

COVID 19: Wave 3: Global Trend Analysis & Projection

20 November 2021

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

Mission: Actively contribute towards Right to Health as a constitutional right of Indian citizens.

Project: Jeevan Raksha has been in the forefront of providing sharper analytical insights on emerging patterns 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 thanks General Insurance Council (GI Council) for sharing the monthly COVID Health Insurance claim data for our research and analytics purpose

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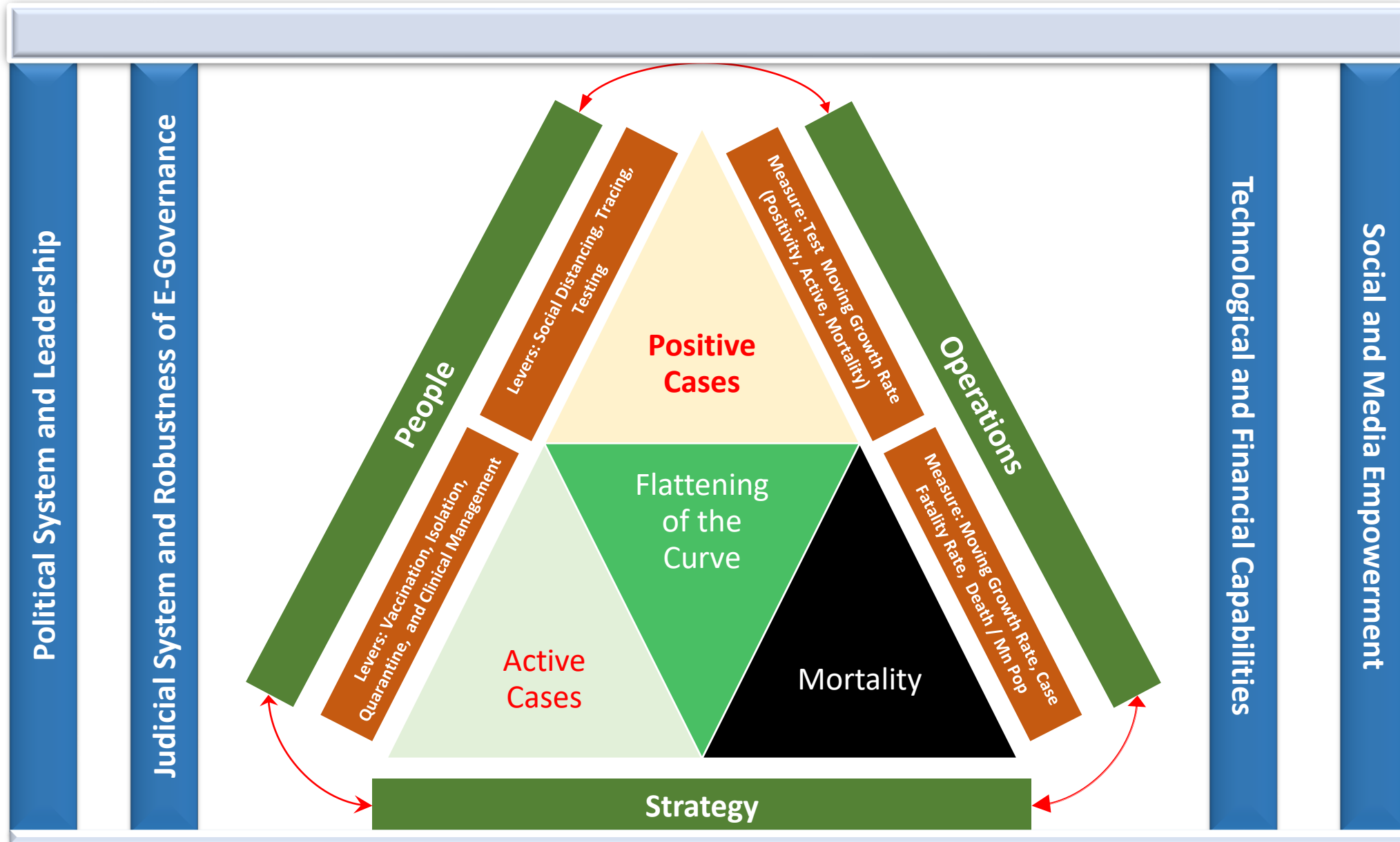
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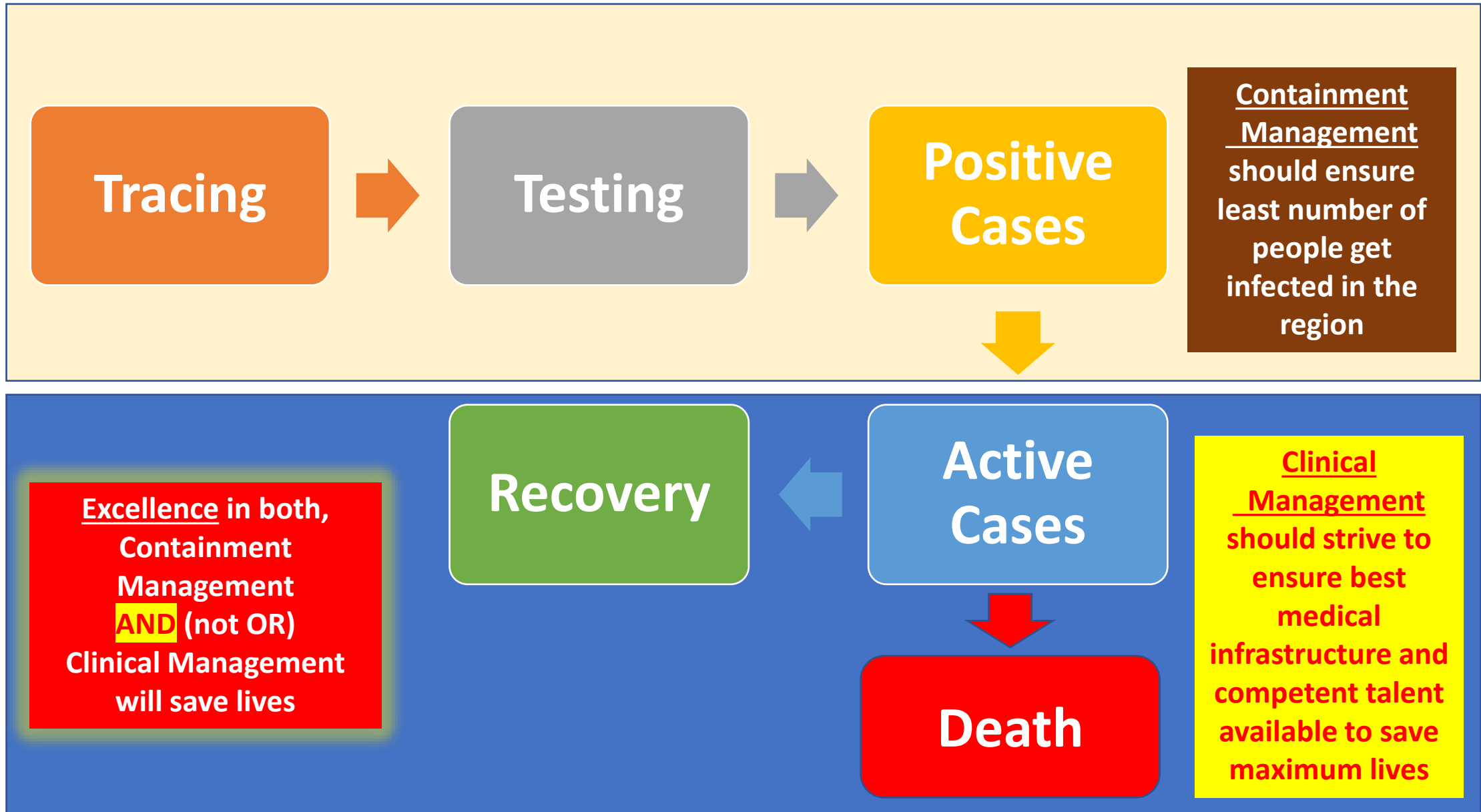
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Proxima Pandemic & Epidemic Management System (PPMS)

JEEVAN RAKSHA
PROTECTING LIVES



Qualitative and Quantitative Testing will determine the fate of the people



In Europe 60% of the population are fully vaccinated, but WHO has warned 0.5 Mn death in next 100 days!



Globally, in 2020 1.88 Mn people died due to COVID. Whereas in 2021, 3.12 Mn died. Total death toll has crossed 5 Mn. It is likely to increase at concerning rate.

Malaysia had witnessed only 471 deaths in 2020, but 2021 (until October) 28441 deaths has occurred. It has vaccinated 75% of its population

In Germany even though 2/3rd of its population is fully-vaccinated, COVID deaths in 2021 has increased by 183% when compared with 2020.

COVID Death Growth Rate (%) in 2021 compared with 2020					
C-Nations	2020	Jan-Oct 2021	Total	% ge increase in Deaths in 2021	%ge of Population Full Vaccination (10 Nov)
Thailand	63	19142	19205	30384	48
Malaysia	471	28441	28912	6038	75
Indonesia	22138	121327	143465	548	29
Japan	3492	14772	18264	423	74
Russia	56271	177923	234194	316	34
Turkey	20881	49730	70611	238	58
South Africa	28469	60708	89177	213	22
Brazil	194949	412875	607824	212	58
India	148994	309443	458437	208	25
Germany	33791	61944	95735	183	67
Israel	3325	4775	8100	144	62
Mexico	125807	162558	288365	129	48
USA	346050	399485	745535	115	57
UK	73512	67120	140632	91	67
Canada	15606	13362	28968	86	75
France	64267	51027	115294	79	68
Spain	50937	36431	87368	72	80
C-17 Nations	1189023	1991063	3180086	167	NA
Rest of the World	691645	1129243	1820888	167	NA
World	1880668	3120306	5000974	166	40

USA has witnessed ~ 0.4 Mn deaths in 2021 when compared to 0.35 Mn in 2020. It has fully-vaccinated 57% of its population

In Brazil, inspite of nearly 60% of the population is fully vaccinated, COVID deaths in 2021 has shot-up by over 200% when compared with 2020.

