



THE UPSURGE OF COVID 19 AND ITS IMPACT ON INDIAN POPULATION



JANUARY 8, 2023
SATADRU MUKHERJEE

Introduction

The impact of COVID-19 in our country to the life of our citizens is being explored.

We are trying to figure out the causes for which there is a surge, or a depletion in cases over a period of time to draw a conclusion about how the situation has been dealt with in all the states of our country.

Methodology:

■ **Data Source:**

Our entire data is taken from the website given below. It has been one of the most reliable sources of data since the start of the pandemic.

Link: <https://data.covid19india.org/>

■ **Tools Used:**

- Microsoft Word
- Microsoft Excel

We have segmented all the states into seven different categories based on population.

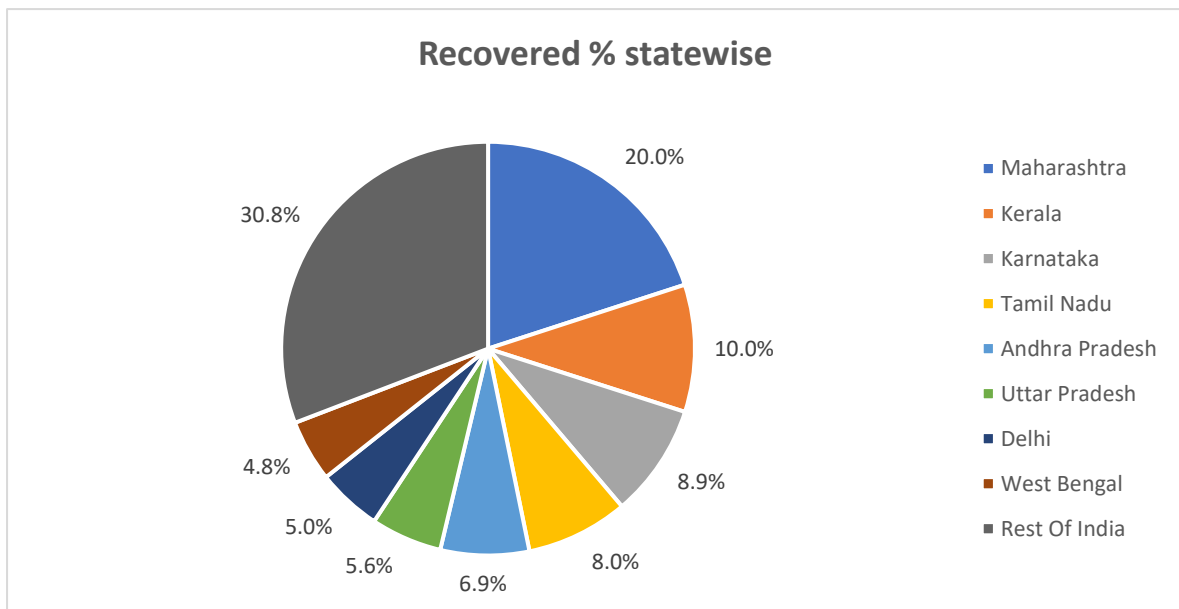
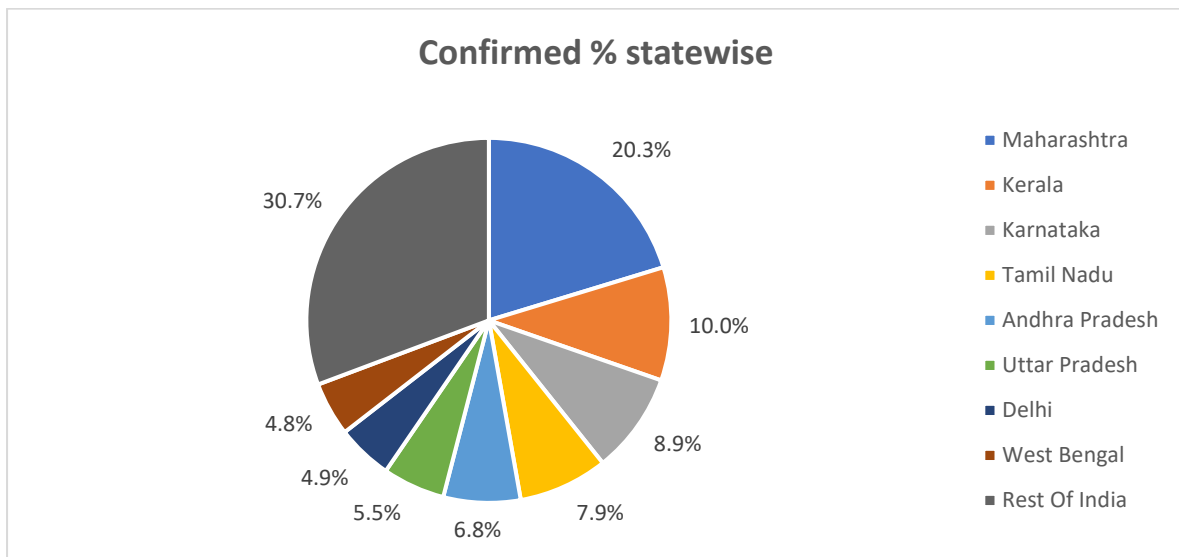
Terminology:

