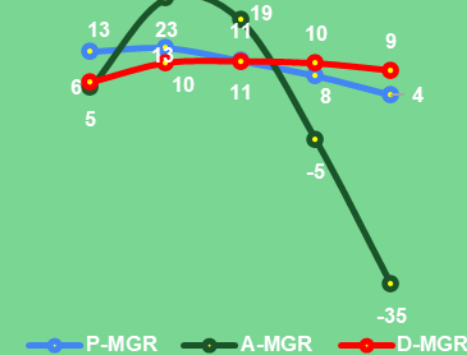
Bengaluru: 7-Day Moving Growth Rate (MGR) %



Mumbai: 7-Day Moving Growth Rate (MGR) %



Chennai: 7-Day Moving Growth Rate (MGR) %

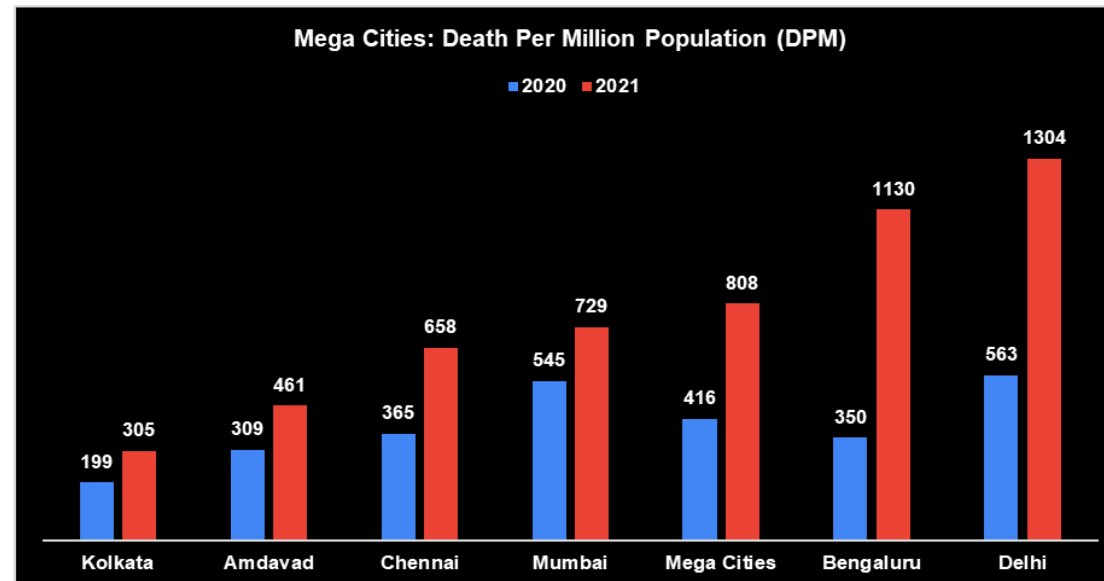


Amdavad: 7-Day Moving Growth Rate (MGR) %



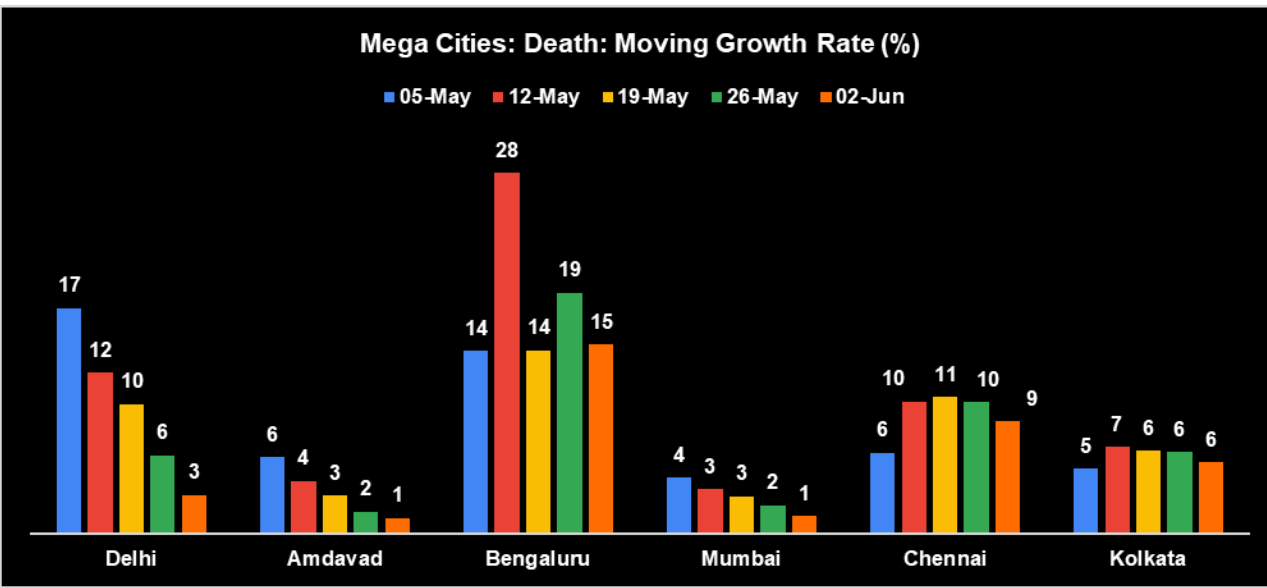
Mega Cities: Death Per Million Population, Doubles!! 416 in 2020, 808 in 2021

- **Mega Cities overview**
 - 68308 people have died due to COVID in these 6 Mega Cities, 20% of total COVID deaths in India
 - Out of total deaths in Mega Cities, 33135 deaths has occurred in 2021 and 35173 deaths occurred in 2020.
- **Crosses 4 Digit Mark:** Bengaluru and Delhi crossed 1000 mark. As on 2nd June, Bengaluru DPM was 1130 and Delhi DPM ws 1304
 - **Bengaluru:** DPM tripled in 2021 when compared with 2020. Increased from 350 Deaths / Mn population to 1130 Deaths / Mn Population. 9612 people died in Bengaluru in 2021 due to COVID, nearly 1/3rd of total death occurred in 6 mega cities. Moved from 4th position in terms of DPM in 1st wave to 2nd position in the 2nd wave.
 - **Delhi:** DPM increased 2.5 times from 563 to 1304. In 2021, 13866 people died in Delhi due to COVID, 42% of total COVID deaths in Mega Cities.
