

COVID 19: Mega Cities Performance Ranking

September 2020

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 and general public. The contribution is appreciated by many state Governments.

Project: Jeevan Raksha acknowledges the technical support and guidance of Indian Medical Association (**IMA**) and 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.

A Robust, universally applicable and Scalable Management System is vital to manage Communicable Disease

The management of communicable diseases without clear medical solutions in the vicinity, requires effective data mining, analysis, and appropriate inferences of the virus spread in order to achieve the following key objectives:

- **Assessment:** Assess and examine the velocity of the virus spread and pattern of infection in the given region.
- **Measurement:** Effectively measure the outcome of the various intervention
- **Forecast:** Based on the various critical data pattern, extrapolate the trend which would facilitate the administration to ramp-up the required resources

Proxima Pandemic & Epidemic Management System



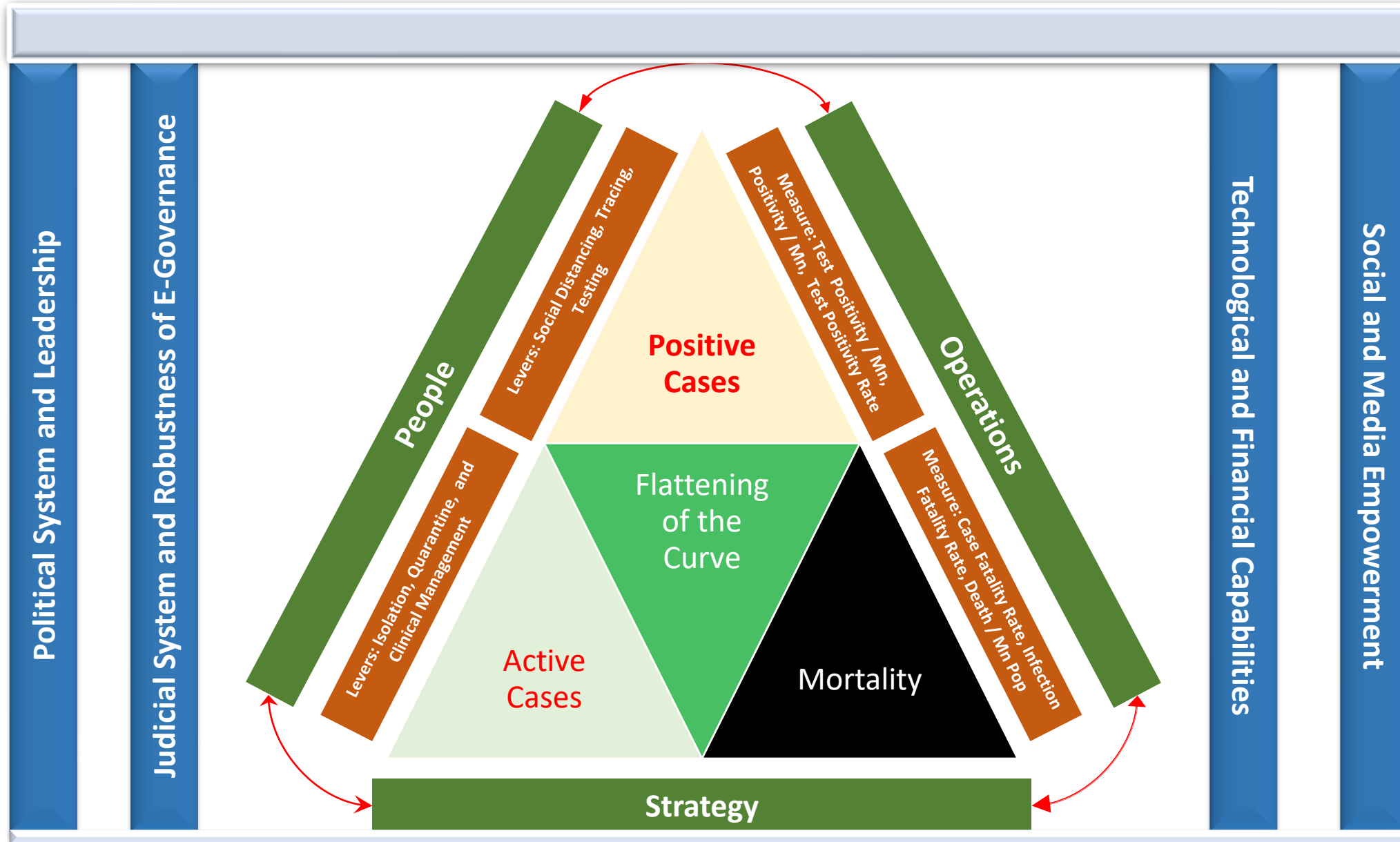
In an Pandemic / Epidemic, the virus spreads linearly and rapidly. The strategy to manage and flatten the growth of the virus depends on various systematic and unsystematic drivers.

