

COVID 19: Mega Cities: Trend Analysis

01 May 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
- 3.7% of total population of these 6 Mega Cities are infected with COVID 19
- 17% of COVID Patients in India live in these 6 mega cities
- 1 in every 5 deaths in India, occur in these 6 mega cities. Till date, the cumulative number of COVID deaths in these 6 cities are 45383
- Each Mega City has developed its own COVID Management strategy and witnessing mixed results.
- Bengaluru and Delhi have already conducted number of tests equivalent to 90% of its population.

Mega Cities Overview

- **Positivity Growth Pattern:**

- 7-Day: 21 – 28 April period added 4.25 Lakh COVID cases, 70% of these cases was added by Bengaluru and Delhi
- 28-Day: During the 4-Week period (31st March – 28 April), 1.14 Mn COVID cases, 2/3 was contributed by Bengaluru and Delhi

- **Active Cases Growth Pattern:**

- 7-Day: 21 – 28 April period – Added 1.35 Lakh active cases, 80% was contributed by Bengaluru and Delhi
- 28-Day: Added 4.18 Lakh active cases, 71% was contributed by Bengaluru and Delhi

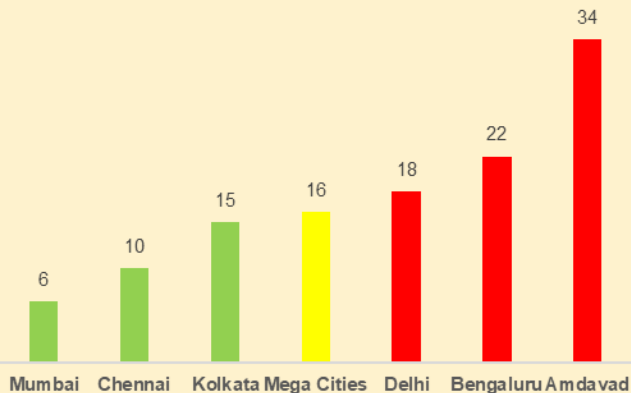
- **Mortality Growth Pattern:**

- 7-Day: 21 – 28 April period: 4225 people succumbed to COVID. 58% of the deaths occurred in Delhi
- 28-Day: 8328 people succumbed to COVID, of which 50% of them died in Delhi

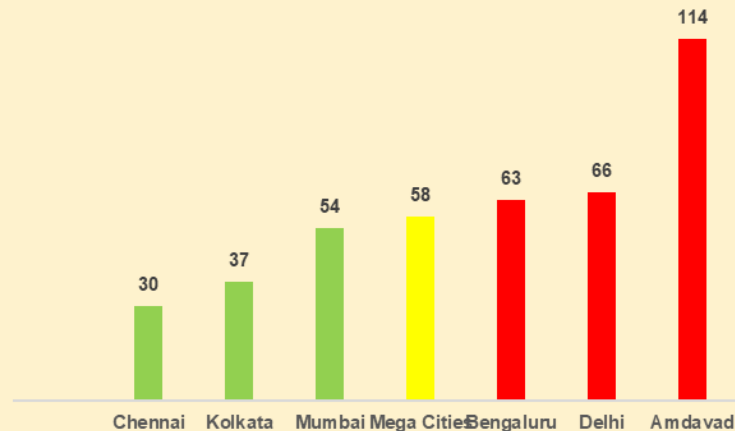
Mega Cities: Positive Case Growth Pattern and Analysis

- Week: 21 – 28 April:**
 - 4.25 Lakh new cases was added. Delhi contributed 1.67 Lakhs and Bengaluru contributed 1.26 Lakhs cases.
 - Mumbai added 38696 new cases, indicates containment efforts are yielding positive results
- Month: 31 March – 28 April:**
 - Mumbai is showing good signs of recovery. The average daily COVID cases during the week (14-21 April) was 8074, during the week (21-28 April), the average daily COVID cases has dropped to 5528.
 - Chennai amidst of Assembly elections, managed to add relatively least number of new COVID cases. It added 74487 Cases. It had least MGR of 30%, which indicates longer doubling period when compared with other mega cities.
 - Amdavad has highest MGR of 114%, which indicates relatively faster doubling period for COVID cases.
 - In terms of number of new COVID cases, Delhi added 4.35 Lakh new cases during the 4 week period and Bengaluru Urban added 2.75 lakhs new cases.