Vaccination saves lives. A delusion created by vested groups?



- Globally, COVID CFR is 2%. Even after 40% of the population is fully vaccinated, CFR is at 1.7%. Negligible Return on Inconvenience and Investment (ROI)
- As on date, CFR of Spain is 1.7%. After vaccinating 80% of the population, why Monthly CFR in September is 2.2% and in Oct it is 1.8%?
- In Canada, why Monthly CFR is has more than doubled in last 90 days from 0.5% to 1.8%?
- In Malaysia, the %ge of COVID infected people dying even after 75% of population is fully vaccinated remain at the same rate of before vaccination.
- In Germany and Israel, monthly CFR has doubled even after 60% of the population is fully-vaccinated
- In USA, monthly CFR has almost tripled from 0.7% to 2.0%
- In what way Thailand and Mexico got benefit by vaccinating 50% of its population? Number of infected people dying / 100 people infected remain the same as before vaccinating the people for COVID
- Death rate in Japan has improved substantially not because vaccination but because of effective containment management due to which daily average caseload has dropped drastically
- France and UK seems to have positive impact.

Impact of Vaccination on COVID Deaths in C-17 Nations					
Nations	Population full vaccination (%)	Case Fatality Rate (CFR) %			
		Till Date	Aug	Sept	Oct
Spain	80%	1.7	0.8	2.2	1.8
Canada	75%	1.7	0.5	0.8	1.2
Malaysia	75%	1.2	1.3	2.0	1.1
Japan	74%	1.1	0.2	0.8	2.9
France	68%	1.6	0.4	1.0	0.6
UK	67%	1.5	0.3	0.4	0.3
Germany	67%	2.0	0.3	0.6	0.6
Israel	62%	0.6	0.3	0.4	0.7
Brazil	58%	2.8	2.9	2.6	2.9
Turkey	58%	0.9	0.9	1.0	0.7
USA	57%	1.6	0.7	1.5	2.0
Thailand	48%	1.0	1.1	1.3	0.8
Mexico	48%	7.6	3.6	6.2	7.6
Russia	34%	2.8	3.9	4.2	3.1
Indonesia	29%	3.4	5.8	7.8	5.0
India	25%	1.3	1.3	1.0	2.0
South Africa	22%	3.1	3.2	4.8	8.3
World	40%	2.0	1.5	1.7	1.7

Statewise Vaccination Per Million Population (Total Doses)

Mega States	VPM
Himachal Pradesh	582699
Gujarat	479817
Jammu & Kashmir	478419
Kerala	449020
Karnataka	409197
Haryana	347120
Maharashtra	293661
Telangana	279452
Andhra Pradesh	263653
Tamil Nadu	244086
West Bengal	240941
Punjab	232239

EAG States	VPM
Uttarakhand	355528
Madhya Pradesh	344226
Chattisgarh	313170
Assam	307637
Odisha	280436
Rajasthan	259155
Bihar	192124
Jharkhand	181884
Uttar Pradesh	159743

North-East States	VPM
Sikkim	724374
Tripura	489940
Arunachal Pradesh	433612
Mizoram	403472
Manipur	258770
Nagaland	222252
Meghalaya	207918

Union Territory	VPM
Lakshadweep	620415
Dadra & NH	581888
Chandigarh	568478
Ladakh	345993
Puducherry	282977

COVID 19: Wave 3: Global Projections: 11 November – 10 December

The robust Analytics and Projection Module of PPMS enables to accurately predict the estimated number of new infected people in a Country / State / County / District during a 4-Week period.

As part of Project: Jeevan Raksha initiative, the Projection Module of PPMS was successfully tested and implemented during the 1st Wave of COVID in India. The Statewise projections were resoundingly successful. Many Indian State Governments acknowledged the effectiveness of the module in managing the Pandemic.

During the ongoing 3rd wave of the Pandemic, Data Scientists and Analysts at Proxima carried out pilot analysis of worldwide COVID data. The encouraging results led to the launch of COVID 19 Global Projection in September 2021 which has accuracy of 99% actual of Projected. This is a major breakthrough in enhancing the preparedness of the administration to effectively manage the Pandemic / Epidemic.

Proxima Pandemic and Epidemic Management System (PPMS) is the world's 1st Management System for Pandemic / Epidemic which effectively traces the changing pattern of virus spread in a region. It also accurately predicts the estimated number of additional infections and deaths during a particular period and region. This would immensely help the local administration to bring in appropriate interventions and reduce the mortality to the possible extent.

Globally, COVID Cases is likely to cross 267 Mn, 50 Mn in USA by 10 December

COVID 19: 3rd Monthly Mortality Projection: Worldwide, C-17 Nations, and Rest of the world: Period: 11 Nov - 10 Dec 2021 (+/-2%)									
C-17 Nations	Caseload Share (%)	Actual (11 September)	Projection (10 October)	Actual (10 October)	%ge Actual of Projected	Projection (10 Nov 21)	Actual (10 November)	%ge Actual of Projected	Projection (10 Dec 21)
USA	19	41744465	46920000	45204373	96	47260000	47647745	101	50455000
India	14	33200877	34340000	33971604	99	34421600	34401670	100	34844000
Brazil	9	20974850	21425000	21575820	101	21925000	21911382	100	22242000
UK	4	7168115	8390000	8154306	97	9157000	9406001	103	10613500
Russia	4	7102625	7630000	7775365	102	8817000	8911713	101	10051700
France	3	6887791	7131500	7056511	99	7234000	7244040	100	7559000
Turkey	3	6613976	7425000	7444552	100	8299000	8315424	100	9140000
Spain	2	4907461	5055000	4973619	98	5011000	5038517	101	5136000
Indonesia	2	4158731	4316000	4227932	98	4252000	4249323	100	4260000
Germany	2	4071607	4497000	4329382	96	4664000	4875551	105	6006500
Mexico	2	3479999	3824000	3723235	97	3931000	3831259	97	3925000
South Africa	1	2848925	3013000	2912145	97	2934000	2924622	100	2930900
Malaysia	1	1940950	2600000	2339594	90	2537000	2522498	99	2663000
Japan	1	1614124	1900000	1710394	90	1727000	1724513	100	1730000
Canada	1	1538093	1675000	1658989	99	1763000	1739979	99	1812900
Thailand	1	1352953	1740000	1720919	99	2005000	1989473	99	2183000
Israel	1	1154286	1333000	1305510	98	1350000	1335885	99	1349400
C-17 Nations	67	150759828	163214500	160084250	98	167287600	168069595	100	176901900
Rest of the World	33	73852087	79385500	78648506	99	82580000	84051119	102	90098100
Worldwide	100	224611915	242600000	238732756	98	249867600	252120714	101	267000000

Globally, 15 Mn new cases are expected. 2.8 Mn are likely to be in USA. Russia, UK, and Germany are likely to add 1 Mn new cases each

Globally, COVID Death toll is likely to cross 5.3 Mn

COVID 19: 3rd Monthly Mortality Projection: Worldwide, C-17 Nations, and Rest of the world: Period: 11 Nov - 10 Dec 2021 (+/-2%)									
C-17 Nations	Mortality Share (%)	Actual (11 Sept 21)	Projection (10 Oct 21)	Actual (10 Oct)	%ge Actual of Projected	Projection (10 Nov 21)	Actual (10 Nov)	%ge Actual of Projected	Projection (10 Dec 21)
USA	15	677018	740000	733575	99	771300	780236	101	820000
Brazil	12	585923	603000	601047	100	610350	610080	100	615250
India	9	442350	450000	450814	100	455800	455893	100	459300
Mexico	6	266150	285000	282086	99	299400	290110	97	298000
Russia	5	191165	215000	216415	101	248800	250454	101	288250
Indonesia	3	138431	150000	142651	95	143750	143592	100	144000
UK	3	133988	138000	137735	100	140200	142338	102	148450
France	2	115442	119000	117052	98	117450	118056	101	119000
Germany	2	93095	94500	95033	101	95900	97599	102	103500
Spain	2	85290	88500	86778	98	87700	87617	100	88550
South Africa	2	84608	92500	88317	95	89850	89435	100	90500
Turkey	1	59384	65600	66180	101	71750	72713	101	78000
Canada	1	27170	28200	28203	100	28650	29249	102	29950
Malaysia	1	19827	29700	27329	92	30000	29486	98	30750
Japan	0.4	16603	18500	17927	97	18600	18316	98	18500
Thailand	0.4	13920	19300	17,751	92	19900	19826	100	21275
Israel	0.2	7321	7900	7912	100	8500	8136	96	8250
C-17 Nations		2957685	3144700	3116805	99	3237900	3243136	100	3361525
Rest of the World		1672116	1769300	1750206	99	1784750	1845175	103	1964475
Worldwide		4629801	4914000	4867011	99	5022650	5088311	101	5326000

Unfortunately, out of 0.23 Mn estimated incremental COVID deaths by 10 December, USA and Russia is likely contribute ~ 40,000 each

I am delighted and pleased to learn that your organization Jeevan Raksha is active & doing human work in the worst situation of COVID - 19, I appreciate & Express my feelings towards your trends and projection regarding COVID - 19. I wish to congratulate you and team vision for Jeevan Raksha project.

