

COVID 19: Mega States Weekly Trend Analysis

22 November 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



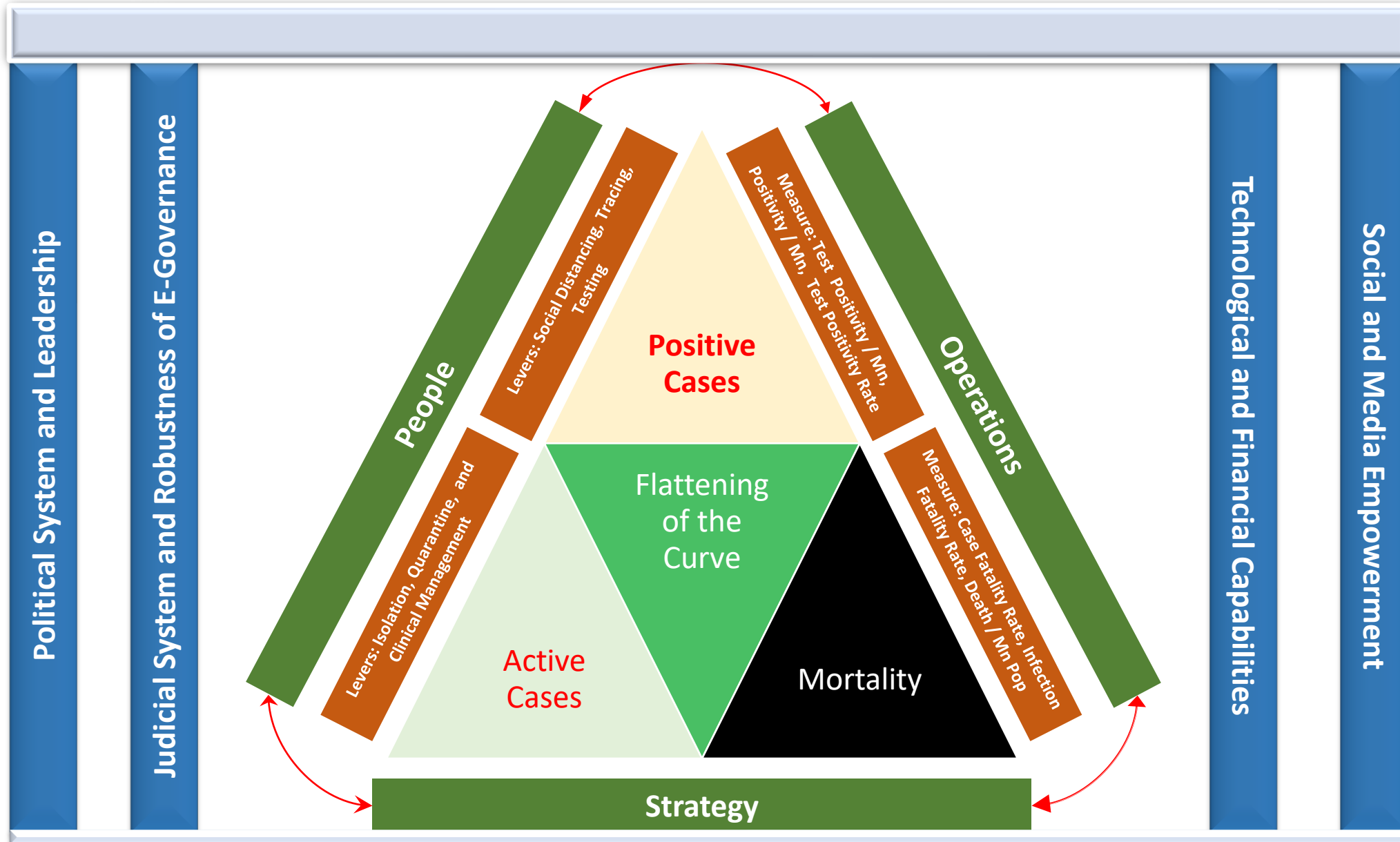
In an Pandemic / Epidemic, the virus spreads linearly and rapidly. The strategy to manage and flatten the growth of the virus depends on various systematic and unsystematic drivers.

