

COVID 19: Trend Analysis & Projection

14 December 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, 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.

COVID 19: Global Scenario

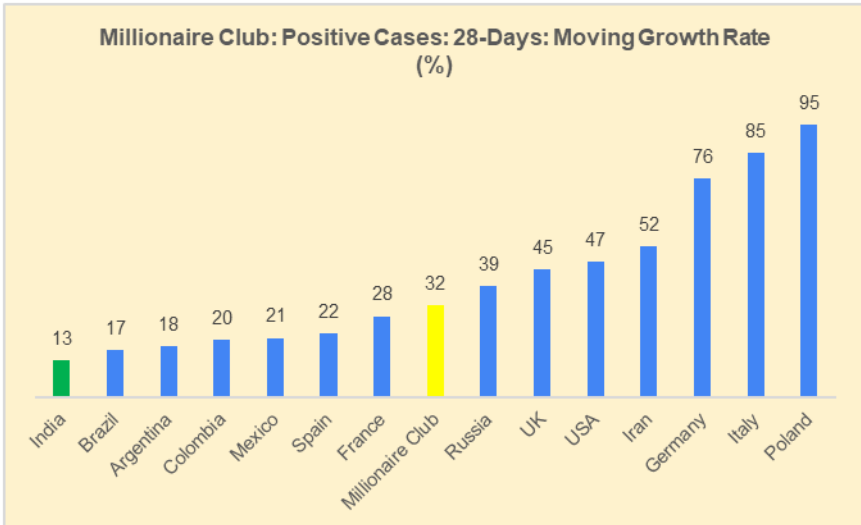
Millionaire Club: Nations having over 1 Mn COVID cases

Moving Growth Rate (MGR): is the percentage expression of growth of the value during the period as % of value at the beginning of the period

MGR & Positivity Relationship: Higher the MGR of Positive Cases, faster will be the doubling period of COVID cases, vice-versa.

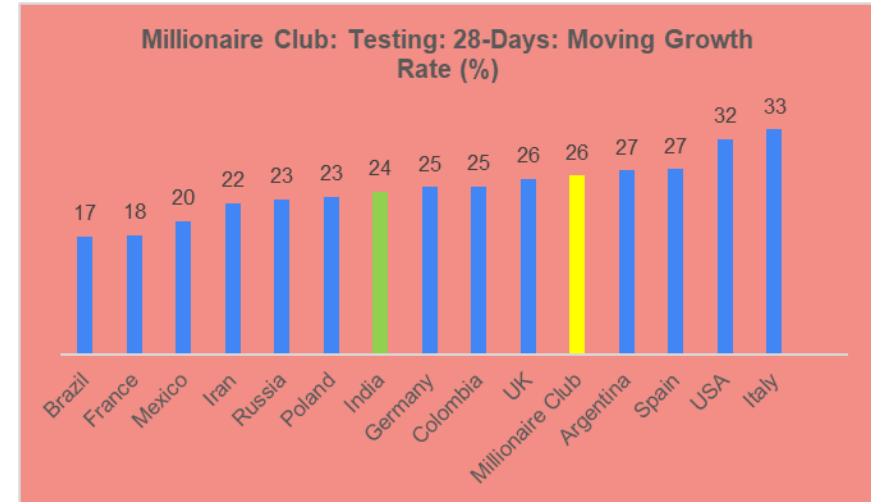
MGR & Testing Relationship: Higher the MGR of Testing, Slower will be the doubling period of COVID cases, vice-versa.

Millionaire Club: Positive Cases & Testing Pattern



India is ranked 129th in the Quality of Health Index issued by UNDP.

- Among the millionaire club of Nations, India has added least number of daily new cases
- Over the last 4 weeks period, the average % increase in number of testing in the group was 26%, India has increased testing by 24%



UNDP Ranking	Nations	10-Nov	06-Dec	MGR	Increase/Decrease
15	USA	10288480	15159529	47	4871049
129	India	8553864	9676801	13	1122937
79	Brazil	5664115	6603540	17	939425
49	Russia	1774334	2460770	39	686436
26	France	1787324	2292497	28	505173
29	Italy	935104	1728878	85	793774
15	UK	1192013	1723242	45	531229
25	Spain	1388411	1699145	22	310734
48	Argentina	1242182	1463110	18	220928
79	Colombia	1143887	1371103	20	227216
4	Germany	672507	1184845	76	512338
76	Mexico	967825	1168395	21	200570
32	Poland	546425	1063447	95	517022
65	Iran	682486	1040547	52	358061
	Millionaire Club	36838957	48635849	32	11796892