- **Mumbai:** Effectively and efficiently managed COVID in the 2nd wave to ensure the DPM (729) is below the average DPM of Mega Cities. In the first wave, Mumbai was 2nd most severely affected mega City after Delhi in terms of DPM. In the 2nd wave, it has moved to 3rd position after Delhi and Bengaluru.
- **Chennai:** Till date, DPM is below the average DPM of Mega Cities. In 2021, 3021 people succumbed to COVID.
- **Kolkata:** Till date, successful in ensuring least DPM amongst all Mega Cities
- **Amdavad:** As per official data, 3349 deaths have occurred, 5% of total deaths in Mega Cities. Insurance claim data analysis indicates UNDER-REPORTING in Gujarat to the tune of 1 – 2.2 Mn cases and 12,000 – 15,000 deaths. For more details, refer Annexure 1



Death Moving Growth Rate (MGR) above 2% is of serious concern

- Any City which has below 2% Death MGR indicates that both, Containment as well as Clinical management have been effectively managed
- Mumbai** has been successful in ensuring Death MGR at below 2% for 2 consecutive weeks. This means the doubling period is increasing and the average daily number of deaths is increasing
- Bengaluru** continues to have the highest Death MGR amongst Mega cities. This indicates shorter doubling period and increase in average daily number of deaths. On the contrary, the average daily caseload has decreased by over 80%. This pattern is possible due to inadequate and timely testing.
- Chennai and Kolkata** is also facing difficulty in reducing the Death MGR.