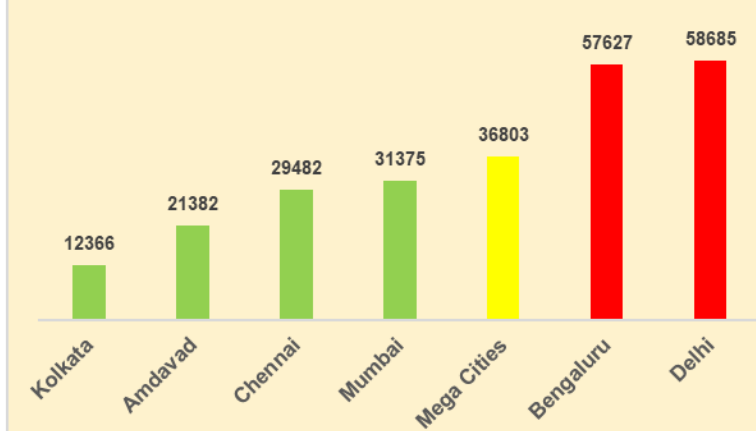
Mega Cities: Positivity: 7-Day-Moving Growth Rate (%)



Mega Cities: Positivity: 28-Day-Moving Growth Rate (%)



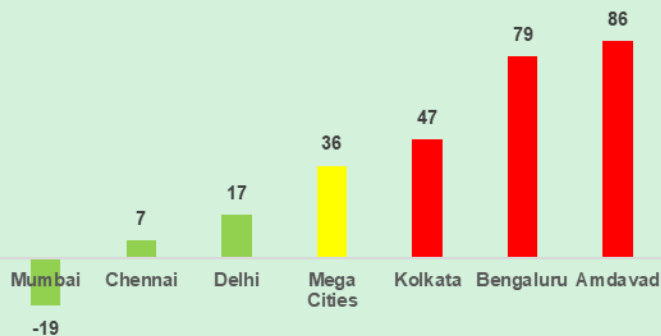
Mega Cities: Positive Cases / Million Population as on 28th April 2021



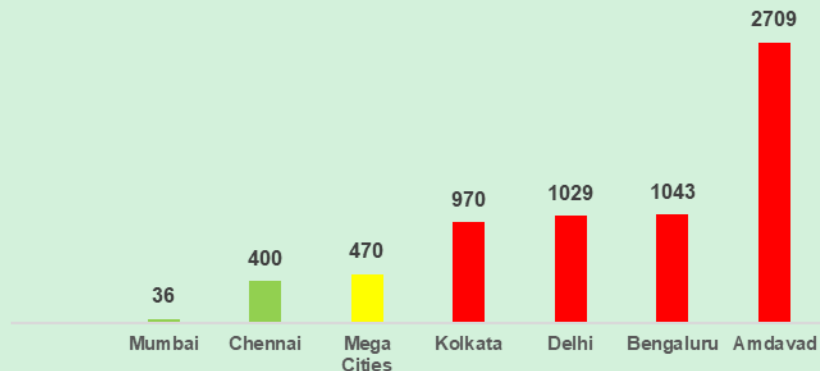
Mega Cities: Active Cases Growth Pattern and Analysis

- Week: 21 – 28 April:**
 - In a span of 1 week (21 – 28 April), Mumbai has been successful in reducing the number of active cases by nearly 1/5th. The number of active cases dropped from 83450 to 67984.
 - Bengaluru Urban during the week 21-28 April, added almost 1 Lakh new active cases during the same period.
 - Bengaluru Urban Active Cases / Mn is 18185, 3 times of average number of active cases in Mega cities, 6 times of Chennai
- Month: 31 March – 28 April:**
 - Active cases in Mega Cities shot up by 470%, from 89090 to 507422
 - Amdavad witnessed whopping 2709% from 2119 to 59527
 - Bengaluru 1043% from 19613 to 224152, Delhi 1029% from 8838 to 99752.
 - Pleasant surprise is Mumbai. The active cases increased by merely 36% 49953 to 67984. This could probably due to early onset of 2nd wave in Mumbai. On a cautious note, Mumbai need to have greater control on confirmation of recovered cases.