I wish you every success in your motto.

Thank You.

Shri Vinod L Chavda

Hon'ble Member of Parliament
Kutch-Morbi Constituency, Gujarat
17 June 2021

Thank you for sending your forecast. I am impressed that you have accurately forecast the growth in the last month. We will prepare for the scenario you have outlined for the next month.

Regards,

Shri T M Vijay Bhaskar IAS
Chief Secretary
Government of Karnataka
19 August 2020

India is estimated to report 0.35 Mn New cases, only 2.3% of estimated 15 Mn global new COVID Cases

3rd Wave: Zonewise: COVID Cases Growth Projection: 11 Nov - 10 Dec 2021 (+/- 2%)											
State	Vaccination Status			11-09-2021 (Actual Caseload)	Projected Caseload (10 Oct)	Actual Caseload (10 Oct)	%ge Actual of Projected	Projected Caseload (10 Nov)	Actual Caseload (10 Oct)	%ge Actual of Projected	Projected Caseload (10 Nov)
	1st Dose (Cr)	2nd Dose (Cr)	Total Doses (Cr)								
Mega States	39.1	20.4	59.5	23399937	24441300	24083462	99	24451350	24448598	100	24753150
EAG States	32.8	14.5	47.3	7487296	7522180	7517145	100	7545400	7530086	100	7549920
NE States + Goa	0.9	0.6	1.5	636519	694075	689637	99	740350	717251	97	741140
Union Territories	0.5	0.4	0.9	238975	242645	241857	100	243080	243433	100	244985
Delhi	1.3	0.9	1.3	1438154	1439250	1439195	100	1440100	1440176	100	1441550
Total	74.6	36.8	110.5	33200881	34339450	33971296	99	34420280	34379544	100	34730745

3rd Wave: Zonewise: COVID Mortality Growth Projection: 11 Nov - 10 Dec 2021 (+/- 2%)											
State	Vaccination Status			11-09-2021 (Actual Deaths)	Projected Deaths (10 Oct)	Actual Deaths (10 Oct)	%ge Actual of Projected	Projected Deaths (10 Nov)	Actual Deaths (10 Oct)	%ge Actual of Projected	Projected Deaths (10 Nov)
	Total Doses (Cr)	Full Dose (Cr)	Atleast 1 Dose (Cr)								
Mega States	39.1	20.4	59.5	313616	321126	321163	100	325287	325711	100	328590
EAG States	32.8	14.5	47.3	91942	92277	92363	100	92708	92603	100	92877
NE States + Goa	0.9	0.6	1.5	8682	9010	9141	101	9538	9412	99	9665
Union Territories	0.5	0.4	0.9	3027	3053	3058	100	3082	3076	100	3097
Delhi	1.3	0.9	1.3	25083	25083	25089	100	25093	25091	100	25091
Total	74.6	36.8	110.5	442350	450549	450814	100	455708	455893 *	100	459320 *

* Excludes Kerala's reconciled death toll

Kerala's population is ~ 35 Mn, 2.3% of India's total population. But estimated to report additional 2 Lac cases, 55% of India's new COVID cases by 10 December

In EAG States Zone, 675 Mn people live, but ~ 20K new cases are expected to be reported

~ 90% of India's new COVID cases are estimated to be contributed by Mega States Zone

3rd Wave: Mega States: COVID Cases Growth Projection: 11 Oct - 10 Nov 2021 (+/- 2%)											
State	Vaccination Status			11-09-2021 (Actual Caseload)	Projected Caseload (10 Oct)	Actual Caseload (10 Oct)	%ge Actual of Projected	Projected Caseload (10 Nov)	Actual Caseload (10 Nov)	%ge Actual of Projected	Projected Caseload (10 Dec)
	1st Dose (Cr)	2nd Dose (Cr)	Total Doses (Cr)								
Andhra Pradesh	3.4	2.2	5.6	2027650	2080000	2057252	99	2080000	2068718	99	2078600
Gujarat	4.5	2.9	7.4	825584	826150	826141	100	826750	826784	100	827750
Haryana	1.8	0.9	2.7	770626	771000	770993	100	771300	771355	100	771700
Himachal Pradesh	0.6	0.4	1.0	215437	220700	220479	100	223900	225165	101	228675
Jammu & Kashmir	0.96	0.6	1.6	326653	330250	330533	100	333000	333325	100	333325
Karnataka	4.3	2.5	6.8	2960131	2985000	2981027	100	2990000	2990528	100	3000000
Kerala	2.5	1.5	4.0	4334704	5100000	4794800	94	5000000	5027318	101	5225300
Maharashtra	6.9	3.3	10.2	6491179	6600000	6577872	100	6635000	6619329	100	6646300
Punjab	1.6	0.7	2.3	600970	602000	601876	100	602800	602618	100	603600
Tamil Nadu	4.2	1.9	6.1	2630592	2680000	2678265	100	2713300	2710756	100	2734400
Telangana	2.4	1.1	3.5	661006	668200	667887	100	672300	672823	100	676900
West Bengal	6.0	2.4	8.4	1555405	1578000	1576337	100	1603000	1599879	100	1626600
Mega States	39.1	20.4	59.5	23399937	24441300	24083462	99	24451350	24448598	100	24753150

Maharashtra, Tamil Nadu, and West Bengal are likely to report around 25 – 28K new COVID Cases

Maharashtra, Tamil Nadu, and West Bengal are likely to report around 25 – 28K new COVID Cases

J&K is unlikely to report any new COVID cases

Gujarat and Punjab is likely to report less than 1000 new cases

Andhra Pradesh & Karnataka are expected to add 10K new cases each

Kerala's population of 35 Mn is ~ 5.5% of 675 Mn people living in Mega States, but estimated to contribute 2/3rd of total new cases in Mega States

640 Mn people lives in Mega States (Excluding Kerala). 100K Total new cases are estimated to be reported by these states

~ 2900 COVID Deaths are estimated to be reported by Mega States

Tamil Nadu and West Bengal is expected to report ~ 350 new COVID deaths

Maharashtra is estimated to report ~ 500 new COVID deaths

3rd Wave: Mega States: COVID Mortality Growth Projection: 11 Nov - 10 Dec 2021 (+/- 2%)												
State	Vaccination Status			11-09-2021 (Actual Deaths)	Projected Deaths (10 Oct)	Actual Deaths (10 Oct)	%ge Actual of Projected	Projected Deaths (10 Nov)	Actual Deaths (10 Oct)	%ge Actual of Projected	Projected Deaths (10 Nov)	
	1st Dose (Cr)	2nd Dose (Cr)	Total Doses (Cr)									
Andhra Pradesh	3.4	2.2	5.6	13970	14225	14254	100	14380	14398	100	14500	
Gujarat	4.5	2.9	7.4	10082	10085	10086	100	10086	10090	100	10090	
Haryana	1.8	0.9	2.7	9686	9710	9875	102	9905	10050	101	10050	
Himachal Pradesh	0.6	0.4	1.0	3614	3700	3688	100	3750	3738	100	3885	
Jammu & Kashmir	0.96	0.6	1.6	4411	4411	4426	100	4426	4445	100	4445	
Karnataka	4.3	2.5	6.8	37472	37700	37885	100	38075	38123	100	38300	
Kerala	2.5	1.5	4.0	22303	27250	26258	96	28350	28412	100	29600	
Maharashtra	6.9	3.3	10.2	138061	139200	139542	100	140450	140430	100	140950	
Punjab	1.6	0.7	2.3	16453	16500	16531	100	16590	16566	100	16600	
Tamil Nadu	4.2	1.9	6.1	35119	35600	35783	101	36140	36238	100	36570	
Telangana	2.4	1.1	3.5	3892	3920	3930	100	3960	3969	100	4000	
West Bengal	6.0	2.4	8.4	18553	18825	18905	100	19175	19252	100	19600	
Total	39.1	20.4	59.5	313616	321126	321163	100	325287	325711	100	328590	

Gujarat, Haryana, and Jammu & Kashmir, are expected to report **ZERO** Covid death

Kerala is estimated to witness ~ 1200 new deaths, 35% of total India's total Deaths

Kerala to revise list of COVID-19 deaths; new guidelines soon

SPECIAL CORRESPONDENT
THIRUVANANTHAPURAM

Kerala will bring out a revised and comprehensive list of COVID-19 deaths in accordance with the new Central guidelines on the definition of what constitutes a COVID-19 death, Kerala Health Minister Veena George has said.

The State guidelines on COVID-19 deaths are being revised and the new guidelines will be finalised and published within a few days.

They will take into account the new clarification provided by the Centre that even if a patient was COVID-negative at the time of death, it would be treated as death due to COVID-19 if the death occurs within 30 days of the patient testing positive for COVID. The



Taking stock: Health Minister Veena George visiting the new ICU at the Thiruvananthapuram Medical College Hospital on Thursday.

new list of COVID-19 deaths that have occurred in the State would be comprehensive and would not leave out any deaths related to COVID-19, Ms. George told mediapersons here on Thursday, while visiting new ICUs being opened at the Thiruvananthapuram Government Medical College Hospital.

The Health Department has decided to conduct an inquiry into COVID-19 deaths and will take necessary steps to resolve any anomalies in reporting. Steps have been taken to receive all complaints on non-inclusion of deaths due to COVID-19 in the State's official list of deaths.

'State under-reported 2mn cases'

Figures From Hospitals In State Under PMJAY Highlight Disparity

Preetu.Nair@timesgroup.com

Kochi: An analysis of admission and mortality in the nine hospitals empanelled under the Pradhan Mantri Jan Arogya Yojna (PMJAY) in Kerala (among the top 25 such hospitals with the maximum number of beneficiary deaths in India), shows that 13,609 beneficiaries died in these hospitals.