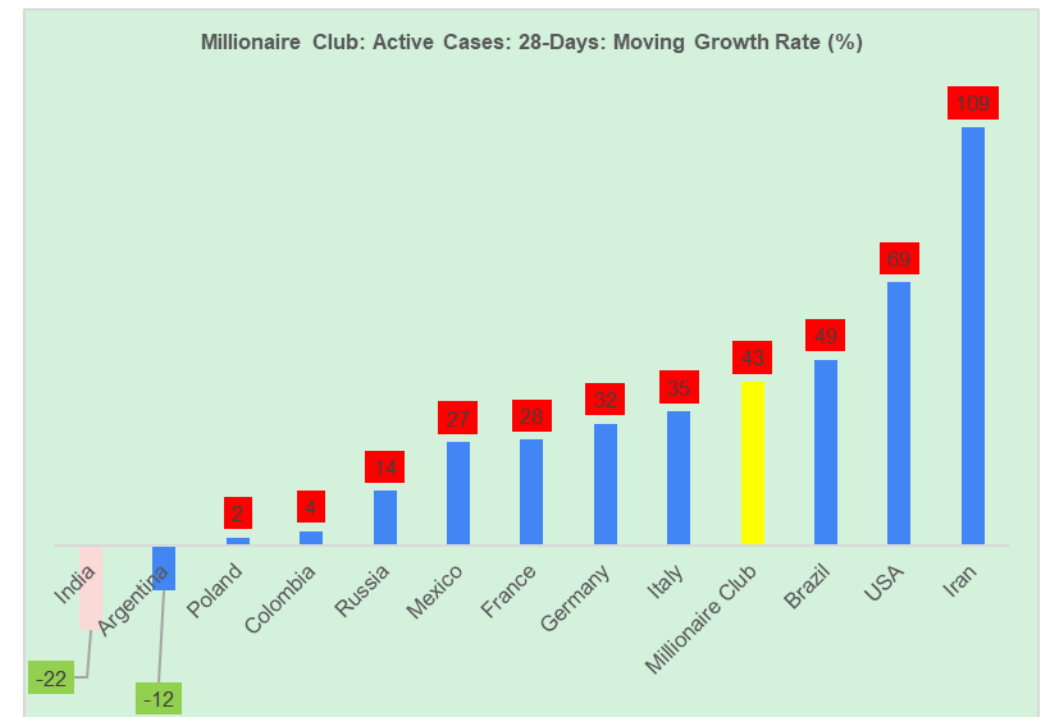
UNDP Ranking	Nations	10-Nov	06-Dec	MGR	Increase/Decrease
15	USA	157602857	207456975	32	49854118
129	India	118572192	146986575	24	28414383
79	Brazil	21900000	25700000	17	3800000
49	Russia	64600000	79323100	23	14723100
26	France	17891276	21041852	18	3150576
29	Italy	17374713	23125664	33	5750951
15	UK	35600586	44812139	26	9211553
25	Spain	18072174	22992742	27	4920568
48	Argentina	3228651	4101188	27	872537
79	Colombia	5402433	6737972	25	1335539
4	Germany	23393311	29141172	25	5747861
76	Mexico	2511207	3005228	20	494021
32	Poland	5241205	6456364	23	1215159
65	Iran	5224252	6387019	22	1162767
	Millionaire Club	496614857	627267990	26	130653133

Millionaire Club: Active Cases Pattern

During the period 10 Nov – 06 Dec:

- Active cases in Millionaire club increased by 43%
- India and Argentina are the only two nations which witnessed negative growth rate of active cases.
- Iran witnessed 109% MGR of Active cases, highest in the group
- Iran had 107% MGR of active cases, highest in the group followed by USA wherein active cases increased by nearly 70%

Millionaire Club: Active Cases: 28-Days: Moving Growth Rate (%)					
UNDP Ranking	Nations	10-Nov	06-Dec	MGR	Increase/Decrease
15	USA	3561292	6015030	69	2453738
129	India	509838	398040	-22	-111798
79	Brazil	437374	650396	49	213022
49	Russia	419378	479891	14	60513
26	France	1618271	2067756	28	449485
29	Italy	558636	755306	35	196670
15	UK	N/A	N/A	#VALUE!	#VALUE!
25	Spain	N/A	N/A	#VALUE!	#VALUE!
48	Argentina	145711	128648	-12	-17063
79	Colombia	73014	75885	4	2871
4	Germany	241802	319286	32	77484
76	Mexico	156821	199476	27	42655
32	Poland	329190	336638	2	7448
65	Iran	123866	259439	109	135573
	Millionaire Club	8175193	11685791	43	3510598

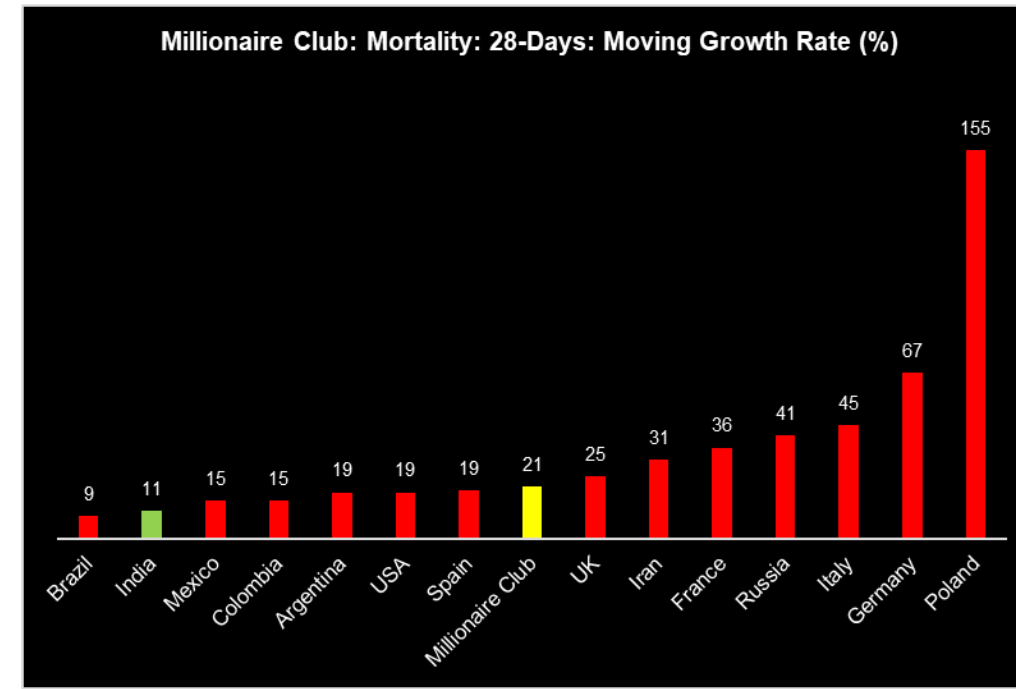


Millionaire Club: Mortality Pattern

During the period 10 Nov – 06 Dec:

- Among the 14 nations having over 1 Mn cases, 1.96 lacs people died due to COVID during the period
- Poland witnessed the highest mortality MGR of 155%, number of deaths increased from 7872 to 20089
- Brazil and India witnessed the least mortality MGR of 9% and 11% respectively
- Germany which is ranked #4 in the UNDP ranking for Quality of health, witnessed 67% mortality MGR.
- USA witnessed 45138 incremental deaths, highest among the Millionaire group of nations, Columbia witnessed 5017, relatively least number of deaths in the group