- Active -- (confirmed cases – recovery cases) in a particular month
- Active % -- active cases/ confirmed cases in a particular month
- Deceased % -- deceased cases/confirmed cases in a particular month
- Recovery % -- recovered cases/ confirmed cases in a particular month
- Total vaccinated – Total vaccinations done in a particular month
- Total tested – Total no of tests taken in a particular month

Acknowledgement

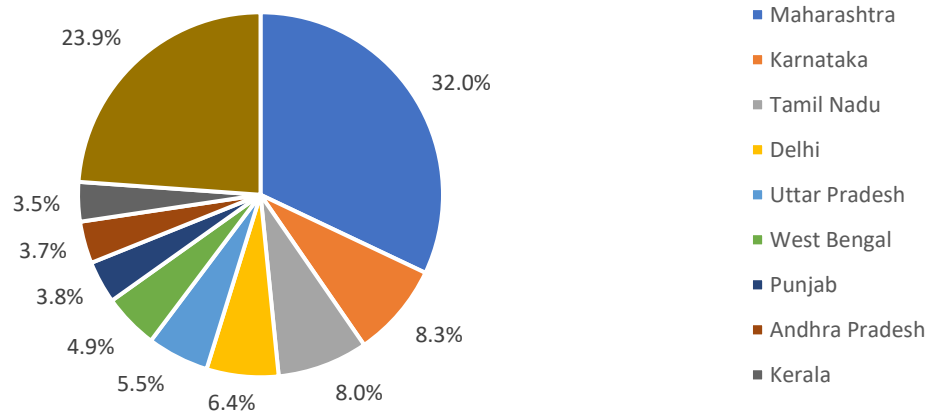
I want to pay my sincere regards to the Delhivery team to give me this opportunity to do a complete exploratory data analysis on the pandemic data which, in turn, enhanced my analytical skills, boosted my confidence and made me more informative about the most trending topic in the world now.

India scenario state-wise:

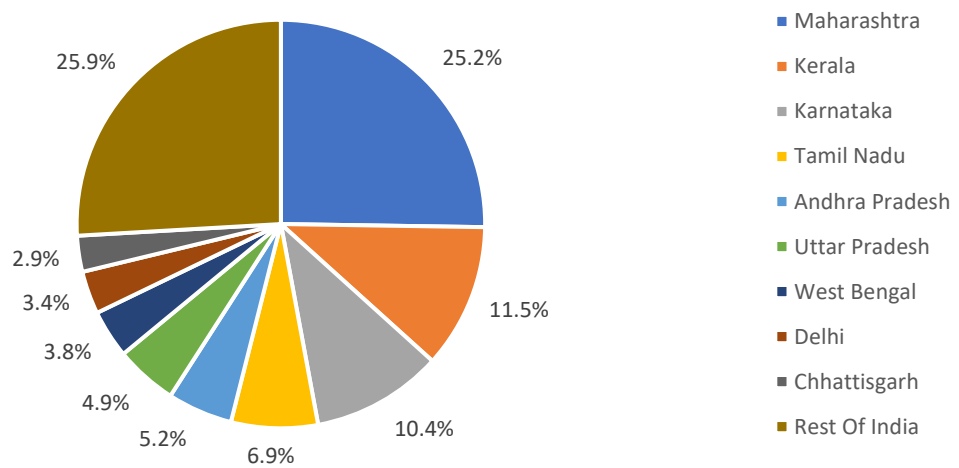


- ✚ Maharashtra records the highest number of confirmed cases in the country followed by Kerala.
- ✚ West Bengal comes lowest in the confirmed cases list having lesser patients in the top 10 states shown.

Deceased % statewise



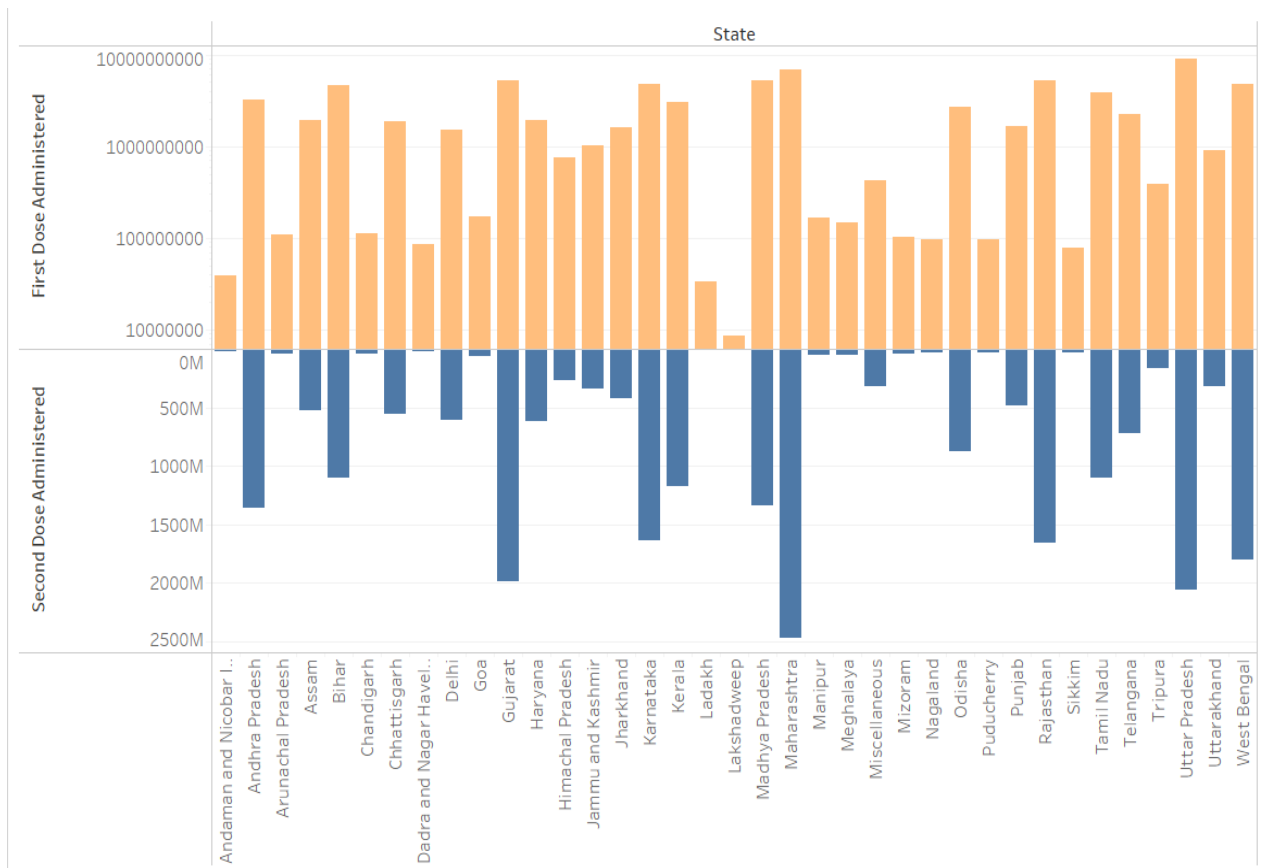
Active % statewise



- ✚ Maharashtra witnesses the highest number of deaths during the pandemic being second highest in population.
- ✚ Uttar Pradesh owns around 5% of the total deceased number, being the most populated state in the country.