Therefore, strategy formulation should factor the following:

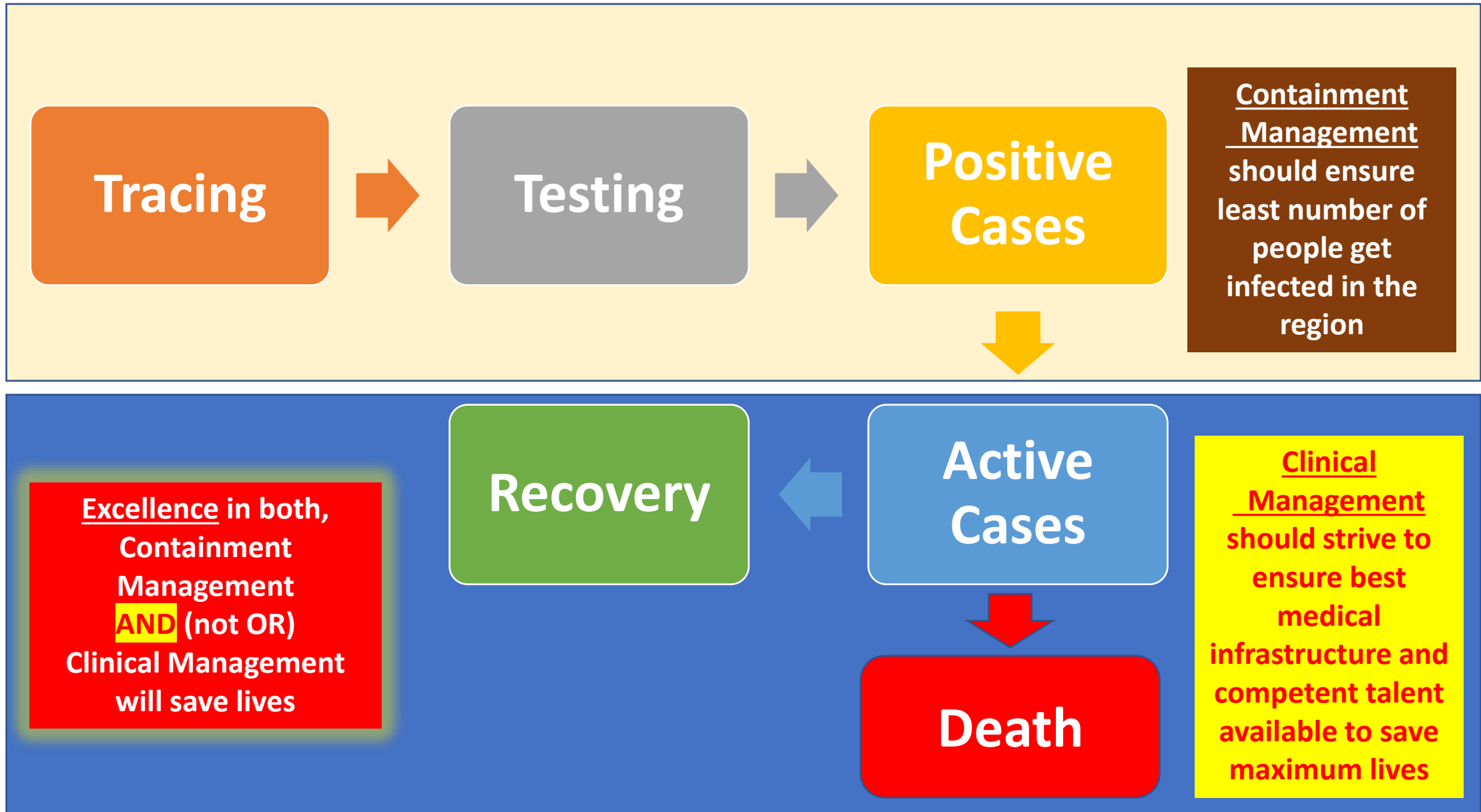
- Political System and Leadership; Judicial system and robustness of e-Governance; Technological and financial capabilities; and more importantly social and media empowerment.
- There must be complete synergy between 3 critical processes – Strategy, People, and Operations. In case if any of these processes 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)

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PROTECTING LIVES



Qualitative and Quantitative Testing will determine the fate of the people



Mega States: Districts: Highest 7 & 28 Day: Positive Cases Moving Growth Rate (%)

Moving Growth Rate (MGR)

Percentage expression of growth of the value during the period as % of value at the beginning of the period