Among them, 275 died of Covid, while the remaining 13,334 were beneficiaries treated for non-Covid diseases.

From January 2020-August 2021, of the 4,29,454 PM-JAY beneficiaries admitted to these hospitals, only an estimated 2% were treated for Covid. In Kerala, 60% of the population is covered under the scheme.

Incidentally, of the nine hospitals, six are government medical colleges that were designated as Covid hospitals, admitting only Covid patients, during the pandemic, raising questions about un-



With lockdown restrictions easing, more guest labourers have started coming to the state. A scene from Vaduthala Junction on Tuesday where they wait to get hired by contractors

der-reporting of the total number of PM-JAY beneficiaries treated for Covid as well as Covid deaths in these hospitals. The analysis was done by Project-Jeevan Raksha, an initiative of Proxima with technical support from Public Health Foundation of India (PHFI), based on the data

gathered through an RTI query from National Health Authority (NHA) on the list of top 25 empanelled hospitals in which the maximum number of PM-JAY beneficiaries succumbed.

"As on September 1, Kerala had reported 40 lakh Covid cases. Assuming a minimum

of 15% hospitalisation rate, nearly 6 lakh Covid positive patients should have been hospitalised of which 3.6 lakh admissions should have been from the PM-JAY category because nearly 60% of the state's population is covered by PM-JAY. If we work backwards and calculate, it is clear that Kerala has under-reported nearly 2 million cases and 20,000 deaths," said Mysore Sanjeev, convener, Project-Jeevan Raksha.

There have been frequent allegations of underreporting of Covid deaths in Kerala. Recently, the health minister indicated that the death toll will be reviewed based on new guidelines issued by the Centre. The RTI reply shows that 44,700 PM-JAY beneficiaries have died so far while getting treatment in these 25 hospitals since the scheme was launched in 2019. Out of the 44,700 deaths, 19,441 deaths occurred in nine PM-JAY empanelled hospitals in Kerala.

Besides nine from Kerala, on the top 25 list are six empa-

nelled hospitals from Chhattisgarh, four from Madhya Pradesh, three from Uttarakhand, one each from Chandigarh, Jharkhand and Gujarat. It is pertinent to note that NHA also informed that Karnataka, Maharashtra, Tamil Nadu, Arunachal Pradesh, Andhra Pradesh and Assam were not disclosing deaths of PM-JAY beneficiaries with them.

However, health experts here said many Kerala hospitals figure in the list because the state is transparent with its data. "Data sampling is a very vital part of any study. Kerala doesn't hide or fudge statistics like several other states and we have utilised the PM-JAY funds for the targeted persons. Our health department has meticulously ensured flattening of the Covid curve but as immediate vaccination was not available, our people suffered," said Dr R V Asokan, honorary secretary general, national Indian Medical Association (IMA).

EAG States with 675 Mn Population, are estimated to report only 20K New COVID Cases and 274 Deaths!

3rd Wave: EAG States: COVID Cases Growth Projection: 11 Nov - 10 Dec 2021 (+/- 2%)											
State	Vaccination Status			11-09-2021 (Actual Caseload)	Projected Caseload (10 Oct)	Actual Caseload (10 Oct)	%ge Actual of Projected	Projected Caseload (10 Nov)	Actual Caseload (10 Oct)	%ge Actual of Projected	Projected Caseload (10 Nov)
	1st Dose (Crs)	2nd Dose (Crs)	Total Doses (Crs)								
Assam	2.04	0.96	3	594347	604500	604969	100	611000	612798	100	619550
Bihar	5.1	2	7.1	725806	726200	725996	100	726200	716451	99	716570
Chattisgarh	1.5	0.8	2.3	1004820	1005500	1005530	100	1006100	1006220	100	1006800
Jharkhand	1.5	0.6	2.1	348055	349000	348352	100	348800	348933	100	349500
Madhya Pradesh	5	2.5	7.5	792311	792550	792621	100	792850	792919	100	793150
Odisha	2.7	1.3	4	1015083	1036500	1031696	100	1051500	1044112	99	1055000
Rajasthan	4.3	2.1	6.4	954175	954400	954359	100	954450	954465	100	954500
Uttar Pradesh	10	3.8	13.8	1709512	1709750	1709954	100	1710500	1710222	100	1710550
Uttarakhand	0.7	0.4	1.1	343187	343780	343668	100	344000	343966	100	344300
Total	32.84	14.46	47.3	7487296	7522180	7517145	100	7545400	7530086	100	7549920

3rd Wave: EAG States: COVID Mortality Growth Projection: 11 Nov - 10 Dec 2021 (+/- 2%)											
EAG States	Vaccination Status			11-09-2021 (Actual Deaths)	Projected Deaths (10 Oct)	Actual Deaths (10 Oct)	%ge Actual of Projected	Projected Deaths (10 Nov)	Actual Deaths (10 Oct)	%ge Actual of Projected	Projected Deaths (10 Nov)
	Total Doses (Crs)	Full Dose (Crs)	Atleast 1 Dose (Crs)								
Assam	2.04	0.96	3	5732	5825	5926	102	6050	6034	100	6100
Bihar	5.1	2	7.1	9658	9690	9661	100	9661	9661	100	9661
Chattisgarh	1.5	0.8	2.3	13558	13558	13570	100	13570	13586	100	13615
Jharkhand	1.5	0.6	2.1	5133	5133	5135	100	5135	5138	100	5138
Madhya Pradesh	5	2.5	7.5	10517	10517	10523	100	10523	10524	100	10524
Odisha	2.7	1.3	4	8137	8300	8302	100	8465	8401	99	8535
Rajasthan	4.3	2.1	6.4	8954	8954	8954	100	8954	8954	100	8954
Uttar Pradesh	10	3.8	13.8	22864	22890	22896	100	22925	22903	100	22925
Uttarakhand	0.7	0.4	1.1	7389	7410	7396	100	7425	7402	100	7425
Total	32.84	14.46	47.3	91942	92277	92363	100	92708	92603	100	92877

Assam & Odisha COVID data integrity is relative high in the EAG States Zone.

Both these states are collectively estimated to contribute 90% of new COVID cases and 75% of COVID deaths

Bihar, Jharkhand, Madhya Pradesh, and Rajasthan are estimated to collectively report less than 1000 COVID Cases and ZERO COVID Deaths

Rajasthan is estimated to report less than 50 new COVID cases

North East States: Projected COVID Cases and Deaths

3rd Wave: North-East States: COVID Cases Growth Projection: 11 Nov - 10 Dec 2021 (+/- 2%)											
State	Vaccination Status			11-09-2021 (Actual Caseload)	Projected Caseload (10 Oct)	Actual Caseload (10 Oct)	%ge Actual of Projected	Projected Caseload (10 Nov)	Actual Caseload (10 Nov)	%ge Actual of Projected	Projected Caseload (10 Nov)
	1st Dose (CrS)	2nd Dose (CrS)	Total Doses (CrS)								
Arunachal Pradesh	0.08	0.06	0.14	53663	55100	54900	100	55400	55197	100	55340
Manipur	0.12	0.08	0.2	116607	122600	122003	100	127000	124250	98	126100
Meghalaya	0.1	0.07	0.17	77877	82400	82423	100	84300	83914	100	84725
Mizoram	0.07	0.05	0.12	69026	108700	105829	97	145450	126917	87	146000
Nagaland	0.07	0.05	0.12	30555	31500	31449	100	31900	31960	100	32200
Sikkim	0.05	0.05	0.1	30501	31700	31667	100	32150	32058	100	32450
Tripura	0.25	0.18	0.43	83520	84850	84253	99	84800	84588	100	85125
Total	0.74	0.54	1.28	461749	516850	512524	99	561000	538884	96	561940

3rd Wave: North-East States: COVID Mortality Growth Projection: 11 Oct - 10 Nov 2021 (+/- 2%)											
EAG States	Vaccination Status			11-09-2021 (Actual Deaths)	Projected Deaths (10 Oct)	Actual Deaths (10 Oct)	%ge Actual of Projected	Projected Deaths (10 Nov)	Actual Deaths (10 Oct)	%ge Actual of Projected	Projected Deaths (10 Nov)
	Total Doses (CrS)	Full Dose (CrS)	Atleast 1 Dose (CrS)								
Arunachal Pradesh	0.08	0.06	0.14	269	290	280	97	280	280	100	280
Manipur	0.12	0.08	0.2	1807	1840	1885	102	1960	1940	99	2000
Meghalaya	0.1	0.07	0.17	1346	1475	1421	96	1510	1461	97	1500
Mizoram	0.07	0.05	0.12	233	285	354	124	475	456	96	515
Nagaland	0.07	0.05	0.12	634	660	671	102	700	692	99	725
Sikkim	0.05	0.05	0.1	377	405	388	96	388	400	103	400
Tripura	0.25	0.18	0.43	802	825	813	99	845	813	96	845
Total	0.74	0.54	1.28	5468	5780	5812	101	6158	6042	98	6265