Mega Cities: Weekly New COVID Deaths

| Mega Cities | 05-May | 12-May | 19-May | 26-May | 02-Jun |
|-------------|--------|--------|--------|--------|--------|
| Delhi | 2686 | 2247 | 2036 | 1349 | 707 |
| Ahmedabad | 169 | 124 | 92 | 55 | 39 |
| Bengaluru | 867 | 1958 | 1274 | 1910 | 1781 |
| Mumbai | 557 | 461 | 401 | 311 | 196 |
| Chennai | 291 | 506 | 576 | 613 | 578 |
| Kolkata | 170 | 238 | 242 | 254 | 237 |
| Mega Cities | 4740 | 5534 | 4621 | 4492 | 3538 |

Annexure – 1: COVID: Data Integrity: A Global Issue: Peru Model



Actual Covid-19 deaths at least 2-3 times higher: WHO

WHO's preliminary estimates suggest the total number of global deaths attributable to the Covid-19 pandemic in 2020 is at least 3 million, representing 1.2 million more deaths than the 1.8 million officially reported

Peru's COVID-19 death rate found to be worlds' worst after revised data

Peru's COVID-19 death rate is found to be the world's worst after the government revised its data this week. The Peruvian Government has more than doubled the country's Corona Virus death toll. The Government updated the figure from 69,342 to 180764 based on experts advise.

The Government said that it took into consideration not only those who tested positive but also other criteria such as contact with people who have been confirmed to be infected.

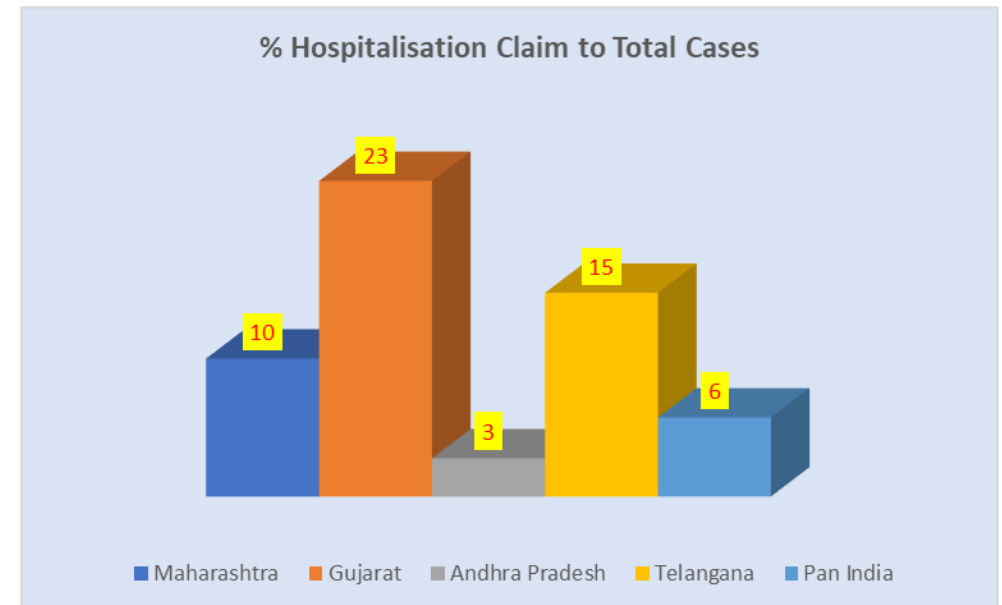
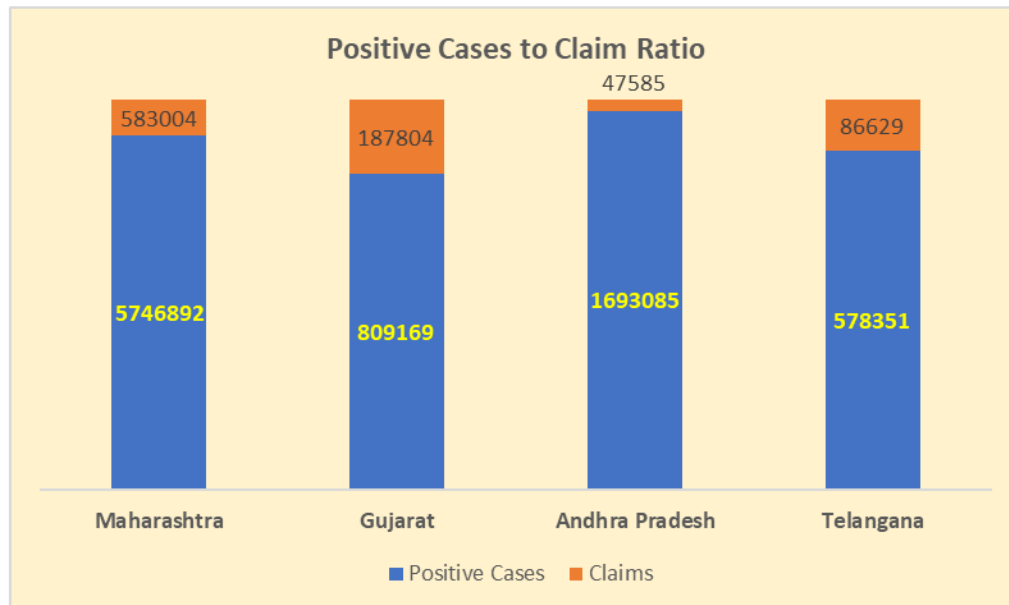
Prime Minister Violeta Bernudez said that it is her Government's duty to make public this updated information.