Mega States: Districts with highest: Positivity:7-Day MGR (%)				
States	Districts	14-Nov	21-Nov	MGR
Himachal Pradesh	Lahaul and Spiti	624	950	52
Himachal Pradesh	Shimla	4230	5352	27
Himachal Pradesh	Kullu	2357	2955	25
Himachal Pradesh	Mandi	4654	5392	16
Haryana	Faridabad	31590	36243	15
Himachal Pradesh	Hamirpur	1534	1735	13
Kerala	Idukki	9075	10237	13
Himachal Pradesh	Kangra	3842	4332	13
Haryana	Gurgaon	38886	43571	12
Himachal Pradesh	Chamba	1556	1742	12
Haryana	Hisar	13054	14521	11
Himachal Pradesh	Kinnaur	630	694	10

MGR implication on Positive Cases

- Higher MGR implies that the average daily cases is relatively higher when compared with other districts.
- Increase in MGR leads to decrease in doubling period for number of cases and vice versa

7-Day MGR: Positive Cases

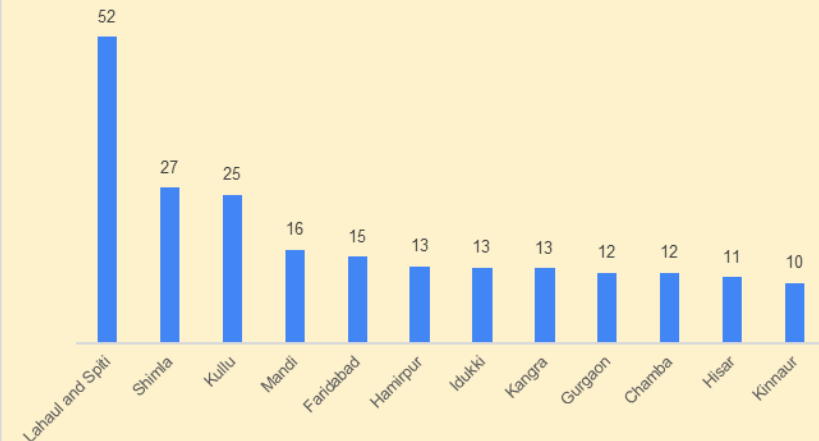
- Out of 256 districts in 11 mega states, Districts having over 10% MGR is identified. For e.g. Lahaul and Spiti District in Himachal Pradesh had Positive cases MGR of 52% during the week week 14 – 21 Nov

28-Day MGR: Positive Cases

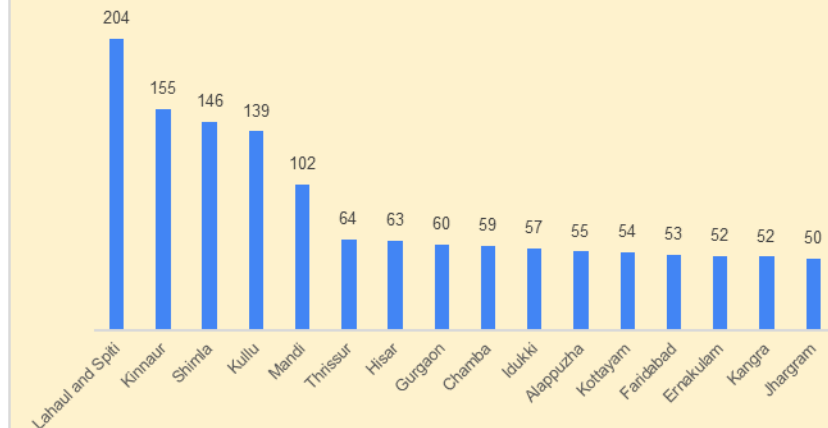
- Out of 256 districts in 11 mega states, Districts having over 50% MGR during 24 Oct – 21 Nov are identified.

Mega States: Districts with highest: Positivity:28-Day MGR (%)				
States	Districts	24-Oct	21-Nov	MGR
Himachal Pradesh	Lahaul and Spiti	312	950	204
Himachal Pradesh	Kinnaur	272	694	155
Himachal Pradesh	Shimla	2172	5352	146
Himachal Pradesh	Kullu	1235	2955	139
Himachal Pradesh	Mandi	2666	5392	102
Kerala	Thrissur	33330	54522	64
Haryana	Hisar	8910	14521	63
Haryana	Gurgaon	27263	43571	60
Himachal Pradesh	Chamba	1093	1742	59
Kerala	Idukki	6505	10237	57
Kerala	Alappuzha	28385	44031	55
Kerala	Kottayam	20724	31983	54
Haryana	Faridabad	23715	36243	53
Kerala	Ernakulam	39918	60602	52
Himachal Pradesh	Kangra	2859	4332	52
West Bengal	Jhargram	1573	2365	50