Union Territories: Projected COVID Cases and Deaths

3rd Wave: Union Territories: COVID Cases Growth Projection: 11 Nov - 10 Dec 2021 (+/- 2%)											
State	Vaccination Status			11-09-2021 (Actual Caseload)	Projected Caseload (10 Oct)	Actual Caseload (10 Oct)	%ge Actual of Projected	Projected Caseload (10 Nov)	Actual Caseload (10 Oct)	%ge Actual of Projected	Projected Caseload (10 Nov)
	1st Dose (Crs)	2nd Dose (Crs)	Total Doses (Crs)								
Andaman & Nichobar	0.29	0.22	0.51	7579	7600	7633	100	7665	7665	100	7665
Chandigarh	0.09	0.06	0.15	65145	65250	65279	100	65400	65371	100	65460
Dadra & Nagar Haveli	0.04	0.02	0.06	10672	10700	10675	100	10675	10682	100	10685
Ladakh	0.02	0.01	0.03	20600	20720	20852	101	20940	21087	101	21450
Lakshadweep	0.005	0.004	0.009	10350	10375	10365	100	10400	10365	100	10375
Puducherry	0.07	0.04	0.11	124629	128000	127053	99	128000	128263	100	129350
Total	0.515	0.354	0.869	238975	242645	241857	100	243080	243433	100	244985

3rd Wave: North-East States: COVID Mortality Growth Projection: 11 Nov - 10 Dec 2021 (+/- 2%)											
EAG States	Vaccination Status			11-09-2021 (Actual Deaths)	Projected Deaths (10 Oct)	Actual Deaths (10 Oct)	%ge Actual of Projected	Projected Deaths (10 Nov)	Actual Deaths (10 Oct)	%ge Actual of Projected	Projected Deaths (10 Nov)
	Total Doses (Crs)	Full Dose (Crs)	Atleast 1 Dose (Crs)								
Puducherry	0.1	0.0	0.1	1820	1845	1846	100	1870	1863	100	1885
Ladakh	0.02	0.01	0.03	207	208	208	100	208	209	100	208
Dadra & NH	0.0	0.0	0.1	4	4	4	100	4	4	100	4
Chandigarh	0.1	0.1	0.2	816	816	820	100	820	820	100	820
Lakshadweep	0.01	0.00	0.01	51	51	51	100	51	51	100	51
Andaman & N	0.3	0.2	0.5	129	129	129	100	129	129	100	129
Total	0.5	0.4	0.9	3027	3053	3058	100	3082	3076	100	3097

Goa: Projected COVID Cases and Deaths

2nd Wave: Goa: COVID Cases Growth Projection: 11 Nov - 10 Dec 2021 (+/- 5%)											
State	Vaccination Status			11-09-2021 (Actual Caseload)	Projected Caseload (10 Oct)	Actual Caseload (10 Oct)	%ge Actual of Projected	Projected Caseload (10 Nov)	Actual Caseload (10 Oct)	%ge Actual of Projected	Projected Caseload (10 Nov)
	1st Dose (CrS)	2nd Dose (CrS)	Total Doses (CrS)								
Goa	0.12	0.1	0.22	174770	177225	177113	100	179350	178367	99	179200

3rd Wave: North-East States: COVID Mortality Growth Projection: 11 Oct - 10 Nov 2021 (+/- 5%)											
Goa	Vaccination Status			11-09-2021 (Actual Deaths)	Projected Deaths (10 Oct)	Actual Deaths (10 Oct)	%ge Actual of Projected	Projected Deaths (10 Nov)	Actual Deaths (10 Oct)	%ge Actual of Projected	Projected Deaths (10 Nov)
	Total Doses (CrS)	Full Dose (CrS)	Atleast 1 Dose (CrS)								
Goa	0.2	0.08	0.12	3214	3230	3329	103	3380	3370	100	3400

ANNEXURE: 1

COVID 19: Analysis of Statewise Insurance Claim (Non-Government) against total COVID cases and Deaths: October 2021

Health Insurance Claim (Non-Government) for COVID Treatment Analysis for the Month of October



There is a 72% drop in Insurance claim (Non-Government) for COVID treatment in October when compared to September. In September there were 1.55 Lakh Claims, whereas in October it has dropped to 0.41 Lakh. This validates that in October, inspite of being the festive season and limited restriction, COVID hospitalisation has dropped considerably

Analysis of % of Insurance Claim for COVID Treatment (Non-Govt Schemes) in October				
Zone	State	COVID Cases in October	Insurance Claim for COVID Treatment (Oct)	%ge
EAG State	Rajasthan	102	429	421
EAG State	Uttar Pradesh	358	804	225
EAG State	Madhya Pradesh	323	710	220
Mega State	Haryana	380	681	179
Mega State	Gujarat	641	1066	166
EAG State	Bihar	140	146	104
Delhi	Delhi	1002	755	75
Mega State	Tamil Nadu	38834	11886	31
EAG State	Chattisgarh	695	210	30
Mega State	Punjab	766	215	28
EAG State	Jharkhand	538	139	26
EAG State	Uttarakhand	359	85	24
Mega State	Karnataka	12333	2693	22
Mega State	Maharashtra	60222	11663	19
Mega State	Andhra Pradesh	16126	1495	9
Mega State	West Bengal	23838	1459	6
EAG State	Odisha	14981	644	4
EAG State	Assam	8482	347	4
Mega State	Kerala	287799	3711	1
Mega State	Jammu & Kashmir	2819	33	1
Mega State	Himachal Pradesh	5045	10	0
Pan India	Pan India	530791	41770	8
Mega State Trends	Mega States	454303	36962	8
EAG State Trend	EAG States	25978	3514	14

Kerala reported 2.87 Lakh cases in October, shockingly only 3711 have claimed insurance, which works out to 1% of the total COVID cases. This clearly validates that large number of patients in Kerala are financially exploited due to their helpless situation by demanding direct payment, for obvious reasons for higher revenue realisation per patient

Analysis of Insurance Claim (Non-Government) for COVID Deaths: October

There is a 60% drop in Insurance claim (Non-Government) for COVID deaths in October when compared to September.

In September there were 4074 death Claims, whereas in October it has dropped to 1688. India's aggressive vaccination program could be a major factor for reduction in COVID mortality

Analysis of % of Insurance Claim for COVID Death (Non-Govt Schemes) in October				
Zone	State	Reported COVID Deaths in October	Insurance Claim for COVID Death (Oct)	%ge
EAG State	Madhya Pradesh	2	34	1700
Mega State	Gujarat	7	53	757
EAG State	Jharkhand	3	18	600
EAG State	Uttar Pradesh	8	40	500
Mega State	Tamil Nadu	538	543	101
Delhi	Delhi	4	3	75
Mega State	Maharashtra	1149	609	53
Mega State	Jammu & Kashmir	10	4	40
Mega State	Karnataka	288	93	32
Mega State	West Bengal	348	97	28
EAG State	Uttarakhand	6	1	17
Mega State	Andhra Pradesh	197	23	12
Mega State	Punjab	43	5	12
Mega State	Haryana	175	11	6
EAG State	Odisha	135	6	4
EAG State	Assam	124	3	2
Mega State	Kerala	6594	24	0
Mega State	Himachal Pradesh	78	0	0
EAG State	Chattisgarh	11	-3	-27
Pan Inda	Pan India	10098	1688	17
Mega State Trends	Mega States	9465	1529	16
EAG State Trend	EAG States	289	119	41

Two neighbouring states, Kerala and Tamil Nadu reported 6594 and 538 deaths in October respectively. Surprisingly, in Kerala there were only 24 insurance claims for COVID deaths, whereas in Tamil Nadu it was 543. This indicates that, Tamil Nadu has reported only those deaths which had private insurance cover.

ANNEXURE: 2
COVID 19: WAVE 1: Projection and Actuals: Snapshot (August 2020 – January 2021)

COVID 19: Wave 1: Zonewise Projections and Actuals: Positive Cases and Deaths

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		%ge Actual of Projected
	Actuals	Projection	Actual		Projections	Actuals		Projections	Actuals		Projections	Actuals		Projections	Actuals	
Mega States	1852408	3245361	3279953	101	5229600	5002180	96	6503100	6025325	93	6800000	6712696	99	7235000	7155680	99
EAG States	538721	1146000	1065505	93	1765000	1681197	95	2115400	2027541	96	2315000	2306290	100	2523000	2465664	98
Micro States	32020	61400	66477	108	124700	113834	91	144100	142017	99	164100	159616	97	172600	166739	97
Union Territories	15424	34200	35722	104	59200	57342	97	72400	66713	92	76900	73308	95	78400	76841	98
Delhi	151928	185000	209748	113	330000	311188	94	400000	467028	117	675000	605470	90	660000	630892	96
Total	2590501	4671961	4657405	100	7508500	7165741	95	9235000	8728624	95	10031000	9857380	98	10669000	10495816	98

30-Day COVID Mortality Projection																
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	12-Jan		%ge og Actual of Projected
	Actuals	Projection	Actual		Projections	Actuals		Projections	Actual		Projections	Actual		Projections	Actual	
Mega States	39610	68268	61242	90	91525	85942	94	103605	98276	95	107500	106620	99	114500	112191	98
EAG States	5946	11325	10503	93	16950	16468	97	21480	20597	96	23500	23617	100	25785	25587	99
Micro States	185	345	555	161	1067	1076	101	1665	1501	90	1822	1772	97	2040	1920	94
Union Territories	170	389	539	139	1008	878	87	1110	1003	90	1128	1105	98	1275	1159	91
Delhi	4188	4700	4687	100	5500	5809	106	7000	7332	105	10300	9981	97	11500	10707	93
Total	50099	85027	77526	91	116050	110173	95	134860	128709	95	144250	143095	99	155100	151564	98