Millionaire Club: Mortality: 28-Days: Moving Growth Rate (%)					
UNDP Ranking	Nations	10-Nov	06-Dec	MGR	Increase/Decrease
15	USA	243768	288906	19	45138
129	India	126653	140590	11	13937
79	Brazil	162397	176962	9	14565
49	Russia	30537	43141	41	12604
26	France	40439	55155	36	14716
29	Italy	41394	60078	45	18684
15	UK	49044	61245	25	12201
25	Spain	38833	46252	19	7419
48	Argentina	33560	39770	19	6210
79	Colombia	32791	37808	15	5017
4	Germany	11505	19159	67	7654
76	Mexico	95027	109456	15	14429
32	Poland	7872	20089	155	12217
65	Iran	38291	50310	31	12019
	Millionaire Club	952111	1148921	21	196810



Millionaire Club: Status on key Performance Parameters

- 4.6% of US population have tested positive for COVID, highest among the millionaire club of nations. In India, 0.7% of the population have tested positive for COVID
- Iran has highest CFR of 4.8%, India has the least CFR of 1.5%
- Mexico and Argentina are having Test Positivity Rate of 39% and 26%, highest in the group. India's TPR is 6.6%
- Spain is having 989 Death Per Million population. India's DPM is 102, least in the group

Millionaire Club: Status on key Performance Parameters as on 6th December 2020							
UNDP Ranking	Nations	Tests / Mn Population	Positivity / Mn Population	Death / Mn Population	Positivity Population Rate (%)	Case Fatality Rate (%)	Test Positivity Rate (%)
15	USA	625643	45718	871	4.6	1.9	7.3
129	India	106198	6991	102	0.7	1.5	6.6
79	Brazil	120648	31000	831	3.1	2.7	25.7
49	Russia	543482	16860	296	1.7	1.8	3.1
26	France	322148	35098	844	3.5	2.4	10.9
29	Italy	382656	28607	994	2.9	3.5	7.5
15	UK	659060	25344	901	2.5	3.6	3.8
25	Spain	491715	36337	989	3.6	2.7	7.4
48	Argentina	90493	32284	878	3.2	2.7	35.7
79	Colombia	131998	26860	741	2.7	2.8	20.3
4	Germany	347476	14128	228	1.4	1.6	4.1
76	Mexico	23235	9034	846	0.9	9.4	38.9
32	Poland	170650	28108	531	2.8	1.9	16.5
65	Iran	75752	12341	597	1.2	4.8	16.3

Need for Strong Healthcare Regulator which protects interest of General Public on the lines of RBI

1.3+ bn people need protection from being financially and emotionally exploited by the service providers across the healthcare value chain due to lack of transparency and alternate solutions.

There is urgent need for strong regulatory body to regulate and set appropriate policies and guidelines to uphold the healthcare related rights of the people, quality of services, line of treatment, Pricing, and accountability.

115+ Crore Indians do not have any kind of coverage for healthcare expenses

- After 73 years of Indian Independence, only 13% of the citizen have protection for health expenditure from Government of India
- 80+% of the Indians, 108+ Crore people, fund their hospitalisation expenses from their savings which are kept for their retirement, children education, marriage, etc.

% of Distribution of persons by coverage of scheme of health expenditure support		
Health Expenditure Covered by	% of Persons	
	Rural (%)	Urban (%)
Not Covered by any schemes	85.9	80.9
Government sponsored Insurance Schemes	12.9	8.9
Govt / PSU as an employer	0.6	3.3
Employer supported health protection (Other than Govt. PSUs)	0.3	2.9
Arranged by households with Insurance companies	0.2	3.8
Others	0.1	0.2
Source: National Statistical Office, Ministry of Statistics & Programme Implementation, Government of India		

Doctors & Surgeons in Public hospitals, Under Paid and also often Paid late: Most exploited, unfortunate!

- Doctors & Surgeons in Public hospitals, who are admired globally for their efficiency, skill, and competences, gets professional fees which is equivalent to **only 3%** of the fees of their counterpart in private hospital.
- Medicine expenses in Private hospital is 3 times costlier than in public hospital
- Diagnostic tests are 4 times costlier in Private hospitals when compared with Public hospital.
- Package component in private hospitals is 18 times higher than in public hospital

Average medical expenses (Rs) during hospital stay per case of hospitalization			
Health Expenditure Covered by	Rural	Urban	Rural +Urban
Government / Public Hospital	4290	4837	4452
Private	27347	38822	31845
Others - Trust /NGOs	16676	26475	20135

Source: National Statistical Office, Ministry of Statistics & Programme Implementation, Government of India

Break-up by category of expenditure, separately for public and private hospitals in each sector									
Health Expenditure Covered by	Public Hospital			Private Hospital			Others - Trust /NGOs		
	Rural	Urban	Rural +Urban	Rural	Urban	Rural +Urban	Rural	Urban	Rural +Urban
Package component	427	867	552	6631	15380	10060	3755	10150	6012
Doctor's / Surgeon's Fees	172	197	179	5340	6284	5710	2946	4041	3332
Medicines	2220	2100	2184	6818	7035	6903	4687	5256	4888
Diagnostic Tests	800	770	791	2802	3403	3038	1889	2441	2084
Bed Charges	118	152	128	3377	4176	3690	1853	2696	2150
Others	553	752	612	2379	2544	2444	1546	1892	1668
Total	4290	4838	4446	27347	38822	31845	16676	26476	20134

Source: National Statistical Office, Ministry of Statistics & Programme Implementation, Government of India

One Country, Multiple Cost Structure

Package component: Puducherry 69%; Delhi 66%; Manipur 86%; West Bengal 50%; Chandigarh 0%;
Doctor's Fees: Goa 30%; Telangana 35%; Chandigarh 36%; Tamil Nadu 27%; Karnataka 25%; Rajasthan 11%; Manipur 2%
Diagnostic: Andhra Pradesh and Chandigarh 14%;
Medicine: Chhattisgarh 30%; Uttar Pradesh 30%; Chandigarh 8.5%; J&K 7%; Manipur 5%
Bed Charges: Andhra Pradesh 15%; Rajasthan 10%; West Bengal 7%

COVID 19: Snapshot of Insurance claims in India



As on 5th December 2020:

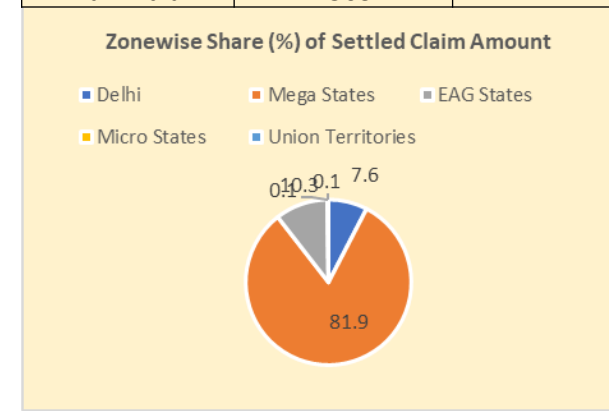
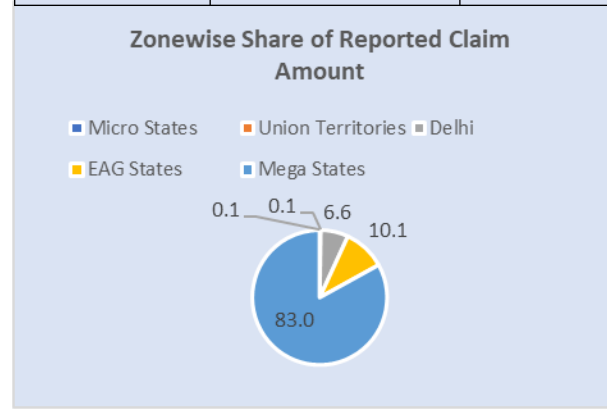
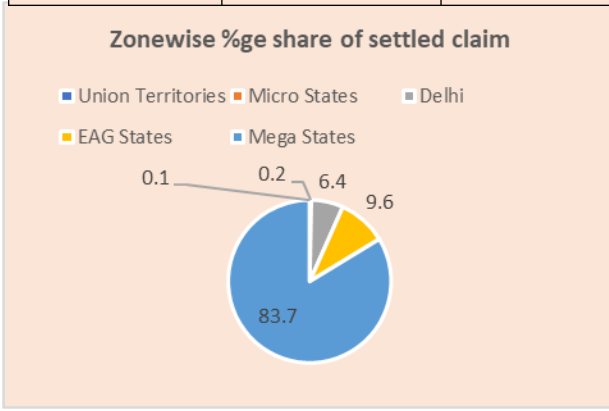
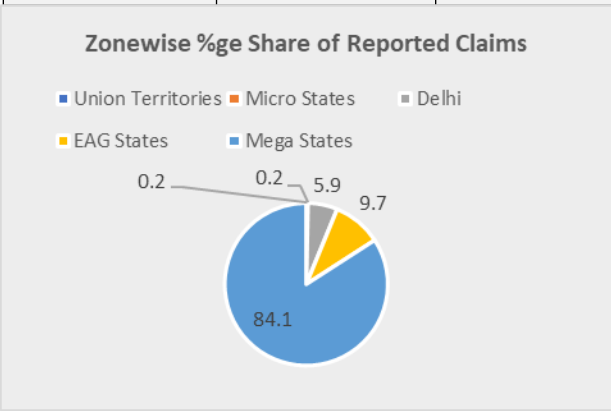
- India had 96.4 lac COVID cases, of which 6.47 lacs people having insurance cover have claimed. 6.85% of the COVID positive cases have claimed for insurance.
- Claims of 4.93 lakh people have been settled. 84% of the claim and settlement has happened in 12 Mega states. 6% of the claims are from Delhi, 10% is from EAG (Empowered Action Group) states.
- As a policy, as soon as a claim is registered, the respective insurance company would create a provision for the claim in their respective books. As on 5th December, provision for claims of Rs. 9653 Crores have been created, of which Rs. 4563 Crores claims are settled.
- Out of 401991 active COVID patients in India include 72530 insured people who are currently hospitalised for COVID treatment in India.

Zonewise Share of Reported Claims		
Zone	Reported Claims	Share (%)
Delhi	37952	5.9
Mega States	544790	84.1
EAG States	62606	9.7
Micro States	1198	0.2
Union Territories	982	0.2
Pan India	647528	

Zonewise Share of Settled Claims		
Zone	Settled Claim	%ge
Delhi	31372	6.4
Mega States	412736	83.7
EAG States	47564	9.6
Micro States	887	0.2
Union Territories	678	0.1
Pan India	493237	

Zonewise Share of Reported Claim Amount		
Zone	Reported Claim Amount (Cr\$)	Share (%)
Delhi	641	6.6
Mega States	8013	83.0
EAG States	975	10.1
Micro States	11	0.1
Union Territories	12	0.1
Pan India	9653	

Zonewise Share of Settled Claim Amount		
Zone	Settled Claim (Rs)	% ge
Delhi	347	7.6
Mega States	3736	81.9
EAG States	470	10.3
Micro States	5	0.1
Union Territories	5	0.1
Pan India	4563	



Family members of nearly 1 lakh people who have deceased could be under severe financial stress



- 93.3% of 1,40,216 people died due to COVID in India did not have any kind of financial cover for their health. Only, 9420 people (6.7%) had insurance cover.
- The average claim amount settled is Rs. 92500.

Zonewise %ge of insured deceased against total death			
Zone	Total Deaths	Insured, Deceased	%
Micro States	1720	14	1
Union Territory	1086	9	1
EAG States	22971	720	3
Delhi	9574	583	6
Mega States	104865	8094	8
Pan India	140216	9420	7

Zonewise %ge of Average Settled amount against Claim Amount			
Zone	Avg Claim Size Reported	Avg Claim Amount Settled (Rs)	% Avg Settled to Claim
Union Territory	126122	71325	57
Mega States	147081	90521	62
Micro States	94220	59412	63
EAG States	155740	98744	63
Delhi	168975	110605	65
Pan India	149072	92509	62

Mega Sates: Insurance claim and Settlement Pattern

- In Mega States, 8094 death claims have been registered, 8% of 104865 (total COVID deaths in Mega states).
- In Telangana and Gujarat 25% and 17% the deceased have claimed for insurance, which 3 and 2 times of average 8% of death claim in Mega states. The variation is abnormally higher which demands of reconciliation of total number of actual COVID deaths in these two states.