Mega States: Districts highest: Positivity: 7-Day: Moving Growth Rate (%)



Mega States: Districts highest: Positivity: 30-Day: Moving Growth Rate (%)



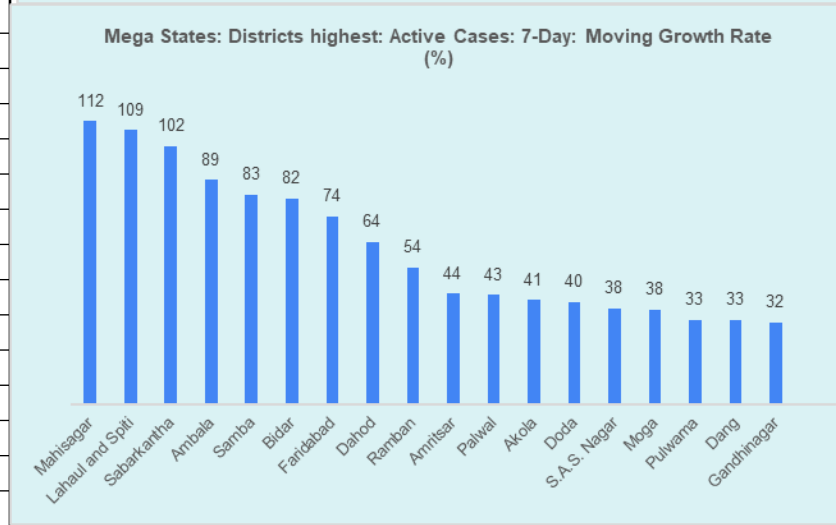
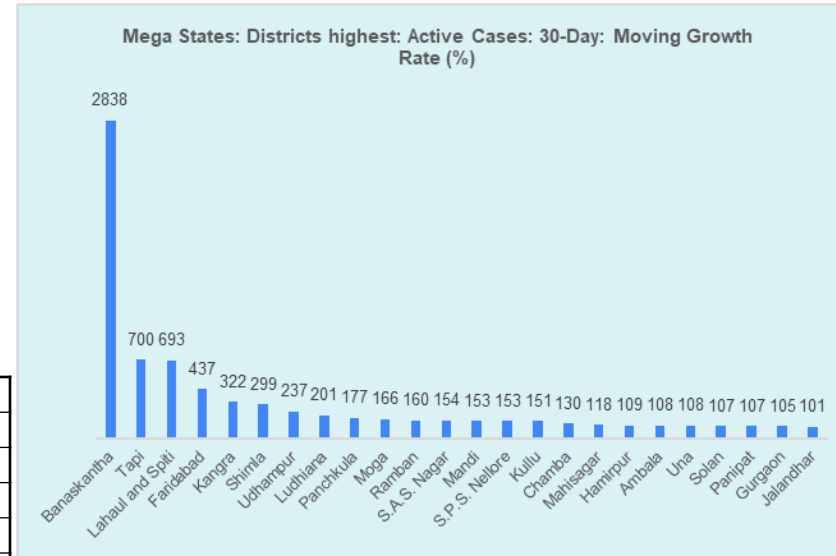
Mega States: Districts: Highest 7 & 28 Day: Active Cases: Moving Growth Rate (%)

07-Day MGR: Active Cases

- Out of 256 districts in 11 mega states, Districts having over 30% Active cases MGR during 14 – 21 Nov are identified.

Mega States: Districts with highest: Active Cases:7-Day MGR (%)

States	Districts	14-Nov	21-Nov	MGR
Gujarat	Mahisagar	73	155	112
Himachal Pradesh	Lahaul and Spiti	205	428	109
Gujarat	Sabarkantha	41	83	102
Haryana	Ambala	218	412	89
Jammu & Kashmir	Samba	89	163	83
Karnataka	Bidar	38	69	82
Haryana	Faridabad	2714	4735	74
Gujarat	Dahod	104	171	64
Jammu & Kashmir	Ramban	96	148	54
Punjab	Amritsar	375	539	44
Haryana	Palwal	74	106	43
Maharashtra	Akola	264	373	41
Jammu & Kashmir	Doda	119	167	40
Punjab	S.A.S. Nagar	996	1374	38
Punjab	Moga	56	77	38
Jammu & Kashmir	Pulwama	120	160	33
Gujarat	Dang	3	4	33
Gujarat	Gandhinagar	419	555	32



28-Day MGR: Active Cases

- Out of 256 districts in 11 mega states, Districts having over 100% Active cases MGR during 24 Oct – 21 Nov are identified.