COVID 19: Wave 1: Mega States: Projections and Actuals: Positive Cases & Deaths



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		%ge og Actual of Projected
	Actuals	Projecti on	Actual		Projecti on	Actual		Projecti ons	Actual		Projecti ons	Actual		Projecti ons	Actual	
Andhra Pradesh	281817	580000	547686	94	875000	758951	87	900000	849705	94	900000	875025	97	890000	885234	99
Gujarat	77663	100000	110971	111	150000	152764	102	190000	184964	97	220000	226508	103	255000	253161	99
Haryana	46410	60000	88332	147	160000	143221	90	170000	193111	114	280000	251402	90	280000	265391	95
Himachal Pradesh	3993	7000	8784	125	17000	17578	103	25000	28183	113	50000	48951	98	70000	56596	81
Jammu & Kashmir	28021	50000	50712	101	100000	84031	84	100000	100968	101	120000	115626	96	125000	122764	98
Karnataka	219926	450000	440411	98	700000	717915	103	1000000	855912	86	925000	900214	97	930000	928806	100
Kerala	42885	90000	102255	114	200000	295133	148	660000	508257	77	660000	664633	101	785000	819766	104
Maharashtra	584754	1000000	1015681	102	1750000	1535315	88	1875000	1736329	93	1850000	1876699	101	1975000	1974488	100
Punjab	30041	62000	74616	120	150000	124535	83	150000	139869	93	160000	159579	100	175000	169479	97
Tamil Nadu	332105	520000	491571	95	675000	661264	98	820000	752521	92	810000	797693	98	825000	827614	100
Telangana	91361	91361	152602	NA	152600	213084	NA	213100	254666	120	290000	277151	96	295000	290309	98
West Bengal	113432	235000	196332	84	300000	298389	99	400000	420840	105	535000	519215	97	630000	562072	89
Total	1852408	3245361	3279953	101	5229600	5002180	96	6503100	6025325	93	6800000	6712696	99	7235000	7155680	99

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		%ge og Actual of Projected
	Actuals	Projecti on	Actual		Projecti on	Actuals		Projecti ons	Actual		Projecti ons	Actual		Projecti ons	Actual	
Andhra Pradesh	2562	6250	4779	76	7000	6256	89	7000	6837	98	7150	7052	99	7125	7133	100
Gujarat	2765	3000	3181	106	3600	3577	99	3900	3785	97	3950	4160	105	5500	4350	79
Haryana	528	700	932	133	1800	1592	88	2000	1979	99	2450	2710	111	3200	2964	93
Himachal Pradesh	18	25	70	280	175	246	141	375	405	108	650	793	122	1190	949	80
Jammu & Kashmir	527	1500	854	57	1300	1333	103	1700	1566	92	1800	1793	100	2060	1912	93
Karnataka	3832	6700	7067	105	11200	10314	92	12800	11474	90	12000	11939	99	12200	12149	100
Kerala	147	400	411	103	800	1026	128	2000	1797	90	2600	2595	100	3350	3348	100
Maharashtra	19749	31000	28724	93	44000	40514	92	48000	45682	95	49000	48139	98	50000	50151	100
Punjab	771	4000	2212	55	4800	3860	80	4800	4412	92	5200	5057	97	5800	5456	94
Tamil Nadu	5641	9000	8234	91	10500	10314	98	12200	11440	94	12150	11883	98	12200	12236	100
Telangana	693	693	950	137	950	1228	129	1230	1393	113	1550	1489	96	1525	1568	103
West Bengal	2377	5000	3828	77	5400	5682	105	7600	7506	99	9000	9010	100	10350	9975	96
Total	39610	68268	61242	90	91525	85942	94	103605	98276	95	107500	106620	99	114500	112191	98

COVID 19: Wave 1: EAG States: Projections and Actuals: Positive Cases & Deaths



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		%ge og Actual of Projected
	Actuals	Projectio n	Actual		Projectio n	Actuals		Projectio ns	Actual		Projectio ns	Actual		Projectio ns	Actual	
Assam	75559	165000	138339	84	215000	195304	NA	195400	209835	107	215000	214584	100	220000	216690	98
Bihar	101906	225000	155445	69	200000	197000	99	230000	225500	98	245000	242748	99	260000	257335	99
Chattisgarh	15045	25000	58643	235	145000	145247	100	225000	207740	92	265000	255761	97	300000	290813	97
Jharkhand	22672	50000	59040	118	110000	93035	85	115000	105493	92	112000	111366	99	115000	117088	102
Madhya Pradesh	44433	75000	83619	111	145000	148298	102	200000	180997	90	210000	222397	106	250000	249553	100
Odisha	57126	120000	143117	119	250000	254662	102	335000	305986	91	335000	323364	97	333000	332331	100
Rajasthan	59979	100000	99036	99	150000	161184	107	225000	219327	97	285000	289999	102	325000	313718	97
Uttar Pradesh	150061	365000	299045	82	500000	439161	88	520000	505424	97	565000	564132	100	610000	594175	97
Uttarakhand	11940	21000	29221	139	50000	47306	95	70000	67239	96	83000	81939	99	110000	93961	85
Total	538721	1146000	1065505	93	1765000	1681197	95	2115400	2027541	96	2315000	2306290	100	2523000	2465664	98

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		%ge og Actual of Projected
	Actuals	Projecti on	Actual		Projecti on	Actuals		Projecti ons	Actual		Projecti ons	Actual		Projecti ons	Actual	
Assam	182	400	430	108	900	826	NA	830	958	115	1050	1000	95	1030	1064	103
Bihar	515	1100	797	72	1100	955	87	1100	1167	106	1350	1317	98	1440	1443	100
Chattisgarh	134	525	518	99	1600	1286	80	2350	2527	108	3100	3084	99	3500	3517	100
Jharkhand	229	500	532	106	900	798	89	1000	917	92	1000	995	100	1030	1048	102
Madhya Pradesh	1094	1500	1691	113	2500	2645	106	3600	3065	85	3350	3391	101	3630	3726	103
Odisha	386	800	658	82	1000	1093	109	1500	1536	102	2000	1855	93	1975	1947	99
Rajasthan	862	1200	1207	101	1650	1665	101	2150	2032	95	2400	2568	107	2930	2739	93
Uttar Pradesh	2393	5000	4282	86	6600	6438	98	7700	7302	95	8000	8056	101	8650	8514	98
Uttarakhand	151	300	388	129	700	762	109	1250	1093	87	1250	1351	108	1600	1589	99
Total	5946	11325	10503	93	16950	16468	97	21480	20597	96	23500	23617	100	25785	25587	99

COVID 19: Wave 1: Micro States: Projections and Actuals: Positive Cases & Deaths



Micro States	16-Aug Actuals	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-Dec		%ge og Actual of Projected
		Projectio n	Actual		Projectio n	Actual		Projectio ns	Actual		Projectio ns	Actual		Projectio ns	Actual	
Arunachal Pradesh	2658	4500	5825	129	11000	12367	112	19000	15701	83	17700	16504	93	16900	16782	99
Goa	11339	23500	23445	100	45000	38674	86	51000	45605	89	50000	49305	99	51500	51983	101
Manipur	4390	7500	7579	101	11000	13556	123	20000	21211	106	29000	27036	93	31500	28725	91
Meghalaya	1292	2250	3447	153	6000	7771	130	12400	10512	85	13300	12743	96	15000	13651	91
Mizoram	777	1600	1379	86	3700	2184	59	2600	3242	125	4300	4024	94	4200	4299	102
Nagaland	3340	7000	4946	71	10000	7240	72	9500	9615	101	10300	11676	113	14000	11997	86
Sikkim	1148	2000	2026	101	3000	3367	112	4600	4369	95	5500	5316	97	6000	5996	100
Tripura	7076	12200	17830	146	35000	28675	82	25000	31762	127	34000	33012	97	33500	33306	99
Total	32020	60550	66477	110	124700	113834	91	144100	142017	99	164100	159616	97	172600	166739	97

Micro States	16-Aug Actuals	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		%ge og Actual of Projected
		Projectio n	Actual		Projectio n	Actual		Projectio ns	Actual		Projectio ns	Actual		Projectio ns	Actual	
Goa	98	240	276	115	525	511	97	750	656	87	800	705	88	730	749	103
Tripura	55	60	182	303	375	314	84	400	356	89	400	372	93	400	385	96
Manipur	13	20	44	220	100	93	93	150	207	138	300	322	107	415	365	88
Nagaland	7	9	8	89	10	13	130	40	50	125	60	68	113	100	84	84
Arunachal Pradesh	5	7	10	143	12	24	200	85	47	55	60	55	92	80	56	70
Meghalaya	6	7	24	343	30	64	213	90	98	109	100	125	125	155	143	92
Sikkim	1	1	11	1100	15	57	380	150	85	57	100	118	118	150	129	86
Mizoram	0	1	0	0	0	0	0	0	2	#DIV/0!	2	7	350	10	9	90
Total	185	345	555	161	1067	1076	101	1665	1501	90	1822	1772	97	2040	1920	94

COVID 19: Wave 1: Union Territories: Projections and Actuals: Positive Cases and Deaths



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		%ge og Actual of Projected
	Actuals	Projectio n	Actual		Projectio n	Actual		Projectio ns	Actual		Projectio ns	Actual		Projectio ns	Actual	
Andaman & Nichobar	2306	6500	3494	54	4500	4023	89	4400	4507	102	5000	4805	96	5000	4966	99
Chandigarh	2009	3500	7292	208	17000	13264	78	15500	15543	100	18500	18572	100	20000	20378	102
Dadra & Nagar Haveli	1846	3200	2682	84	3500	3167	90	3500	3273	94	4400	3349	76	5400	3368	62
Ladakh	1909	3000	3228	108	4200	5151	123	7000	7211	103	10000	9138	91	10000	9634	96
Puducherry	7354	18000	19026	106	30000	31737	106	42000	36179	86	39000	37444	96	38000	38495	101
Total	15424	34200	35722	104	59200	57342	97	72400	66713	92	76900	73308	95	78400	76841	98