Vaccination as on 2021:

State	First Dose Administered	Second Dose Administered	Total Doses Administered			State	First Dose Administered	Second Dose Administered	Total Doses Administered			State	First Dose Administered	Second Dose Administered	Total Doses Administered
Uttar Pradesh	9027879656	2062570937	11090450593			Haryana	1.964E+09	614230726	2578565497			Meghalaya	148430417	46775394	195205811
Maharashtra	7076160866	2469659494	9545820360			Assam	1.961E+09	523853808	2485248125			Chandigarh	115126168	44169481	159295649
Madhya Pradesh	5336083940	1339937555	6676021495			Chhattisgarh	1.878E+09	554810663	2432938098			Arunachal Pradesh	109982030	40991374	150973404
Gujarat	5324964381	1982778366	7307742747			Punjab	1.687E+09	482088978	2169000222			Mizoram	104225289	39810058	144035347
Rajasthan	5267915128	1654811754	6922726882			Jharkhand	1.611E+09	420319754	2030913457			Nagaland	98062296	34966617	133028913
West Bengal	4910075710	1802902301	6712978011			Delhi	1.531E+09	611908490	2143091354			Puducherry	96837553	30627344	127464897
Karnataka	4823627768	1636994576	6460622344			Jammu and Kashmir	1.027E+09	335122240	1362088902			Dadra and Nagar Haveli and Daman and Diu	86025689	23359402	109385091
Bihar	4662980199	1098003995	5760984194			Uttarakhand	927535541	323532538	1251068079			Sikkim	79088564	34621016	113709580
Tamil Nadu	3939799085	1104177061	5043976146			Himachal Pradesh	768120257	267384882	1035505139			Andaman and Nicobar Islands	38850214	15503119	54353333
Andhra Pradesh	3314804709	1362063743	4676868452			Miscellaneous	429032168	318642576	747674744			Ladakh	34233549	15393285	49626834
Kerala	3059303521	1170563604	4229867125			Tripura	396181425	162846995	559028420			Lakshadweep	8798195	3887583	12685778
Odisha	2706368676	870318702	3576687378			Goa	174218383	65170444	239388827						
Telangana	2251517449	715960241	2967477690			Manipur	167148743	48644784	215793527						



- The population of Uttar Pradesh gets the highest number of vaccines of the first dose followed by Maharashtra and Gujarat.
- Maharashtra leads the top in getting the second dose of the vaccine followed by Uttar Pradesh.