Mega States: Districts with highest: Active Cases:30-Day MGR (%)

States	Districts	24-Oct	21-Nov	MGR
Gujarat	Banaskantha	8	235	2838
Gujarat	Tapi	4	32	700
Himachal Pradesh	Lahaul and Spiti	54	428	693
Haryana	Faridabad	882	4735	437
Himachal Pradesh	Kangra	184	777	322
Himachal Pradesh	Shimla	428	1708	299
Jammu & Kashmir	Udhampur	108	364	237
Punjab	Ludhiana	260	782	201
Haryana	Panchkula	190	526	177
Punjab	Moga	29	77	166
Jammu & Kashmir	Ramban	57	148	160
Punjab	S.A.S. Nagar	540	1374	154
Himachal Pradesh	Mandi	553	1399	153
Andhra Pradesh	S.P.S. Nellore	405	1023	153
Himachal Pradesh	Kullu	344	864	151
Himachal Pradesh	Chamba	98	225	130
Gujarat	Mahisagar	71	155	118
Himachal Pradesh	Hamirpur	179	374	109
Haryana	Ambala	198	412	108
Himachal Pradesh	Una	112	233	108
Himachal Pradesh	Solan	307	636	107
Haryana	Panipat	229	474	107
Haryana	Gurgaon	2770	5686	105
Punjab	Jalandhar	471	946	101

Mega States: Districts: Highest 7 & 28 Day: Mortality: Moving Growth Rate (%)



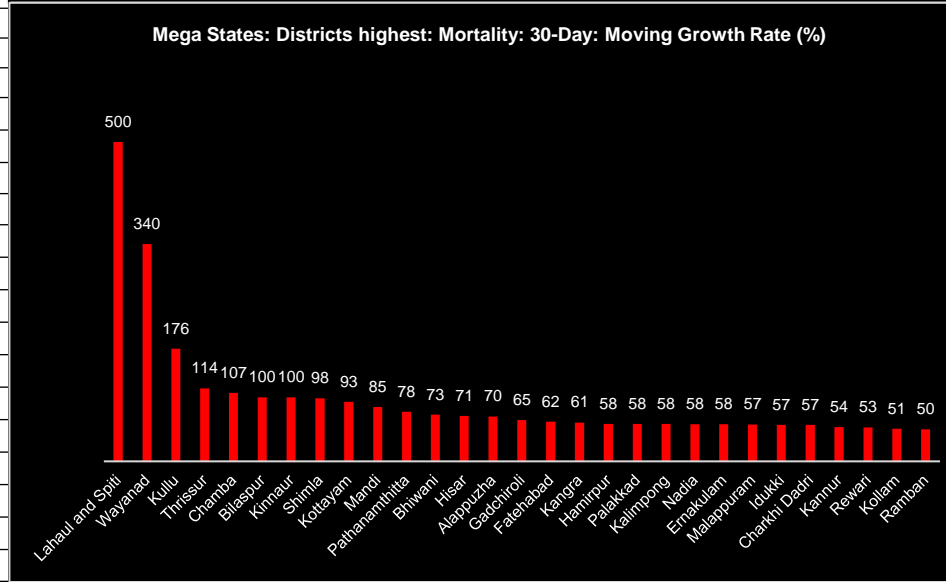
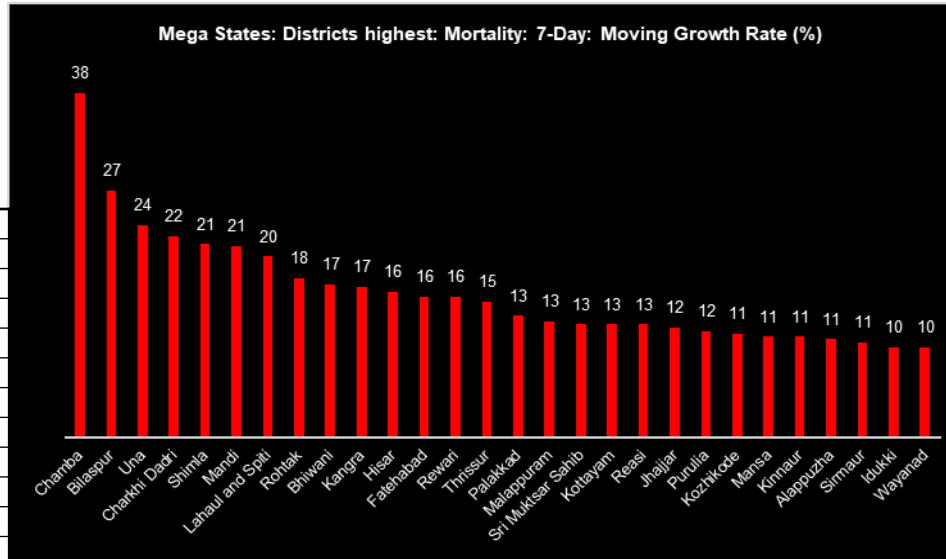
7-Day MGR: Mortality