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-Jan		%ge Actual of Projected
	Actuals	Projectio n	Actual		Projectio n	Actual		Projectio ns	Actual		Projectio ns	Actual		Projectio ns	Actual	
Puducherry	106	270	365	135	750	565	75	650	607	93	650	619	95	650	639	98
Ladakh	10	15	38	253	45	64	142	90	89	99	100	123	123	150	128	85
Dadra & Nagar Haveli	2	4	2	50	3	2	67	30	2	7	3	2	67	25	2	8
Chandigarh	28	50	83	166	150	192	128	250	244	98	300	300	100	360	328	91
Andaman & Nichobar	24	50	51	102	60	55	92	90	61	68	75	61	81	90	62	69
Total	170	389	539	139	1008	878	87	1110	1003	90	1128	1105	98	1275	1159	91

ANNEXURE: 3
COVID 19: WAVE 2: Projection and Actuals: Snapshot (April 2021 – September 2021)

COVID 19: Wave 2: Zonewise Projections and Actuals: Positive Cases and Deaths

2nd Wave: Zonewise: COVID Cases Growth Projection: 11 April - 10 September 2021 (+/- 5%)																
Zones	11-Apr	11 May (Projection)	Actuals (10 May)	%ge Actual of Projected	June 10 (Projection)	Actual (10 Jun)	%ge Actual of Projected	Projection (Jul 10)	Actual (10 July)	%ge Actual of Projected	Projection (Aug 10)	Actual (10 Aug)	%ge Actual of Projected	Projection (Sep 10)	Actual (10 Sep)	%ge Actual of Projected
Mega States	9585959	12094000	15505145	128	20915000	20118020	96	21828000	21363256	98	22351500	22347007	100	23034650	23399937	102
EAG States	2938546	3963500	5829820	147	8295000	7108791	86	7465000	7328353	98	7489000	7438326	99	7485000	7487296	100
Micro States	117804	121700	148467	122	198500	243946	123	501000	480693	96	590250	580582	98	648850	636519	98
Union Territories	94770	115600	157010	136	231000	218805	95	239000	228930	96	234125	232633	99	235685	238975	101
Delhi	725197	1000000	1336218	134	1636218	1430433	87	1438000	1435030	100	1437300	1436852	100	1438250	1438154	100
Total	13462276	17294800	22976660	133	31275718	29119995	93	31471000	30836262	98	32102175	32035400	100	32842435	33200881	101

2nd Wave: Zonewise: COVID Mortality Growth Projection: 11 April- 10 September 2021 (+/- 5%)																
Zones	11-Apr	11-May	Actuals (10 May)	%ge Actual of Projected	June 10 (Projection)	Actual	%ge Actual of Projected	Jul 10 (Projection)	Actual (10 Jul)	%ge Actual of Projected	Aug 10 (Projection)	Actual (10 Aug)	%ge Actual of Projected	Sep 10 (Projection)	Actual (10 Sep)	%ge Actual of Projected
Mega States	126738	139250	172342	124	236700	248928	105	278250	287403	103	314095	303031	96	311015	313616	101
EAG States	28841	34875	54048	155	85450	80647	94	86250	85612	99	89765	89969	100	92115	91942	100
Micro States	1213	1213	1541	127	2580	3148	122	7000	7079	101	8000	8072	101	9005	8682	96
Union Territories	1285	1375	1832	133	2785	2819	101	3000	2966	99	3065	3002	98	3035	3027	100
Delhi	11283	12600	19663	156	27063	24748	91	25500	25012	98	25075	25068	100	25095	25083	100
Total	169360	189313	249426	132	354578	360290	102	400000	408072	102	440000	429142	98	440265	442350	100

COVID 19: Wave 2: Mega States: Projections and Actuals: Positive Cases & Deaths



2nd Wave: Mega States: COVID Cases Growth Projection: 11 April - 10 September 2021 (+/- 5%)																
Mega States	Actual (11 April)	Projection (10 May)	Actual (10 May)	%ge Actual of Projected	Projection (10 June)	Actual (10 June)	%ge Actual of Projected	Projection (10 Jul)	Actual (10 July)	%ge Actual of Projected	Projection (10 Aug)	Actual (10 Aug)	%ge Actual of Projected	Projection (10 Sep)	Actual (10 Sep)	%ge Actual of Projected
Andhra Pradesh	925401	1000000	1302589	130	1775000	1787883	101	2000000	1920178	96	2000000	1985182	99	2025000	2027650	100
Gujarat	347495	480000	692604	144	1000000	818895	82	830000	824200	99	826000	825085	100	825750	825584	100
Haryana	316881	390000	628615	161	1000000	764633	76	780000	769243	99	770000	770114	100	770700	770626	100
Himachal Pradesh	69686	84000	135782	162	250000	197438	79	210000	203563	97	208500	208616	100	220000	215437	98
Jammu & Kashmir	138390	165000	224898	136	325000	304866	94	330000	318469	97	325000	322771	99	325000	326653	101
Karnataka	1065290	1290000	1973683	153	3000000	2739290	91	3000000	2869320	96	2935000	2921049	100	2950000	2960131	100
Kerala	1167191	1300000	1967406	151	2600000	2688590	103	3000000	3053116	102	3530000	3586693	102	4000000	4334704	108
Maharashtra	3407245	4800000	5179929	108	6000000	5876087	98	6150000	6149264	100	6365000	6363442	100	6475000	6491179	100
Punjab	272772	360000	450674	125	700000	584785	84	618000	597469	97	602000	599573	100	601200	600970	100
Tamil Nadu	933434	1100000	1409237	128	2100000	2308838	110	2675000	2516011	94	2600000	2579130	99	2630000	2630592	100
Telangana	327278	405000	506988	125	640000	598611	94	650000	631218	97	650000	650353	100	662000	661006	100
West Bengal	614896	720000	1032740	143	1525000	1448104	95	1585000	1511205	95	1540000	1534999	100	1550000	1555405	100
Total	9585959	12094000	15505145	128	20915000	20118020	96	21828000	21363256	98	22351500	22347007	100	23034650	23399937	102

2nd Wave: Mega States: COVID Mortality Growth Projection: 11 April - 10 September 2021 (+/- 5%)																
Mega States	Actual (11 April)	Projection (10 May)	Actual (10 May)	%ge Actual of Projected	Projection (10 June)	Actual (10 Jun)	%ge Actual of Projected	Projection (10 Jul)	Actual (10 July)	%ge Actual of Projected	Projection (10 Aug)	Actual (10 Aug)	%ge Actual of Projected	Projection (10 Sep)	Actual (10 Sep)	%ge Actual of Projected
Andhra Pradesh	7300	7600	8791	116	10800	11763	109	12675	12986	102	13400	13564	101	13925	13970	100
Gujarat	4800	6100	8511	140	11000	9976	91	10200	10073	99	10100	10077	100	10100	10082	100
Haryana	3268	3600	5766	160	10650	8861	83	9500	9542	100	9800	9652	98	9675	9686	100
Himachal Pradesh	1102	1250	1925	154	3800	3344	88	3600	3474	97	3500	3521	101	3550	3614	102
Jammu & Kashmir	2034	2150	2847	132	4700	4143	88	4575	4356	95	4400	4392	100	4415	4411	100
Karnataka	12889	13600	19372	142	35000	32485	93	35600	35779	101	37275	36848	99	37470	37472	100
Kerala	4784	5200	5959	115	8000	10631	133	15000	14489	97	18770	18004	96	21925	22303	102
Maharashtra	57987	65000	77191	119	92000	103748	113	114000	125528	110	143400	134201	94	136580	138061	101
Punjab	7507	8750	10704	122	17500	15367	88	16600	16177	97	16500	16322	99	16370	16453	101
Tamil Nadu	12908	13450	15880	118	22300	28528	128	34500	33371	97	34700	34367	99	34500	35119	102
Telangana	1759	1900	2803	148	3700	3440	93	3700	3725	101	3850	3831	100	3915	3892	99
West Bengal	10400	10650	12593	118	17250	16642	96	18300	17903	98	18400	18252	99	18590	18553	100
Total	126738	139250	172342	124	236700	248928	105	278250	287403	103	314095	303031	96	311015	313616	101

COVID 19: Wave 1: EAG States: Projections and Actuals: Positive Cases & Deaths



2nd Wave: EAG States: COVID Cases Growth Projection: 11 April - 10 September 2021 (+/- 5%)																
EAG States	Actual (11 April)	Projection (10 May)	Actual (10 May)	%ge Actual of Projected	Projection (10 June)	Actual (10 Jun)	%ge Actual of Projected	Projection (10 Jul)	Actual (10 July)	%ge Actual of Projected	Projection (10 Aug)	Actual (10 Aug)	%ge Actual of Projected	Projection (10 Sep)	Actual (10 Sep)	%ge Actual of Projected
Assam	220310	228500	298171	130	400000	450201	113	550000	532084	97	606000	576149	95	595000	594347	100
Bihar	283229	375000	601650	160	850000	715730	84	730000	723147	99	726000	725279	100	727000	725806	100
Chattisgarh	443297	685000	863343	126	1150000	984950	86	1010000	997785	99	1010000	1003356	99	1006000	1004820	100
Jharkhand	139384	195000	292530	150	440000	342774	78	350000	346279	99	348000	347440	100	349000	348055	100
Madhya Pradesh	338145	485000	681478	141	930000	787175	85	800000	790152	99	791000	791980	100	792350	792311	100
Odisha	349561	375000	544873	145	825000	842461	102	1000000	937470	94	1000000	988997	99	1008000	1015083	101
Rajasthan	363793	480000	773194	161	1300000	948562	73	960000	953074	99	955000	953851	100	954350	954175	100
Uttar Pradesh	692015	1000000	1524767	152	2000000	1701072	85	1715000	1707225	100	1710000	1708812	100	1709900	1709512	100
Uttarakhand	108812	140000	249814	178	400000	335866	84	350000	341137	97	343000	342462	100	343400	343187	100
Total	2938546	3963500	5829820	147	8295000	7108791	86	7465000	7328353	98	7489000	7438326	99	7485000	7487296	100