Under-reporting of COVID Cases and Deaths in Gujarat and Telangana

The official Data of Gujarat and Telangana has totally different patterns when compared with other States which have similar demographic characteristics. Based on available data, we analysed the State and Union Territory pattern of hospitalisation and death insurance claim. Based on the available data and our analysis, We are of the opinion that, there is a high probability of Gujarat and Telangana collectively UNDER-REPORTING of COVID Cases to the tune of 2- 4 Mn and number of COVID deaths in the range of 20,000 - 40,000.

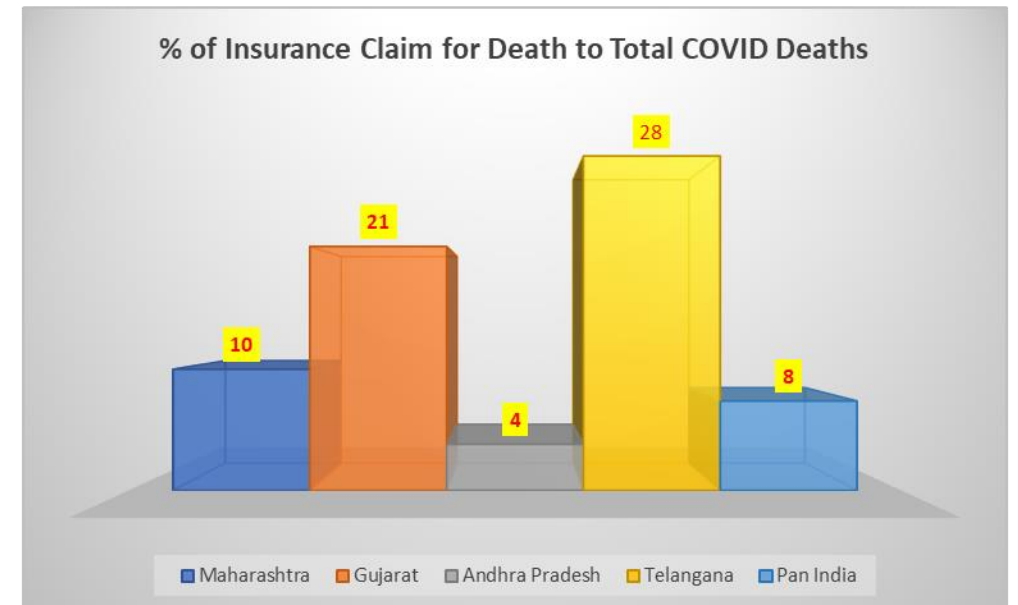
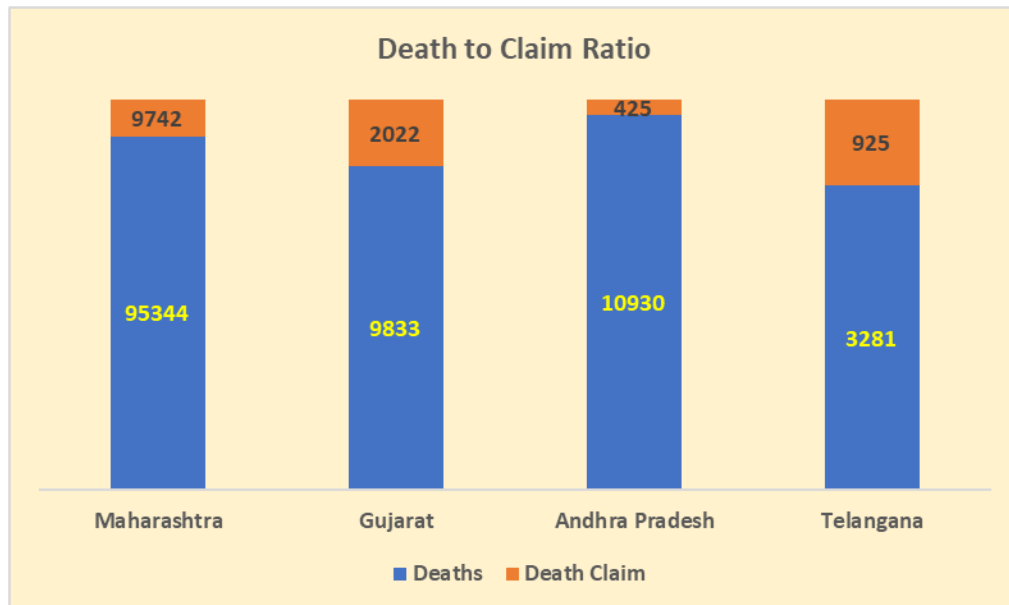
Gujarat and Telangana: Positive Cases to Hospitalisation Claim is Disproportionate