Therefore, strategy formulation should factor the following:

- Political System and Leadership; Judicial system and robustness of e-Governance; Technological and financial capabilities; and more importantly social and media empowerment.
- There must be complete synergy between 3 critical processes – Strategy, People, and Operations. In case if any of these processes are weak, then there are chances of ending up with poor results
- The flattening of the curve of virus growth will happen only the levers are used effectively and efficiently.
- Robust review mechanism: The Control rooms must have strong process and systems which provides real-time right and appropriate data and analysis which helps the decisions makers to take appropriate and timely decisions.

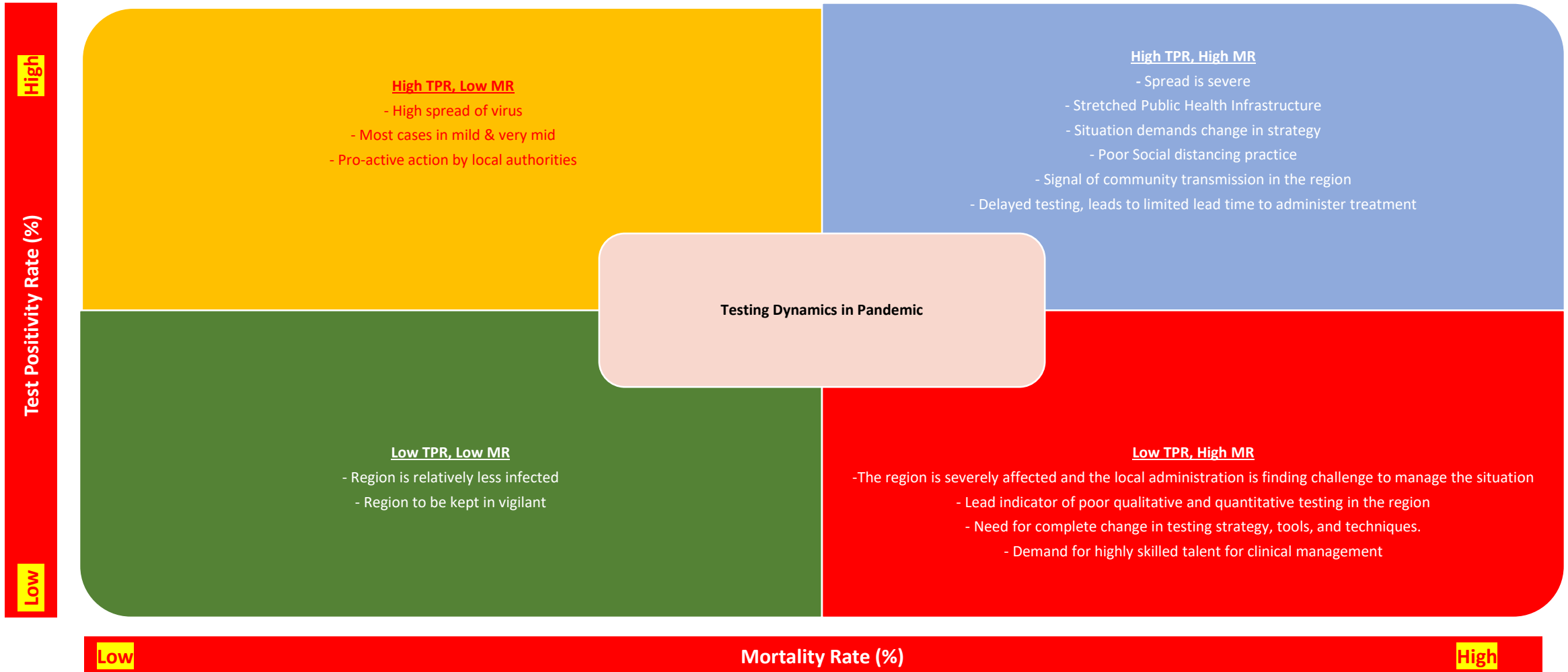
Proxima Pandemic & Epidemic Management System (PPMS)