2nd Wave: EAG States: COVID Mortality Growth Projection: 11 April - 10 September 2021 (+/- 5%)																
EAG States	Actual (11 April)	Projection (10 May)	Actual (10 May)	%ge Actual of Projected	Projection (10 June)	Actual (10 Jun)	%ge Actual of Projected	Projection (11 Jul)	Actual (10 July)	%ge Actual of Projected	Projection (10 Aug)	Actual (10 Aug)	%ge Actual of Projected	Projection (10 Sep)	Actual (10 Sep)	%ge Actual of Projected
Assam	1118	1150	1753	152	4000	3844	96	4700	4812	102	5620	5420	96	5800	5732	99
Bihar	1610	1700	3357	197	5100	9452	185	10375	9618	93	9700	9646	99	9680	9658	100
Chattisgarh	4899	8050	10742	133	15000	13285	89	13500	13475	100	13575	13544	100	13600	13558	100
Jharkhand	1213	1675	3982	238	7300	5081	70	5150	5119	99	5150	5130	100	5135	5133	100
Madhya Pradesh	4184	4750	6501	137	8850	8475	96	9050	9025	100	9100	10514	116	10535	10517	100
Odisha	1979	2000	2250	113	2750	3263	119	4275	4587	107	6460	6618	102	8200	8137	99
Rajasthan	2926	3150	5825	185	9800	8772	90	9100	8945	98	9875	8954	91	8975	8954	100
Uttar Pradesh	9152	10550	15742	149	23000	21597	94	22700	22693	100	22925	22775	99	22800	22864	100
Uttarakhand	1760	1850	3896	211	9650	6878	71	7400	7338	99	7360	7368	100	7390	7389	100
Total	28841	34875	54048	155	85450	80647	94	86250	85612	99	89765	89969	100	92115	91942	100

COVID 19: Wave 1: Union Territories: Projections and Actuals: Positive Cases and Deaths



2nd Wave: EAG States: COVID Cases Growth Projection: 11 April - 10 September 2021 (+/- 5%)																
Union Territories	Actual (11 April)	Projection (10 May)	Actual (10 May)	%ge Actual of Projected	Projection (10 June)	Actual (10 Jun)	%ge Actual of Projected	Projection (10 Jul)	Actual (10 July)	%ge Actual of Projected	Projection (10 Aug)	Actual (10 Aug)	%ge Actual of Projected	Projection (10 Sep)	Actual (10 Sep)	%ge Actual of Projected
Andaman & Nicobar	5190	5600	6398	114	7000	7197	103	7800	7492	96	7525	7548	100	7580	7579	100
Chandigarh	30743	40000	51070	128	80000	60928	76	63000	61823	98	62250	61992	100	62125	65145	105
Dadra & Nagar Haveli	4014	6000	9089	151	11000	10448	95	10700	10587	99	10700	10657	100	10685	10672	100
Ladakh	10780	12000	15429	129	18000	19475	108	21000	20186	96	20750	20407	98	20625	20600	100
Lakshadweep						9073	#DIV/0!	11500	10011	87	10400	10263	99	10420	10350	99
Puducherry	44043	52000	75024	144	115000	111684	97	125000	118831	95	122500	121766	99	124250	124629	100
Total	94770	115600	157010	136	231000	218805	95	239000	228930	96	234125	232633	99	235685	238975	101

2nd Wave: Union Territories: COVID Mortality Growth Projection: 11 April - 10 September 2021 (+/- 5%)																
Union Territories	Actual (11 April)	Projection (10 May)	Actual (10 May)	%ge Actual of Projected	Projection (10 June)	Actual (10 Jun)	%ge Actual of Projected	Projection (10 Jul)	Actual (10 July)	%ge Actual of Projected	Projection (10 Aug)	Actual (10 Aug)	%ge Actual of Projected	Projection (10 Sep)	Actual (10 Sep)	%ge Actual of Projected
Puducherry	691	720	1018	141	1700	1668	98	1760	1769	101	1800	1800	100	1825	1820	100
Ladakh	131	131	157	120	180	197	109	220	206	94	230	207	90	210	207	99
Dadra & Nagar Haveli	2	2	4	200	5	4	80	6	4	67	5	4	80	5	4	80
Chandigarh	399	460	575	125	800	783	98	810	809	100	830	811	98	813	816	100
Lakshadweep						42	#DIV/0!	44	49	111	50	51	102	52	51	98
Andaman & Nicobar	62	62	78	126	100	125	125	160	129	81	150	129	86	130	129	99
Total	1285	1375	1832	133	2785	2819	101	3000	2966	99	3065	3002	98	3035	3027	100

COVID 19: Wave 1: Micro States & Goa: Projections and Actuals: Positive Cases & Deaths



2nd Wave: North-East States: COVID Cases Growth Projection: 11 April - 10 September 2021 (+/- 5%)																
North-East States	Actual (11 April)	Projection (10 May)	Actual (10 May)	%ge Actual of Projected	Projection (10 June)	Actual (10 Jun)	%ge Actual of Projected	Projection (10 Jun)	Actual (10 July)	%ge Actual of Projected	Projection (10 Aug)	Actual (10 Aug)	%ge Actual of Projected	Projection (10 Sep)	Actual (10 Sep)	%ge Actual of Projected
Arunachal Pradesh	16882	17000	20575	121	25000	30492	122	37000	39563	107	56700	50605	89	58500	53663	92
Manipur	29496	29700	35778	120	50000	58081	116	80000	76820	96	106300	105424	99	120000	116607	97
Meghalaya	14274	15000	20129	134	35000	41100	117	58000	54155	93	68300	69769	102	79000	77877	99
Mizoram	4612	5200	7623	147	10500	14743	140	26000	23551	91	41200	45457	110	69600	69026	99
Nagaland	12405	12500	16283	130	21000	23350	111	28000	25898	92	29000	28811	99	31000	30555	99
Sikkim	6405	7400	9924	134	13000	18090	139	25000	22163	89	27750	28018	101	30500	30501	100
Tripura	33730	34900	38155	109	44000	58090	132	75000	69958	93	86000	80413	94	84600	83520	99
Total	117804	121700	148467	122	198500	243946	123	329000	312108	95	415250	408497	98	473200	461749	98

2nd Wave: Goa: COVID Cases Growth Projection: 11 April - 10 September 2021 (+/- 5%)																
Micro States	Actual (11 April)	Projection (10 May)	Actual (10 May)	%ge Actual of Projected	Projection (10 June)	Actual (10 Jun)	%ge Actual of Projected	Projection (10 Jun)	Actual (10 July)	%ge Actual of Projected	Projection (10 Aug)	Actual (10 Aug)	%ge Actual of Projected	Projection (10 Sep)	Actual (10 Sep)	%ge Actual of Projected
Goa	62304	77000	121650	158	190000	161153	85	172000	168585	98	175000	172085	98	175650	174770	99

2nd Wave: North-East States: COVID Mortality Growth Projection: 11 April - 10 September 2021 (+/- 5%)																
North-East States	Actual (11 April)	Projection (10 May)	Actual (10 May)	%ge Actual of Projected	Projection (10 June)	Actual (10 Jun)	%ge Actual of Projected	Projection (10 Jul)	Actual (10 July)	%ge Actual of Projected	Projection (10 Aug)	Actual (10 Aug)	%ge Actual of Projected	Projection (10 Sep)	Actual (10 Sep)	%ge Actual of Projected
Arunachal Pradesh	56	56	68	121	90	133	148	200	188	94	230	248	108	310	269	87
Manipur	376	376	489	130	930	925	99	1050	1258	120	1480	1664	112	1810	1807	100
Meghalaya	151	151	233	154	480	714	149	930	906	97	1160	1185	102	1550	1346	87
Mizoram	11	11	22	200	40	61	153	100	103	103	135	171	127	250	233	93
Nagaland	93	93	150	161	350	441	126	520	507	98	535	585	109	615	634	103
Sikkim	136	136	169	124	250	281	112	300	313	104	345	356	103	390	377	97
Tripura	390	390	410	105	440	593	135	750	709	95	855	768	90	820	802	98
Total	1213	1213	1541	127	2580	3148	122	3850	3984	103	4740	4977	105	5745	5468	95

2nd Wave: Goa: COVID Mortality Growth Projection: 11 August - 10 September 2021 (+/- 5%)																
Goa	Actual (11 April)	Projection (10 May)	Actual (10 May)	%ge Actual of Projected	Projection (10 June)	Actual (10 Jun)	%ge Actual of Projected	Projection (10 Jul)	Actual (10 July)	%ge Actual of Projected	Projection (10 Aug)	Actual (10 Aug)	%ge Actual of Projected	Projection (10 Sep)	Actual (10 Sep)	%ge Actual of Projected
Goa	848	900	1729	192	3125	2891	93	3150	3095	98	3260	3164	97	3260	3164	97

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/>
<https://ourworldindata.org/covid-vaccinations>
2. The user of this presentation is advised to revalidate the shared data from authorised public Institutions and make appropriate interpretation and inferences and accordingly draw conclusion

For more details, send email to:

Mysore Sanjeev

Convenor

Project: Jeeavan Raksha

email: jeevanrakshe1@gmail.com

Thank you