Mega States: Analysis of Insurance Claim and Settlement of COVID Patients												
Mega States	Number of Deaths (5th Dec)	Reported		Settled		Status			Average Claim		% Avg Settled to Claim	Death claim to mortality (%)
		Number of Claims	Claim Amount (Rs: Crs)	Number of Claims	Claim Amount (Rs. Crs)	Death	Under treatment	Discharge	Reported (Rs)	Settled (Rs)		
Maharashtra	47694	242186	2908	176999	1421	4083	37530	200573	120085	80287	67	9
Karnataka	11846	57207	893	44412	414	872	3992	52343	156087	93246	60	7
Tamil Nadu	11777	59375	1063	46832	451	672	3737	54966	178967	96386	54	6
West Bengal	8677	24255	456	20282	227	822	2246	21187	188011	112134	60	9
Andhra Pradesh	7024	24144	394	15747	158	167	3700	20277	163261	100484	62	2
Punjab	4905	7544	127	6324	69	155	541	6848	167758	108481	65	3
Gujarat	4064	65310	997	51441	451	685	2882	61743	152630	87594	57	17
Haryana	2564	19642	298	15939	160	204	2202	17236	151465	100525	66	8
Kerala	2391	11229	106	8199	45	55	1675	9499	94019	54372	58	2
Jammu & Kashmir	1742	454	6	334	3	8	64	382	142346	81245	57	0
Telangana	1470	33336	764	26139	336	371	2022	30943	229256	128694	56	25
Himachal Pradesh	711	108	2	88	1	0	10	98	147901	90218	61	0
Pan India	140216	647528	9653	493237	4563	9420	72530	565578	149072	92509	62	7
Mega States	104865	544790	8013	412736	3736	8094	60601	476095	147081	90521	62	8
Mega States Share (%)	75	84	83	84	82	86	84	84				

Mega Cities: Insurance claim and Settlement Pattern

- As on 5th December, the total number of deaths in Telangana is 1470. The neighbouring states, Karnataka had 11846. i.e., number of deaths in Telangana was only 12% of Karnataka's total deaths.
- However, number of medical insurance Claims for COVID treatment in Hyderabad was 23568, whereas number of claims in Bengaluru was 10174. **Hyderabad claim was 2.3 times higher than Bengaluru**. This gives a strong impression that number of COVID deaths in under reported in Telangana.
- Kolkata** death claim to COVID mortality is 25.3%, almost 3 times of average death claim to mortality among mega cities. The strong inference of this pattern leads to under-reporting of COVID deaths in West Bengal as well.

State	Positive Cases	Deaths	Reported Claim numbers	Reported Claim (Rs)	Settled Claim Number	Settled Claim (Rs)	Status Death	Status under treatment	Status Discharge	Avg Claim size (Rs)	Avg Claim Amount Settled (Rs)	% Avg Settled to Claim	Death claim to mortality
Delhi	589544	9574	37952	6412955581	31372	3469890323	583	5167	32202	168975	110605	65	6.1
Amdavad	51724	2109	19555	3158480480	15366	1388850934	187	628	18740	161518	90385	56	8.9
Bengaluru	373291	4176	10174	1545485327	8602	807204524	123	741	9310	151905	93839	62	2.9
Mumbai	285267	10964	50539	8806183135	41338	4309306894	868	2644	47027	174245	104246	60	7.9
Chennai	217204	3868	29764	5579467267	24412	2506689846	406	1701	27657	187457	102683	55	10.5
Kolkata	110737	2665	19300	3638944184	16277	1869812758	674	1795	16831	188546	114875	61	25.3
Hyderabad	NA	NA	23568	5458003150	19072	2525645427	277	1571	21720	231585	132427	57	#VALUE!
Total	1627767	33356	190852	34599519124	156439	16877400706	3118	14247	173487	181290	107885	60	9.3
Amount (Crs)				3460		1688							

EAG States: Insurance claim and Settlement Pattern

- 67 Crore (50% of the total population) Indians reside in EAG States.
- Out 1.4 lakh COVID death, 0.22 lakh deaths have occurred in EAG states.
- COVID Hospitalisation expenses is relatively higher in EAG states when compared with Mega states. The average claim settled in EAG states is Rs. 98744, whereas it is Rs. 90521 in Mega states
- 6539 people are currently hospitalised for COVID treatment.

EAG States: Analysis of Insurance Claim and Settlement of COVID Patients												
EAG States	Number of Deaths (5th Dec)	Reported		Settled		Status			Average Claim		% Avg Settled to Claim	Death claim to mortality (%)
		Number of Claims	Claim Amount (Rs: Crs)	Number of Claims	Claim Amount (Rs. Crs)	Death	Under treatment	Discharge	Reported (Rs)	Settled (Rs)		
Uttar Pradesh	7900	22680	405	17384	205	249	2237	20194	178534	117732	66	3
Odisha	1818	3691	58	2578	25	73	506	3112	157357	96357	61	4
Bihar	1292	1463	23	1155	12	17	95	1351	156269	103043	66	1
Assam	989	2304	37	1801	17	15	132	2157	161010	94246	59	2
Rajasthan	2409	12310	148	9260	76	127	1587	10596	120466	81582	68	5
Chattisgarh	2977	4075	57	2968	24	25	383	3667	139036	79341	57	1
Madhya Pradesh	3326	11878	187	9013	84	149	1245	10484	157407	93287	59	4
Jharkhand	979	2948	36	2454	18	43	227	2678	123561	74057	60	4
Uttarakhand	1281	1257	24	951	10	22	127	1108	188747	104487	55	2
Pan India	140216	647528	9653	493237	4563	9420	72530	565578	149072	92509	62	7
EAG States	22971	62606	975	47564	470	720	6539	55347	155740	98744	63	3
EAG States Share (%)	16	10	10	10	10	8	9	10				