JEEVAN RAKSHA
PROTECTING LIVES



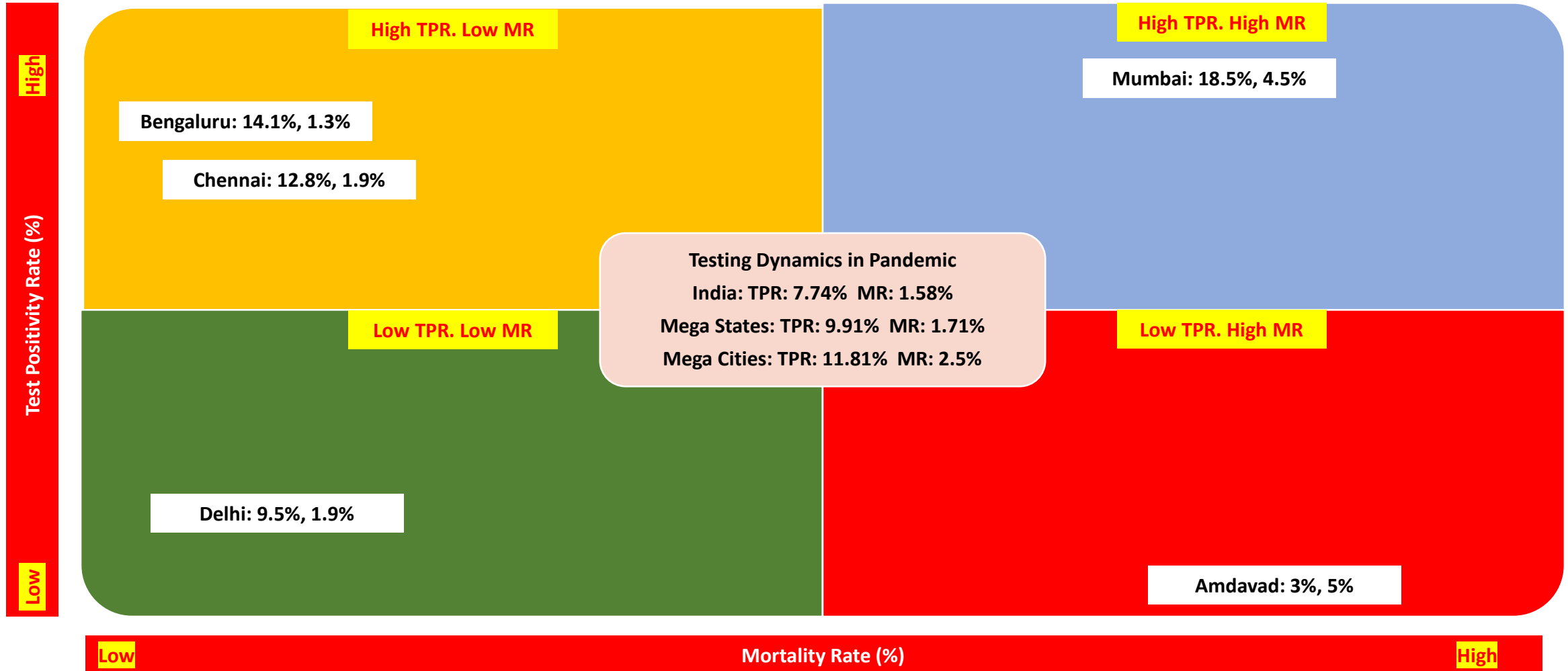
Proxima Virus Spread Assessment Matrix (VAM)