- As on 31 May, Maharashtra had 5.7 Mn COVID Cases of which 5.8 Lakh people have claimed for Hospitalisation @ 10%. On the other hand, its neighbouring state, Gujarat, had only 8 Lakh cases, but 1.87 Lakh people have claimed insurance for hospitalisation @ 23%. The National average is 6%.
- Similarly, Andhra Pradesh had 1.7 Mn COVID Cases of which 0.47 Lac people have claimed insurance for hospitalisation, which means 3% of COVID patients have claimed insurance for hospitalisation.
- Telangana, neighbouring state of Andhra Pradesh have only 5.8 Lac COVID cases, 1/3rd of Andhra Pradesh, but the number of claims is 0.86 Lacs, which means 23% of total COVID patients have claimed insurance. This works out to little over 1 in every 5 COVID cases.



Gujarat and Telangana: Death Claim to Total Mortality: Huge Variance

- In Maharashtra, out of total 95344 deaths, 9742 insurance claim for hospitalisation have been made, which works out to 10%
- In Gujarat, 9833 COVID deaths have occurred, 10% of Maharashtra. However 1 in every 5 deceased family members have claimed insurance for hospitalisation charges.
- Andhra Pradesh is one of the severely affected state in India. Nearly 11,000 people have succumbed to COVID, but only 425 family members have claimed insurance for hospitalisation, which works out to 4% of the total COVID Cases. The national average is 8%
- On the other hand in Telangana, only 3281 people have succumbed to COVID. However, family member of 925 deceased patients have claimed insurance for hospitalisation. This works out to death claim for nearly 1 in every 3 COVID deaths



Gujarat and Telangana: Data Indicates Collective UNDER-REPORTING of COVID Cases in the range of 2 – 4 Mn Cases

**Under-Reporting of COVID Cases in Gujarat
1 – 2.2 Mn**

| % Claim to Positive Cases (Actuals) | | | |
|-------------------------------------|-----------------|----------------|----------|
| State | 31-May | | |
| | Positive Cases | Claims | % Claim |
| Maharashtra | 5746892 | 583004 | 10 |
| Gujarat | 809169 | 187804 | 23 |
| Andhra Pradesh | 1693085 | 47585 | 3 |
| Telangana | 578351 | 86629 | 15 |
| Pan India | 28173835 | 1637883 | 6 |