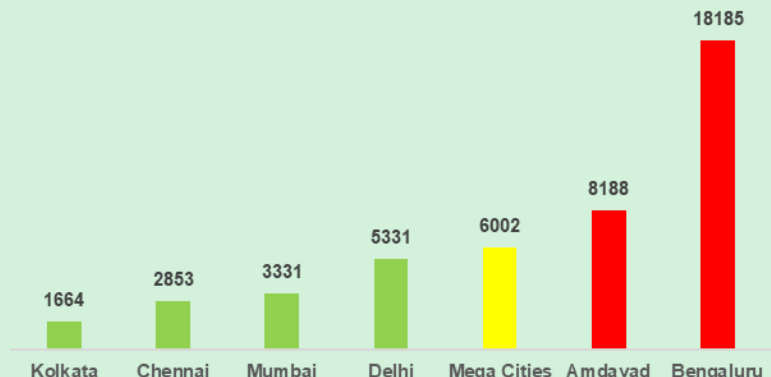
Mega Cities: 7-Day: Active Cases: Moving Growth Rate (%)



Mega Cities: 28-Day: Active Cases: Moving Growth Rate (%)



Mega Cities: Active Cases / Million Population as on 28th April 2021



Mega Cities: Mortality Growth Pattern and Analysis

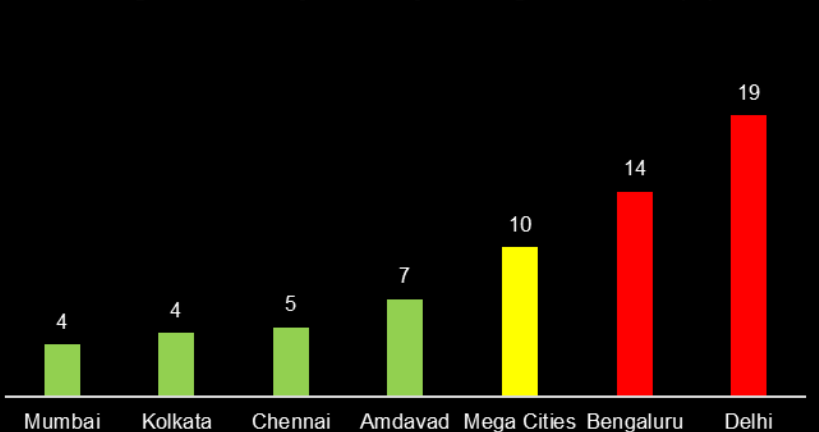
- Week: 21 – 28 April**

- 4225 deaths occurred, of which 58% occurred at Delhi (2490 deaths), Bengaluru Urban witnessed 757 deaths
- Mumbai (446), Kolkata (146), Amdavad (180) and Chennai (211) witnessed relatively less number of deaths

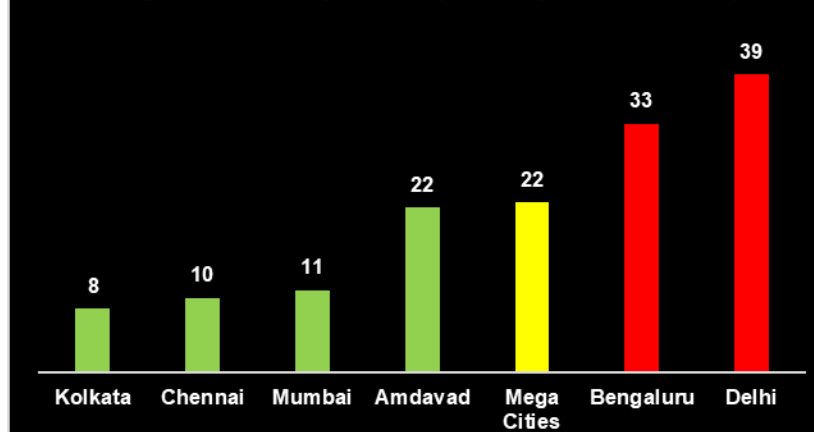
- Month: 31 March – 28 April:**

- 8328 deaths, 22% increase in number of deaths from 37055 to 55383.
- Delhi witnessed 4350 deaths, 52% of deaths occurred in Mega cities
- Kolkata and Chennai witnessed 262 and 418 deaths, least among other mega Cities
- Bengaluru witnessed 1520 deaths, 33% increase from 4619 to 6139