Each position in the matrix demands appropriate strategy and suitable competences to execute effectively



Proxima Virus Spread Assessment Matrix (VAM)

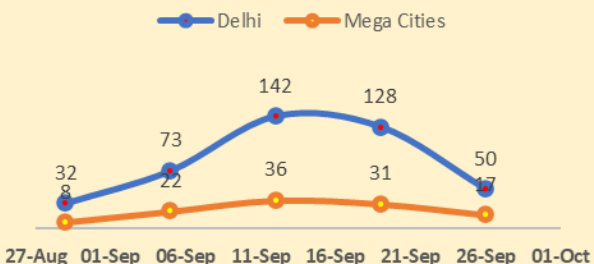
Each position in the matrix demands appropriate strategy and suitable competences to execute effectively



COVID 19: Mega Cities: Emerging Trend and Pattern: 26 September



Delhi: Active Cases: 30-Day Moving Growth Rate (MGR) %



Effect of MGR on Doubling Period

1. INCREASE in MGR will lead to DECREASE in DOUBLING PERIOD
2. DECREASE IN MGR will lead to INCREASE in DOUBLING PERIOD

Active Cases Growth Pattern

Mega Cities	29-Aug	26-Sep	Increase/Decrease	Share of active Cases (%)
Delhi	14040	29717	15677	24
Mumbai	19971	28691	8720	24
Bengaluru	37315	43378	6063	36
Amdavad	3390	4316	926	4
Kolkata	5032	4925	-107	4
Chennai	13656	10314	-3342	9
Total	93404	121341	27937	100

Mortality Pattern in Mega Cities

Mega Cities	29-Aug	26-Sep	Increase/Decrease	Share of active Cases (%)
Mumbai	7596	8750	1154	37
Delhi	4404	5193	789	22
Chennai	2709	3146	437	13
Bengaluru	1911	2821	910	12
Amdavad	1708	1800	92	8
Kolkata	1261	1652	391	7
Total	19589	23362	3773	100

Average Test Positivity

Rate of Mega Cities is @ 12% for last 4 Weeks.

Virus continues to spread fast and wider!

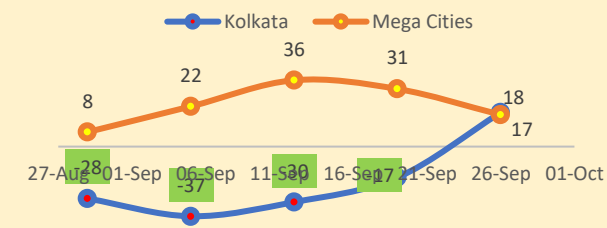
Mega Cities	TPR
Mumbai	19
Bengaluru	14
Chennai	13
Delhi	9
Amdavad	3
Avg TPR	12

Mega Cities COVID share

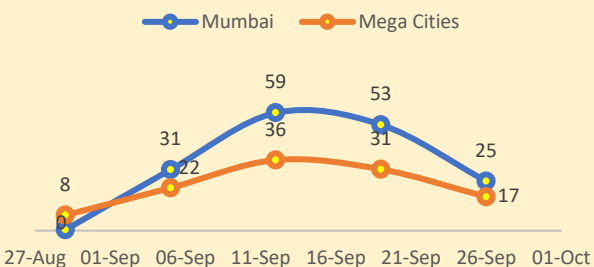
16% of Total COVID Cases in India

25% of Total COVID deaths in India

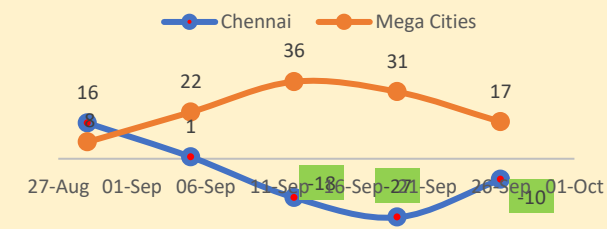
Kolkata: Active Cases: 30-Day Moving Growth Rate (MGR) %