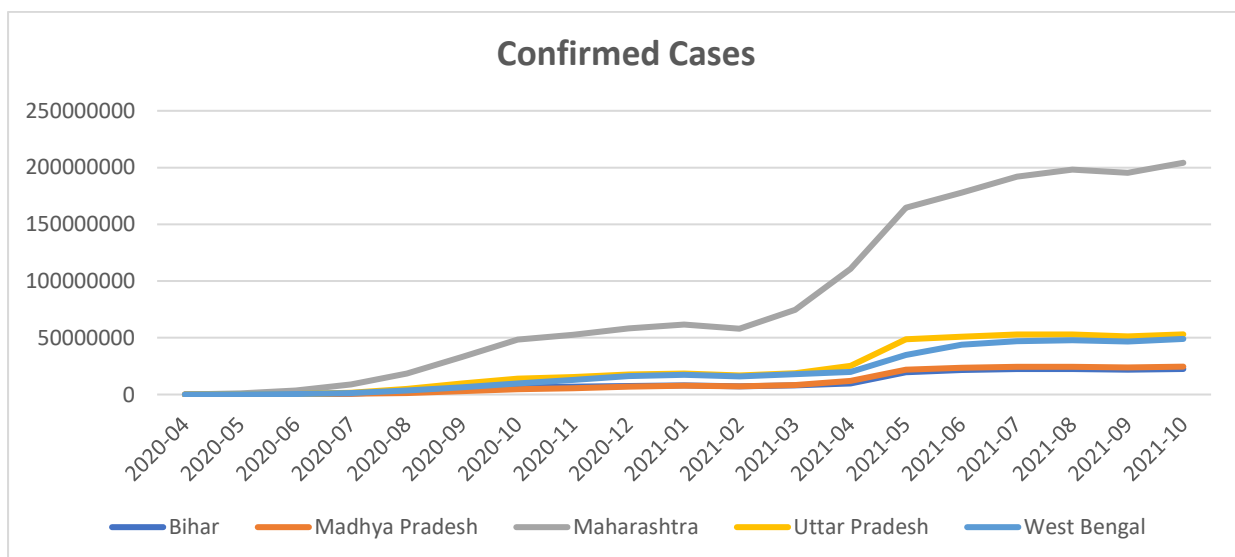
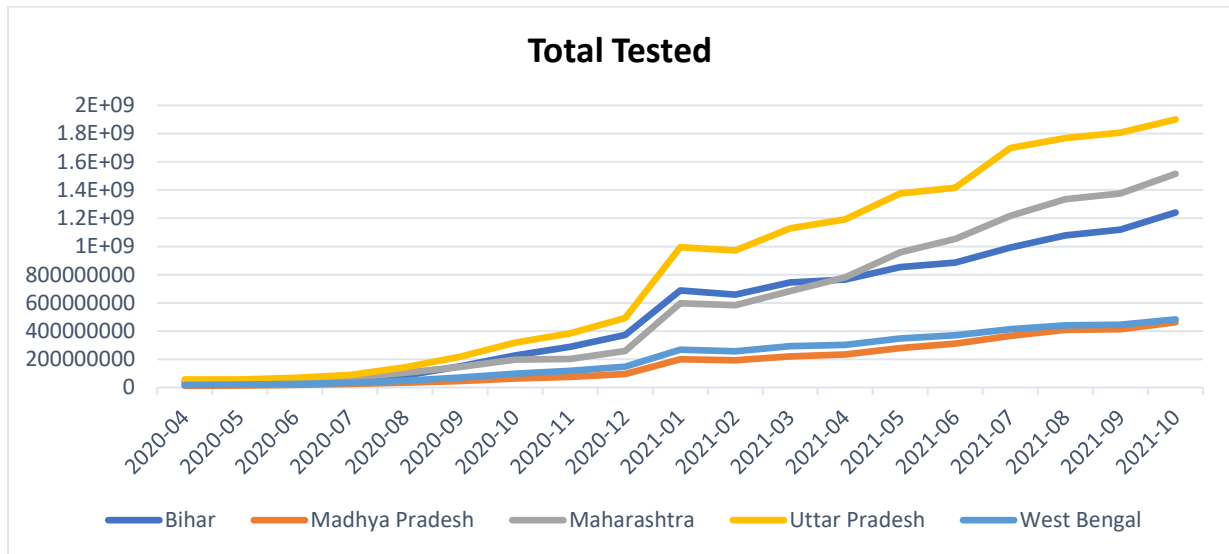
Population-wise Cluster Analysis:

Population							
>=8 Crore		>=5Crore to <8Crore		>=3Crore to <5Crore		>=1Crore to <3Crore	
Name of State	Population	Name of State	Population	Name of State	Population	Name of State	Population
Uttar Pradesh	22.2Crore	Rajasthan	7.7Crore	Orrisa	4.4Crore	Chhattisgarh	2.87Crore
Maharashtra	12.2 Crore	Tamil Nadu	7.6Crore	Jharkhand	3.74Crore	Haryana	2.86Crore
Bihar	12 Crore	Gujarat	6.8Crore	Telangana	3.72Crore	Delhi	2Crore
West Bengal	9.7 Crore	Karnataka	6.6Crore	Kerela	3.5Crore	Jammu&Kashmir	1.3Crore
Madhya Pradesh	8.2 Crore	Andhra Pradesh	5.2Crore	Assam	3.4Crore	Uttarakhand	1.1Crore
				Punjab	3Crore		