- Out of 256 districts in 11 mega states, Districts having over 50% Mortality MGR during 24 Oct – 21 Nov are identified.

28-Day MGR: Mortality

- Out of 256 districts in 11 mega states, Districts having over 50% Mortality MGR during 24 Oct – 21 Nov are identified.

Mega States: Districts with highest: Mortality:7-Day MGR (%)				
States	Districts	14-Nov	21-Nov	MGR
Himachal Pradesh	Chamba	21	29	38
Himachal Pradesh	Bilaspur	11	14	27
Himachal Pradesh	Una	17	21	24
Haryana	Charkhi Dadri	9	11	22
Himachal Pradesh	Shimla	103	125	21
Himachal Pradesh	Mandi	52	63	21
Himachal Pradesh	Lahaul and Spiti	5	6	20
Haryana	Rohtak	85	100	18
Haryana	Bhiwani	77	90	17
Himachal Pradesh	Kangra	84	98	17
Haryana	Hisar	174	202	16
Haryana	Fatehabad	77	89	16
Haryana	Rewari	45	52	16
Kerala	Thrissur	173	199	15
Kerala	Palakkad	67	76	13
Kerala	Malappuram	187	211	13
Punjab	Sri Muktsar Sahib	72	81	13
Kerala	Kottayam	72	81	13
Jammu & Kashmir	Reasi	8	9	13
Haryana	Jhajjar	41	46	12
West Bengal	Purulia	34	38	12
Kerala	Kozhikode	157	175	11
Punjab	Mansa	36	40	11
Himachal Pradesh	Kinnaur	9	10	11
Kerala	Alappuzha	129	143	11
Himachal Pradesh	Sirmaur	19	21	11
Kerala	Idukki	10	11	10
Kerala	Wayanad	20	22	10



Mega States: Districts with highest: Mortality:30-Day MGR (%)				
States	Districts	24-Oct	21-Nov	MGR
Himachal Pradesh	Lahaul and Spiti	1	6	500
Kerala	Wayanad	5	22	340
Himachal Pradesh	Kullu	21	58	176
Kerala	Thrissur	93	199	114
Himachal Pradesh	Chamba	14	29	107
Himachal Pradesh	Bilaspur	7	14	100
Himachal Pradesh	Kinnaur	5	10	100
Himachal Pradesh	Shimla	63	125	98
Kerala	Kottayam	42	81	93
Himachal Pradesh	Mandi	34	63	85
Kerala	Pathanamthitta	9	16	78
Haryana	Bhiwani	52	90	73
Haryana	Hisar	118	202	71
Kerala	Alappuzha	84	143	70
Maharashtra	Gadchiroli	31	51	65
Haryana	Fatehabad	55	89	62
Himachal Pradesh	Kangra	61	98	61
Himachal Pradesh	Hamirpur	12	19	58
Kerala	Palakkad	48	76	58
West Bengal	Kalimpong	12	19	58
West Bengal	Nadia	131	207	58
Kerala	Ernakulam	128	202	58
Kerala	Malappuram	134	211	57
Kerala	Idukki	7	11	57
Haryana	Charkhi Dadri	7	11	57
Kerala	Kannur	95	146	54
Haryana	Rewari	34	52	53
Kerala	Kollam	100	151	51
Jammu & Kashmir	Ramban	12	18	50

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>
2. Updated testing data of 5 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. All views and recommendations in the report are solely from Proxima only
5. The user of this presentation is advised to revalidate the shared data from authorised public institutions.

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Thank you