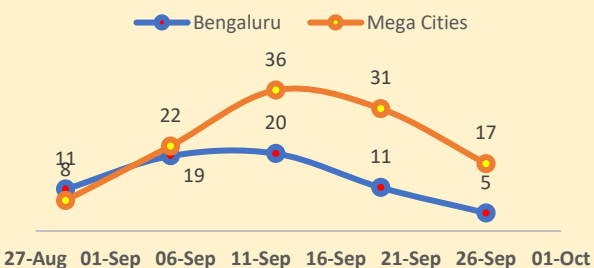
Mumbai: Active Cases: 30-Day Moving Growth Rate (MGR) %



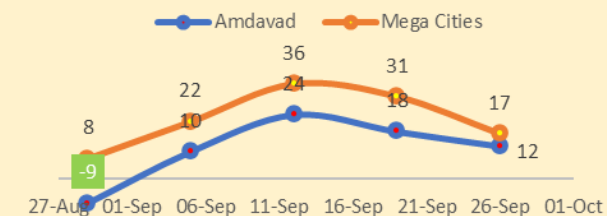
Chennai: Active Cases: 30-Day Moving Growth Rate (MGR) %



Bengaluru: Active Cases: 30-Day Moving Growth Rate (MGR) %



Amdavad: Active Cases: 30-Day Moving Growth Rate (MGR) %



Monthly Performance Ranking: 1st Edition

- 6 Mega Cities has cumulative population of 8.45 Crores, 6% of India's total population
- India's 6 Mega cities are ranked among the 50 Most populated cities in the world: Mumbai (2), Delhi (3), Kolkata (11), Bengaluru (28), Chennai (32), and Amdavad (39)
- Each of the 6 mega cities are performing well in one or the other critical parameters, but lagging behind in some other.
- The initiative of ranking the performance of the mega cities helps the administration to have a robust review mechanism and get holistic picture on the progress made in managing the pandemic.
- India's victory over COVID will be determined by the performance of each cities. This could be achieved when Test Positivity Rate (TPR) and Mortality Rate (MR) becomes ZERO

Performance Ranking based on Efficacy of Containment Management

Number of Positive Cases / Mn Population		
Rank	Mega Cities	Positive Cases / Mn Population
1	Kolkata	3624
2	Amdavad	4958
3	Mumbai	9631
4	Delhi	14314
5	Chennai	14777
6	Bengaluru	17574
Mega Cities Average		11037

Number of Active Cases / Million Population		
Rank	Mega Cities	Active Cases / Mn Population
1	Kolkata	332
2	Amdavad	594
3	Chennai	940
4	Mumbai	1406
5	Delhi	1588
6	Bengaluru	3519
Mega Cities Average		1435

Performance Ranking based on Testing Management

Test Positivity Rate (%)		
Rank	Mega Cities	TPR
1	Amdavad	3.0
2	Delhi	9.5
3	Chennai	12.8
4	Bengaluru	14.1
5	Mumbai	18.5
Mega Cities Average		11.8

Number of Tests Per Million Population		
Rank	Mega Cities	Test / Mn Population
1	Amdavad	166433
2	Delhi	150714
3	Bengaluru	124934
4	Chennai	115759
5	Mumbai	51932
Mega Cities Average		93447

Performance Ranking based on Clinical Management

Case Fatality Rate (%)		
Rank	Mega Cities	CFR
1	Bengaluru	1.3
2	Delhi	1.9
3	Chennai	1.9
4	Kolkata	3.1
5	Mumbai	4.5
6	Amdavad	5.0
Mega Cities Average		2.5

Number of Deaths Per Million Population		
Rank	Mega Cities	DPM
1	Kolkata	111
2	Bengaluru	229
3	Amdavad	248
4	Delhi	278
5	Chennai	287
6	Mumbai	429
Mega Cities Average		276

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://worldpopulationreview.com/world-cities>
2. 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.
3. The user of this presentation is advised to revalidate the shared data from authorised public institutions.

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Thank you