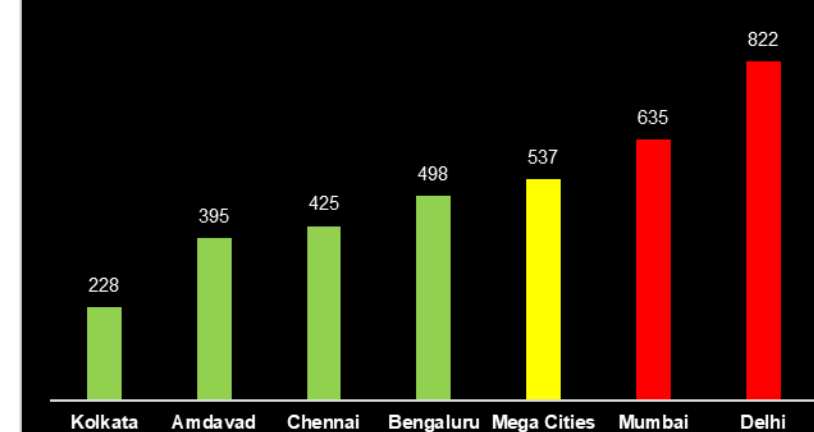
Mega Cities: 7-Day: Mortality: Moving Growth Rate (%)



Mega Cities: 28-Day: Mortality: Moving Growth Rate (%)



Mega Cities: Death / Million Population as on 28th April 2021



Myth: Younger people dying in second wave

- Some of the media reports stated that, during the 2nd wave more number of younger people are dying when compared to the first. The data indicates that this observation is a myth.
- As on 10th March 2021: Among the total number people deceased due to COVID in Bengaluru Urban (Before onset of 2nd wave)
 - 7.4% were below the age of 39 years
 - 2.6% were below the age of 29 years
- As on 28th March 2021: Among the total number people deceased due to COVID in Bengaluru Urban (During 2nd wave)
 - 7.6% were below 39 years
 - 2.5% were below 29 years

Bengaluru Urban: Agewise COVID Death: 10th Mar 2021				
Age	Male	Female	Total	%ge
0 - 9	6	4	10	0.2
10 - 19	12	6	18	0.4
20 - 29	62	27	89	2.0
30 - 39	146	72	218	4.8
40 - 49	352	147	499	11.1
50 - 59	643	338	981	21.7
60 - 69	819	403	1222	27.1
70+	1033	441	1474	32.7
Total	3073	1438	4511	

Bengaluru Urban: Agewise COVID Death: 28th Apr 2021				
Age	Male	Female	Total	%ge
0 - 9	10	6	16	0.3
10 - 19	14	5	19	0.3
20 - 29	81	38	119	1.9
30 - 39	210	105	315	5.1
40 - 49	475	212	687	11.2
50 - 59	805	468	1273	20.7
60 - 69	1068	582	1650	26.9
70+	1424	637	2061	33.6
Total	4087	2053	6140	

Bengaluru Urban: Need to change its COVID Management Strategy to deliver better results

On 1st May 2020, in Chennai 16 people had succumbed to COVID, whereas in Bengaluru 5 people had succumbed. Whereas, a year later on 1st May 2021, number of COVID death in Chennai is 4741, whereas in Bengaluru it is 6375.

- Bengaluru Urban has population of 1.2 Mn, as on 28th April, it has carried out 1.1 Mn COVID tests.
- Out of total tests conducted around 20% are repeat tests. Therefore, the effective number of tests conducted till date is 9 Lakhs. This means 72% of the total population has been tested.
- Primary and Secondary contact tracing during the 2 week period (15 – 28 April) has increased by 29% and 25% respectively. Further the testing has been increased by 12%. However, during this period, the Positive cases has increased by 40%, whereas in Chennai the increase was only 18% even after the recently concluded Assembly election.

This clearly indicates that, the strategy and plan which yielded results in the 1st wave, is not yielding the desired results in the 2nd wave.

Bengaluru Urban: Positive Cases & Testing Moving Growth Rate				
Particulars	15-Apr	28-Apr	Increase	MGR (%)
Positive Cases	512521	710347	197826	39
Testing	9990185	11192232	1202047	12

Bengaluru Urban: Zonewise Contact Tracing Performance Review								
Zones	Primary				Secondary			
	15-Apr	28-Apr	Increase	MGR (%)	15-Apr	28-Apr	Increase	MGR (%)
Bommanahalli	223282	269698	46416	21	275175	340672	65497	24
Dasarahalli	92806	102436	9630	10	92737	103769	11032	12
East	241833	309393	67560	28	230083	295499	65416	28
Mahadevapura	263158	332227	69069	26	214032	268115	54083	25
RR Nagara	198905	239974	41069	21	221443	281581	60138	27
South	300798	448526	147728	49	449202	552151	102949	23
West	241935	307531	65596	27	282714	357829	75115	27
Yelanka	137514	178364	40850	30	157433	202229	44796	28
Total	1700231	2188149	487918	29	1922819	2401845	479026	25