Delhi: Analysis of Insurance Claim and Settlement of COVID Patients												
Delhi	Number of Deaths (5th Dec)	Reported		Settled		Status			Average Claim		% Avg Settled to Claim	Death claim to mortality (%)
		Number of Claims	Claim Amount (Rs: Crs)	Number of Claims	Claim Amount (Rs. Crs)	Death	Under treatment	Discharge	Reported (Rs)	Settled (Rs)		
Delhi	9574	37952	641	31372	347	583	5167	32202	168975	110605	65	6
Pan India	140216	647528	9653	493237	4563	9420	72530	565578	149072	92509	62	7
Delhi (%)	7	6	7	6	8	6	7	6				

Micro States and Union Territories: Insurance claim and Settlement Pattern



Micro States: Analysis of Insurance Claim and Settlement of COVID Patients												
Micro States	Number of Deaths (5th Dec)	Reported		Settled		Status			Average Claim		% Avg Settled to Claim	Death claim to mortality (%)
		Number of Claims	Claim Amount (Rs: Crs)	Number of Claims	Claim Amount (Rs. Crs)	Death	Under treatment	Discharge	Reported (Rs)	Settled (Rs)		
Goa	697	529	8	359	4	4	39	486	158750	98522	62	1
Tripura	369	131	1	106	1	0	5	126	97976	65961	67	0
Manipur	299	32	0.19	20	0.08	0	5	27	58523	39375	67	0
Arunachal Pradesh	55	9	0.13	7	0	0	2	7	141075	0	0	0
Meghalaya	118	481	1	386	1	10	92	379	24514	23573	96	8
Nagaland	65	3	0.02	1	0.01	0	0	3	79780	67800	85	0
Sikkim	111	11	0.09	7	0.04	0	2	9	77938	52697	68	0
Mizoram	6	2	0.003	1	0.001	0	0	2	15779	14000	89	0
Pan India	140216	647528	9653	493237	4563	9420	72530	565578	149072	92509	62	7
Micro States	1720	1198	11	887	5	14	145	1039	94220	59412	63	1
Micro States (%)	1	0.2	0.1	0.2	0.1	0.1	0.2	0.2				

Union Territories: Analysis of Insurance Claim and Settlement of COVID Patients												
Micro States	Number of Deaths (5th Dec)	Reported		Settled		Status			Average Claim		% Avg Settled to Claim	Death claim to mortality (%)
		Number of Claims	Claim Amount (Rs: Crs)	Number of Claims	Claim Amount (Rs. Crs)	Death	Under treatment	Discharge	Reported (Rs)	Settled (Rs)		
Puducherry	614	705	8	493	3	5	60	640	118444	64549	54	1
Chandigarh	289	227	4	160	1	4	17	206	158514	93592	59	1
Ladakh	120							0	#DIV/0!	#DIV/0!	#DIV/0!	0
Andaman & Nichobar	61	4	0.07	4	0.03	0	0	4	166292	63015	38	0
Dadra & Nagar Haveli	2	31	0.20	15	0.08	0	1	30	63222	50690	80	0
Lakshadweep		3	0.06	2	0.02	0	0	3	191407	111889	58	#DIV/0!
Daman & Diu		12	0.12	4	0.03	0	0	12	97216	81256	84	#DIV/0!
Pan India	140216	647528	9653	493237	4563	9420	72530	565578	149072	92509	62	7
Union Territory	1086	982	12	678	5	9	78	895	126122	71325	57	1
Union Territory (%)	1	0.2	0.1	0.1	0.1	0.1	0.1	0.2				

Acknowledgement

Project: Jeevan Raksha acknowledges the support extended by General Insurance Council of India by sharing the COVID health Insurance data and strengthening our research and analysis of COVID 19 in India. This Public-Private Partnership initiative would go a long way towards sustainable growth of healthcare sector by bringing in appropriate general public centric policy interventions

Projection: 13 December – 12 January

The projection is an effort to help the Central and State Government to examine and initiate necessary steps by effectively mobilising the required resources and achieve the core objective of reducing mortality.

COVID 19: Positive Cases Projections: India and Zones



30-Day COVID Cases Growth Projection														
Consolidated	16-Aug	12-Sep		%ge Actual of Projected	12-Oct		%ge Actual of Projected	12-Nov		%ge Actual of Projected	12-Dec		%ge Actual of Projected	12 Jan Projections (+/-5%)
	Actuals	Projection	Actual		Projections	Actuals		Projections	Actuals		Projections	Actuals		
Mega States	1852408	3245361	3279953	101	5229600	5002180	96	6503100	6025325	93	6800000	6712696	99	7235000
EAG States	538721	1146000	1065505	93	1765000	1681197	95	2115400	2027541	96	2315000	2306290	100	2523000
Micro States	32020	61400	66477	108	124700	113834	91	144100	142017	99	164100	159616	97	172600
Union Territories	15424	34200	35722	104	59200	57342	97	72400	66713	92	76900	73308	95	78400
Delhi	151928	185000	209748	113	330000	311188	94	400000	467028	117	675000	605470	90	660000
Total	2590501	4671961	4657405	100	7508500	7165741	95	9235000	8728624	95	10031000	9857380	98	10669000

Number of COVID cases in India is likely to reach **10.6 Mn** cases by 12 January 2021, 8.11 lacs new cases. Mega states to contribute 5.2 Lakhs new cases during 13 Dec – 12 January.

COVID 19: Mortality Projections: India and Zones

30-Day COVID Mortality Projection														12 Dec Projections (+/-5%)
Consolidated	16-Aug	12-Sep		%ge Actual of Projected	12-Oct		%ge Actual of Projected	12-Nov		%ge og Actual of Projected	12-Dec		%ge og Actual of Projected	
	Actuals	Projection	Actual		Projection	Actuals		Projections	Actual		Projections	Actual		
Mega States	39610	68268	61242	90	91525	85942	94	103605	98276	95	107500	106620	99	114500
EAG States	5946	11325	10503	93	16950	16468	97	21480	20597	96	23500	23617	100	25785
Micro States	185	345	555	161	1067	1076	101	1665	1501	90	1822	1772	97	2040
Union Territories	170	389	539	139	1008	878	87	1110	1003	90	1128	1105	98	1275
Delhi	4188	4700	4687	100	5500	5809	106	7000	7332	105	10300	9981	97	11500
Total	50099	85027	77526	91	116050	110173	95	134860	128709	95	144250	143095	99	155100

Unfortunately, number of COVID Deaths in India is likely to reach around **1.55 lacs** by 12 January 2021, 12,000 new deaths. Mega states to witness additional 7800 deaths during 13 Dec – 12 January.