**Under-Reporting of COVID Cases in Telangana
1 – 2 Mn**

| % Claim to Postives Cases Adjusted to Neighbouring States Pattern | | | |
|---|-----------------|----------------|----------|
| State | 31-May | | |
| | Positive Cases | Claims | % Claim |
| Maharashtra | 5746892 | 583004 | 10 |
| Gujarat | 1800000 | 187804 | 10 |
| Andhra Pradesh | 1693085 | 47585 | 3 |
| Telangana | 2600000 | 86629 | 3 |
| Pan India | 28173835 | 1637883 | 6 |

| % Claim to Postives Cases Adjusted to National Average Claim %ge | | | |
|--|-----------------|----------------|----------|
| State | 31-May | | |
| | Positive Cases | Claims | % Claim |
| Maharashtra | 5746892 | 583004 | 10 |
| Gujarat | 3000000 | 187804 | 6 |
| Andhra Pradesh | 1693085 | 47585 | 3 |
| Telangana | 1500000 | 86629 | 6 |
| Pan India | 28173835 | 1637883 | 6 |

Gujarat and Telangana: Data Indicates Collective UNDER-REPORTING of COVID Deaths in the range: 20,000 – 40,000 Deaths

**Under-Reporting of
Death in Gujarat
12,000 – 15,000**

| % Death Claim to Total COVID Deaths (Actual) | | | |
|--|---------------|--------------|----------|
| State | 31-May | | |
| | Deaths | Death Claim | % Claim |
| Maharashtra | 95344 | 9742 | 10 |
| Gujarat | 9833 | 2022 | 21 |
| Andhra Pradesh | 10930 | 425 | 4 |
| Telangana | 3281 | 925 | 28 |
| Pan India | 331910 | 25017 | 8 |

**Under-Reporting of COVID
Death in Telangana
8500 – 23,000**

| % Death Claims to Total Deaths Adjusted to Neighbouring States Pattern | | | |
|--|---------------|--------------|----------|
| State | 31-May | | |
| | Deaths | Death Claim | % Claim |
| Maharashtra | 95344 | 9742 | 10 |
| Gujarat | 21000 | 2022 | 10 |
| Andhra Pradesh | 10930 | 425 | 4 |
| Telangana | 26000 | 925 | 4 |
| Pan India | 331910 | 25017 | 8 |

| % Claim to Postives Cases Adjusted to National Average Claim %ge | | | |
|--|---------------|--------------|----------|
| State | 31-May | | |
| | Deaths | Death Claim | % Claim |
| Maharashtra | 95344 | 9742 | 10 |
| Gujarat | 24000 | 2022 | 8 |
| Andhra Pradesh | 10930 | 425 | 4 |
| Telangana | 12000 | 925 | 8 |
| Pan India | 331910 | 25017 | 8 |

9:46



Rajdeep Sardesai @sardesai... · 4m

Gujarat issued 65,085 more death certificates between March 1-May 10 this year compared to same period last year. Gujarat Govt claims only 4,218 people died of COVID in this period. So total deaths are 15X compared to official COVID data. Why can't we be honest with data? 🙏

Deepak Patel @deepakpatel... · 23h

Gujarat issued 1.23 lakh death certificates in March 1-May 10 period this year in comparison to 58 thousand issued in the same period last year: Divya Bhaskar

This means Gujarat issued 65,085 more death certificates in March 1-May 10 period this year.

65,085.

(1/n)

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MORALITY is the basis of things and **TRUTH** is the substance of all morality

Mahatma Gandhi...
our Bapu.....



Data source and disclaimer

- The data collated and analysed based on secondary data. The primary sources are:
<https://www.mohfw.gov.in/> <https://www.covid19india.org/> www.google.com; www.wikipedia.org;
<https://www.worldometers.info/coronavirus/#countries> / <https://coronavirus.jhu.edu/>
- The user of this presentation is advised to revalidate the shared data from authorised public institutions.

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Thank you