Annexure -1: 7 Day and 28 Day: Positivity: Moving Growth Rate (%)

Mega Cities: 7-Day Moving Growth Rate (%)				
Mega Cities	Positive Cases		Increase	7-Day: MGR (%)
	21-Apr	28-Apr		
Mumbai	601713	640409	38696	6
Chennai	294073	323452	29379	10
Kolkata	160010	183632	23622	15
Delhi	930179	1098051	167872	18
Bengaluru	583675	710347	126672	22
Amdavad	116062	155449	39387	34
Mega Cities	2685712	3111340	425628	16

Mega Cities: 28-Day Moving Growth Rate (%)				
Mega Cities	Positive Cases		Increase	28-Day: MGR (%)
	31-Mar	28-Apr		
Chennai	248965	323452	74487	30
Kolkata	133563	183632	50069	37
Mumbai	414773	640409	225636	54
Bengaluru	434827	710347	275520	63
Delhi	662430	1098051	435621	66
Amdavad	72620	155449	82829	114
Mega Cities	1967178	3111340	1144162	58

Annexure -1: 7 Day and 28 Day: Active Cases: Moving Growth Rate (%)

Mega Cities: 7-Day: Active Cases: Moving Growth Rate (%)				
Mega Cities	Active Cases		Increase / Decrease	7-Day: MGR (%)
	21-Apr	28-Apr		
Mumbai	83450	67984	-15466	-19
Chennai	29259	31298	2039	7
Delhi	85364	99752	14388	17
Kolkata	16854	24709	7855	47
Bengaluru	124894	224152	99258	79
Amdavad	32084	59527	27443	86
Mega Cities	371905	507422	135517	36

Mega Cities: 28-Day: Active Cases: Moving Growth Rate (%)				
Mega Cities	Active Cases		Increase / Decrease	28-Day: MGR (%)
	31-Mar	28-Apr		
Mumbai	49953	67984	18031	36
Chennai	6258	31298	25040	400
Kolkata	2309	24709	22400	970
Delhi	8838	99752	90914	1029
Bengaluru	19613	224152	204539	1043
Amdavad	2119	59527	57408	2709
Mega Cities	89090	507422	418332	470

Annexure -1: 7 Day and 28 Day: Mortality: Moving Growth Rate (%)

Mega Cities: 7-Day: Mortality: Moving Growth Rate (%)				
Mega Cities	Mortality		Increase / Decrease	7-Day: MGR (%)
	21-Apr	28-Apr		
Mumbai	12508	12954	446	4
Kolkata	3244	3385	141	4
Chennai	4447	4658	211	5
Amdavad	2690	2870	180	7
Bengaluru	5382	6139	757	14
Delhi	12887	15377	2490	19
Mega Cities	41158	45383	4225	10

Mega Cities: 28-Day: Mortality: Moving Growth Rate (%)				
Mega Cities	Mortality		Increase / Decrease	7-Day: MGR (%)
	31-Mar	28-Apr		
Kolkata	3123	3385	262	8
Chennai	4240	4658	418	10
Mumbai	11690	12954	1264	11
Amdavad	2356	2870	514	22
Bengaluru	4619	6139	1520	33
Delhi	11027	15377	4350	39
Mega Cities	37055	45383	8328	22

Data source and disclaimer

1. 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/>
2. Updated testing data of 4 mega cities (Ahmedabad, Bengaluru, Chennai, Delhi, and Mumbai) are available in the public domain. Whereas, updated testing data of Kolkata and Hyderabad is not to be found by our researchers. The analysis of average testing data has limitation with respect to data of 5 mega cities. Therefore, readers of this report need to factor the same for further inferences.
3. Information related to current status of Telangana and its districts are not available in the public domain. Therefore, readers of this report need to factor the same for further inferences.
4. The user of this presentation is advised to revalidate the shared data from authorised public institutions.

For more details, send email to:

Mysore Sanjeev

Convenor

Project: Jeeavan Raksha

email: jeevanrakshe1@gmail.com

Thank you