Mega States: COVID 19: Statewise Positive Cases Projections

Mega States	16-Aug	12-Sep		%ge Actual of Projected	12-Oct		%ge og Actual of Projected	12-Nov		%ge og Actual of Projected	12-Dec		%ge og Actual of Projected	12 Jan Projections (+/-5%)
	Actuals	Projection	Actual		Projection	Actual		Projections	Actual		Projections	Actual		
Andhra Pradesh	281817	580000	547686	94	875000	758951	87	900000	849705	94	900000	875025	97	890000
Gujarat	77663	100000	110971	111	150000	152764	102	190000	184964	97	220000	226508	103	255000
Haryana	46410	60000	88332	147	160000	143221	90	170000	193111	114	280000	251402	90	280000
Himachal Pradesh	3993	7000	8784	125	17000	17578	103	25000	28183	113	50000	48951	98	70000
Jammu & Kashmir	28021	50000	50712	101	100000	84031	84	100000	100968	101	120000	115626	96	125000
Karnataka	219926	450000	440411	98	700000	717915	103	1000000	855912	86	925000	900214	97	930000
Kerala	42885	90000	102255	114	200000	295133	148	660000	508257	77	660000	664633	101	785000
Maharashtra	584754	1000000	1015681	102	1750000	1535315	88	1875000	1736329	93	1850000	1876699	101	1975000
Punjab	30041	62000	74616	120	150000	124535	83	150000	139869	93	160000	159579	100	175000
Tamil Nadu	332105	520000	491571	95	675000	661264	98	820000	752521	92	810000	797693	98	825000
Telangana	91361	91361	152602	NA	152600	213084	NA	213100	254666	120	290000	277151	96	295000
West Bengal	113432	235000	196332	84	300000	298389	99	400000	420840	105	535000	519215	97	630000
Total	1852408	3245361	3279953	101	5229600	5002180	96	6503100	6025325	93	6800000	6712696	99	7235000

Number of COVID cases in Mega States is likely to reach **7.23 Mn** cases by 12 January 2021, 5.2 lacs new cases. Maharashtra, Kerala, and West Bengal to add more than 1 lakh new cases each during 13 Dec – 12 January.

Mega States: COVID 19: Statewise Mortality Projections

Mega States	16-Aug	12-Sep		%ge Actual of Projected	12-Oct		%ge og Actual of Projected	12-Nov		%ge og Actual of Projected	12-Dec		%ge og Actual of Projected	12 Jan Projections (+/-5%)
	Actuals	Projection	Actual		Projection	Actuals		Projection s	Actual		Projection s	Actual		
Andhra Pradesh	2562	6250	4779	76	7000	6256	89	7000	6837	98	7150	7052	99	7125
Gujarat	2765	3000	3181	106	3600	3577	99	3900	3785	97	3950	4160	105	5500
Haryana	528	700	932	133	1800	1592	88	2000	1979	99	2450	2710	111	3200
Himachal Pradesh	18	25	70	280	175	246	141	375	405	108	650	793	122	1190
Jammu & Kashmir	527	1500	854	57	1300	1333	103	1700	1566	92	1800	1793	100	2060
Karnataka	3832	6700	7067	105	11200	10314	92	12800	11474	90	12000	11939	99	12200
Kerala	147	400	411	103	800	1026	128	2000	1797	90	2600	2595	100	3350
Maharashtra	19749	31000	28724	93	44000	40514	92	48000	45682	95	49000	48139	98	50000
Punjab	771	4000	2212	55	4800	3860	80	4800	4412	92	5200	5057	97	5800
Tamil Nadu	5641	9000	8234	91	10500	10314	98	12200	11440	94	12150	11883	98	12200
Telangana	693	693	950	137	950	1228	129	1230	1393	113	1550	1489	96	1525
West Bengal	2377	5000	3828	77	5400	5682	105	7600	7506	99	9000	9010	100	10350
Total	39610	68268	61242	90	91525	85942	94	103605	98276	95	107500	106620	99	114500

Unfortunately, number of COVID Deaths in Mega States is likely to reach around **1.14 lacs** by 12 January 2021, 7800 new deaths. Maharashtra, West Bengal, and Kerala likely to witness relatively higher deaths during 13 Dec – 12 January.

EAG States: COVID 19: Statewise Positive Cases Projections

EAG States	16-Aug	12-Sep		%ge Actual of Projected	12-Oct		%ge og Actual of Projected	12-Nov		%ge og Actual of Projected	12-Dec		%ge og Actual of Projected	12 Jan Projections (+/-5%)
	Actuals	Projection	Actual		Projection	Actuals		Projections	Actual		Projections	Actual		
Assam	75559	165000	138339	84	215000	195304	NA	195400	209835	107	215000	214584	100	220000
Bihar	101906	225000	155445	69	200000	197000	99	230000	225500	98	245000	242748	99	260000
Chattisgarh	15045	25000	58643	235	145000	145247	100	225000	207740	92	265000	255761	97	300000
Jharkhand	22672	50000	59040	118	110000	93035	85	115000	105493	92	112000	111366	99	115000
Madhya Pradesh	44433	75000	83619	111	145000	148298	102	200000	180997	90	210000	222397	106	250000
Odisha	57126	120000	143117	119	250000	254662	102	335000	305986	91	335000	323364	97	333000
Rajasthan	59979	100000	99036	99	150000	161184	107	225000	219327	97	285000	289999	102	325000
Uttar Pradesh	150061	365000	299045	82	500000	439161	88	520000	505424	97	565000	564132	100	610000
Uttarakhand	11940	21000	29221	139	50000	47306	95	70000	67239	96	83000	81939	99	110000
Total	538721	1146000	1065505	93	1765000	1681197	95	2115400	2027541	96	2315000	2306290	100	2523000

Number of COVID cases in EAG States is likely to reach **2.5 Mn** cases by 12 January 2021, 2.15 lacs new cases. Uttar Pradesh, Chattisgarh, and Rajasthan is likely to add relatively more new cases during 13 Dec – 12 January.