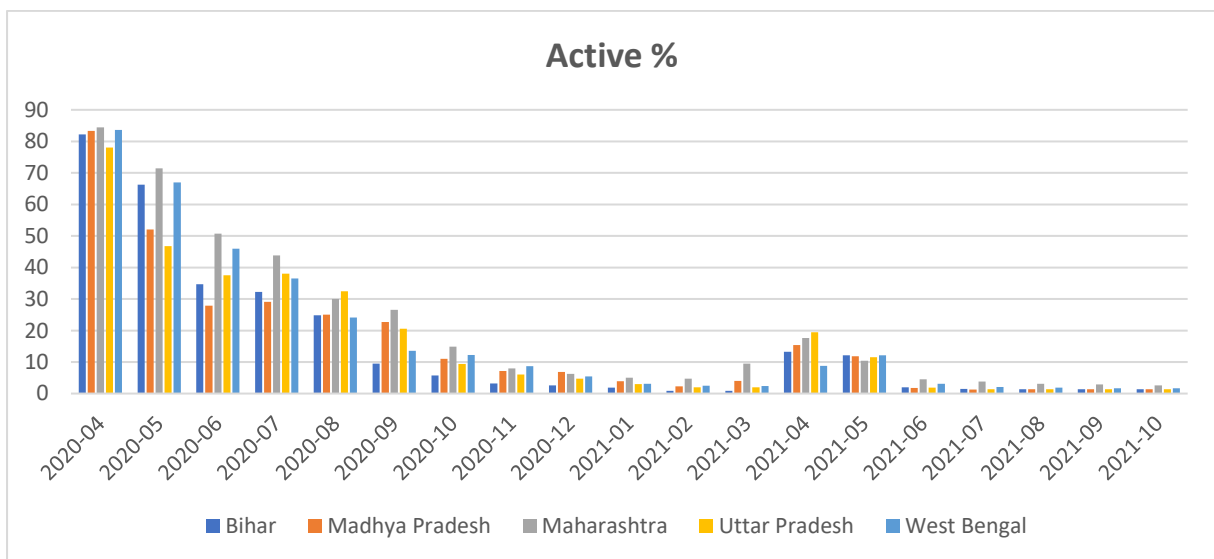
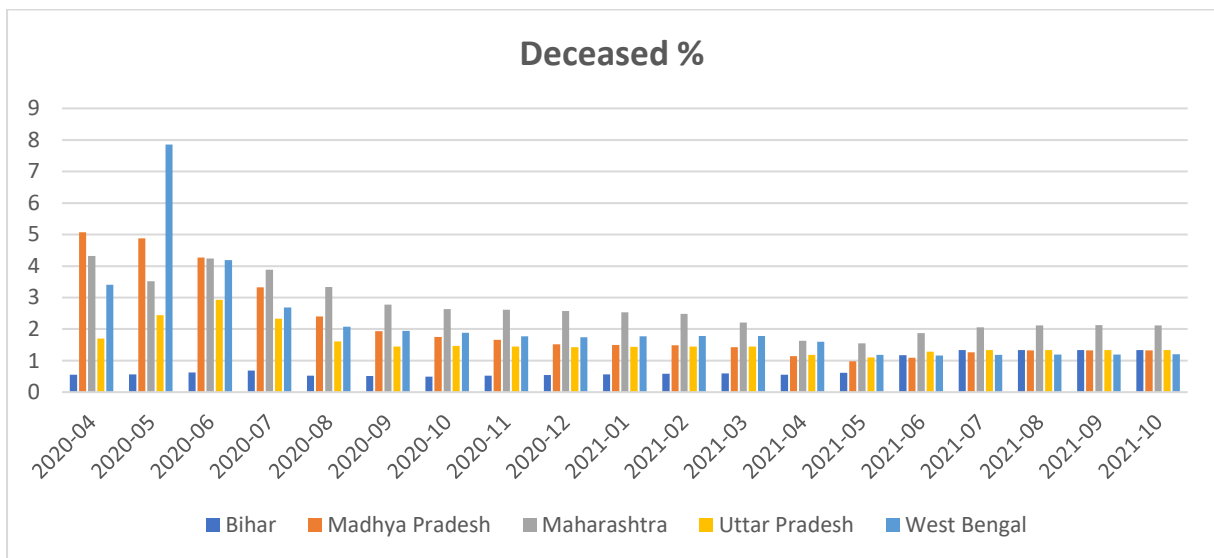
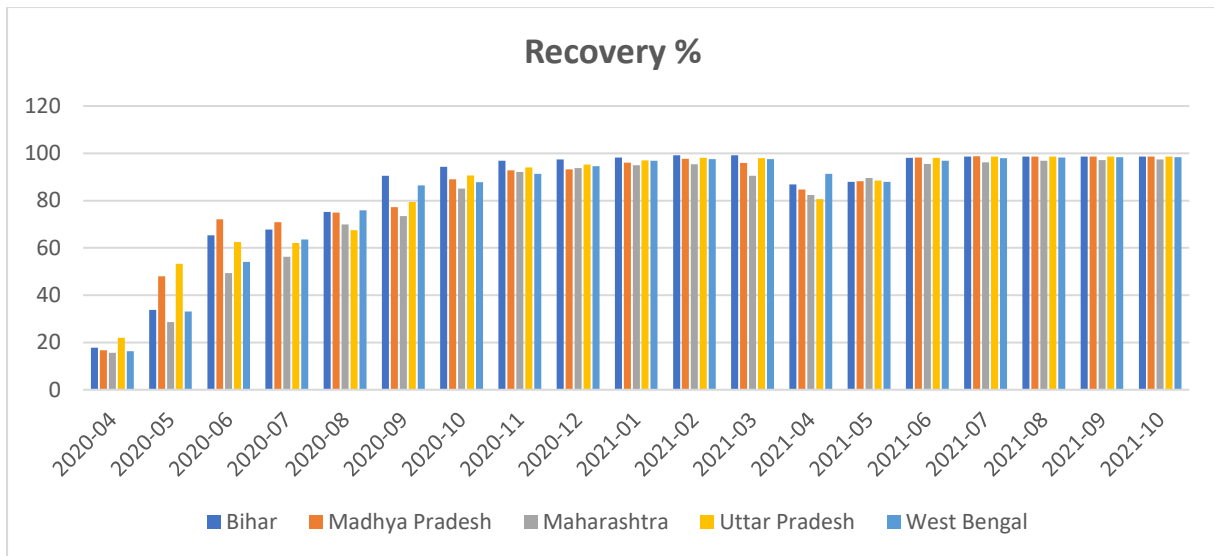
Population					
>=20Lakhs to <1Crore		>=10Lakh to <20Lakh		<10 Lakh	
Name of State	Population	Name of State	Population	Name of State	Population
Himachal Pradesh	73Lakhs	Goa	15.4Lakhs	Dadra & Nagar Havelli & Daman & Diu	9.6Lakhs
Manipur	39.9Lakhs	Arunachal	15Lakhs	Sikkim	6.6Lakhs
Tripura	32.2Lakhs	Mizoram	15Lakhs	Andaman&Nicobar	4Lakhs
Meghalaya	31Lakhs	Puducherry	11.9Lakhs	Ladakh	2.9Lakhs
Nagaland	21.5Lakhs	Chandigarh	11.8Lakhs		