EAG States: COVID 19: Statewise Mortality Projections

EAG States	16-Aug	12-Sep		%ge Actual of Projected	12-Oct		%ge og Actual of Projected	12-Nov		%ge og Actual of Projected	12-Dec		%ge og Actual of Projected	12 Jan Projections (+/-5%)
	Actuals	Projection	Actual		Projection	Actuals		Projections	Actual		Projections	Actual		
Assam	182	400	430	108	900	826	NA	830	958	115	1050	1000	95	1030
Bihar	515	1100	797	72	1100	955	87	1100	1167	106	1350	1317	98	1440
Chattisgarh	134	525	518	99	1600	1286	80	2350	2527	108	3100	3084	99	3500
Jharkhand	229	500	532	106	900	798	89	1000	917	92	1000	995	100	1030
Madhya Pradesh	1094	1500	1691	113	2500	2645	106	3600	3065	85	3350	3391	101	3630
Odisha	386	800	658	82	1000	1093	109	1500	1536	102	2000	1855	93	1975
Rajasthan	862	1200	1207	101	1650	1665	101	2150	2032	95	2400	2568	107	2930
Uttar Pradesh	2393	5000	4282	86	6600	6438	98	7700	7302	95	8000	8056	101	8650
Uttarakhand	151	300	388	129	700	762	109	1250	1093	87	1250	1351	108	1600
Total	5946	11325	10503	93	16950	16468	97	21480	20597	96	23500	23617	100	25785

Unfortunately, number of COVID Deaths in EAG States is likely to reach around **25785** by 12 January 2021, 2200 new deaths.

COVID 19: Micro States & UTs Positive Cases Projections

Micro States	16-Aug	12-Sep		%ge Actual of Projected	12-Oct		%ge og Actual of Projected	12-Nov		%ge og Actual of Projected	12-Dec		%ge og Actual of Projected	12 Jan Projections (+/-5%)
		Actuals	Projection		Actual	Projection		Actual	Projections		Actual	Projections		
Arunachal Pradesh	2658	4500	5825	129	11000	12367	112	19000	15701	83	17700	16504	93	16900
Goa	11339	23500	23445	100	45000	38674	86	51000	45605	89	50000	49305	99	51500
Manipur	4390	7500	7579	101	11000	13556	123	20000	21211	106	29000	27036	93	31500
Meghalaya	1292	2250	3447	153	6000	7771	130	12400	10512	85	13300	12743	96	15000
Mizoram	777	1600	1379	86	3700	2184	59	2600	3242	125	4300	4024	94	4200
Nagaland	3340	7000	4946	71	10000	7240	72	9500	9615	101	10300	11676	113	14000
Sikkim	1148	2000	2026	101	3000	3367	112	4600	4369	95	5500	5316	97	6000
Tripura	7076	12200	17830	146	35000	28675	82	25000	31762	127	34000	33012	97	33500
Total	32020	60550	66477	110	124700	113834	91	144100	142017	99	164100	159616	97	172600

Union Territories	16-Aug	12-Sep		%ge Actual of Projected	12-Oct		%ge og Actual of Projected	12-Nov		%ge og Actual of Projected	12-Dec		%ge og Actual of Projected	12 Jan Projections (+/-5%)
		Actuals	Projection		Actual	Projection		Actual	Projections		Actual	Projections		
Andaman & Nichobar	2306	6500	3494	54	4500	4023	89	4400	4507	102	5000	4805	96	5000
Chandigarh	2009	3500	7292	208	17000	13264	78	15500	15543	100	18500	18572	100	20000
Dadra & Nagar Haveli	1846	3200	2682	84	3500	3167	90	3500	3273	94	4400	3349	76	5400
Ladakh	1909	3000	3228	108	4200	5151	123	7000	7211	103	10000	9138	91	10000
Puducherry	7354	18000	19026	106	30000	31737	106	42000	36179	86	39000	37444	96	38000
Total	15424	34200	35722	104	59200	57342	97	72400	66713	92	76900	73308	95	78400

COVID 19: Micro States & UTs Mortality Projections



Union Territories	16-Aug	12-Sep		%ge Actual of Projected	12-Oct		%ge Actual of Projected	12-Nov		%ge Actual of Projected	12-Dec		%ge Actual of Projected	12 Dec Projections (+/-5%)
	Actuals	Projection	Actual		Projection	Actual		Projections	Actual		Projections	Actual		
Puducherry	106	270	365	135	750	565	75	650	607	93	650	619	95	650
Ladakh	10	15	38	253	45	64	142	90	89	99	100	123	123	150
Dadra & Nagar Haveli	2	4	2	50	3	2	67	30	2	7	3	2	67	25
Chandigarh	28	50	83	166	150	192	128	250	244	98	300	300	100	360
Andaman & Nicobar	24	50	51	102	60	55	92	90	61	68	75	61	81	90
Total	170	389	539	139	1008	878	87	1110	1003	90	1128	1105	98	1275

Micro States	16-Aug	12-Sep		%ge Actual of Projected	12-Oct		%ge og Actual of Projected	12-Nov		%ge og Actual of Projected	12-Dec		%ge og Actual of Projected	12 Jan Projections (+/-5%)
	Actuals	Projection	Actual		Projection	Actual		Projections	Actual		Projections	Actual		
Goa	98	240	276	115	525	511	97	750	656	87	800	705	88	730
Tripura	55	60	182	303	375	314	84	400	356	89	400	372	93	400
Manipur	13	20	44	220	100	93	93	150	207	138	300	322	107	415
Nagaland	7	9	8	89	10	13	130	40	50	125	60	68	113	100
Arunachal Pradesh	5	7	10	143	12	24	200	85	47	55	60	55	92	80
Meghalaya	6	7	24	343	30	64	213	90	98	109	100	125	125	155
Sikkim	1	1	11	1100	15	57	380	150	85	57	100	118	118	150
Mizoram	0	1	0	0	0	0	0	0	2	#DIV/0!	2	7	350	10
Total	185	345	555	161	1067	1076	101	1665	1501	90	1822	1772	97	2040

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.

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Thank you