❖ Data Analysis

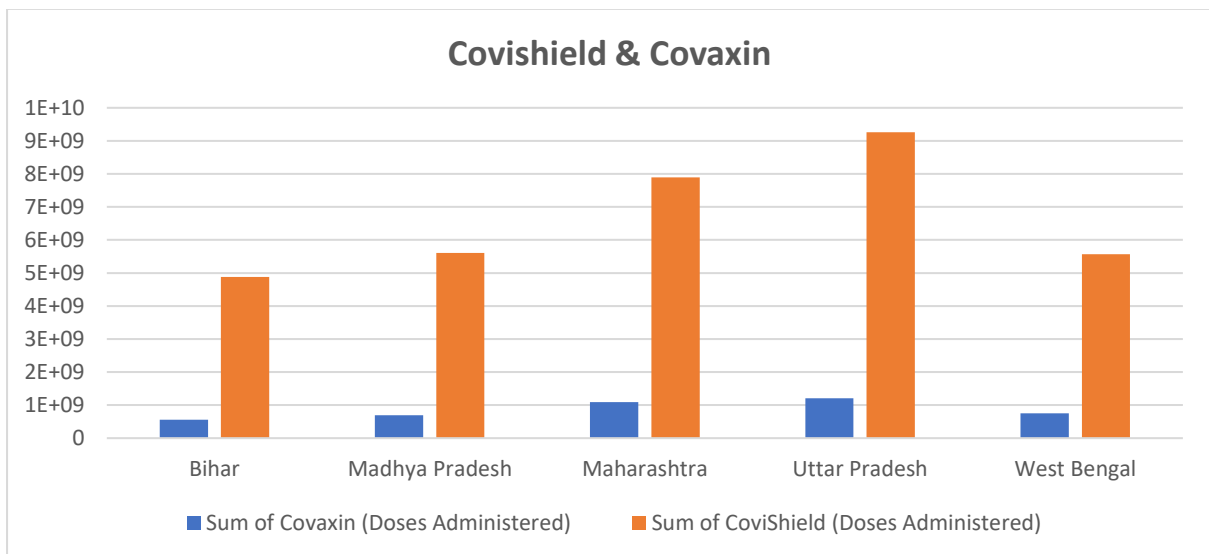
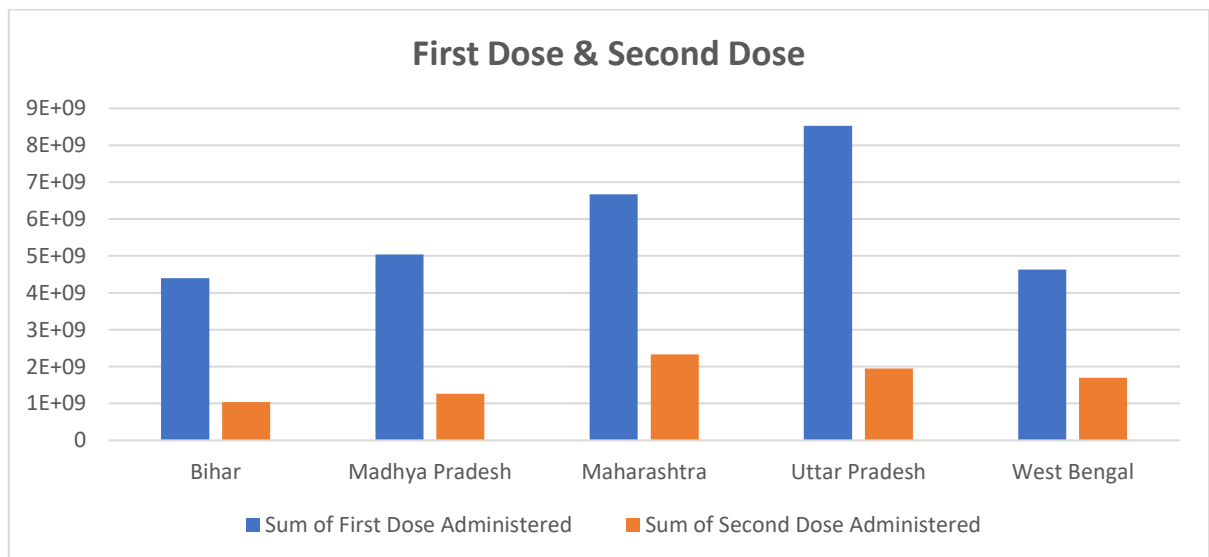
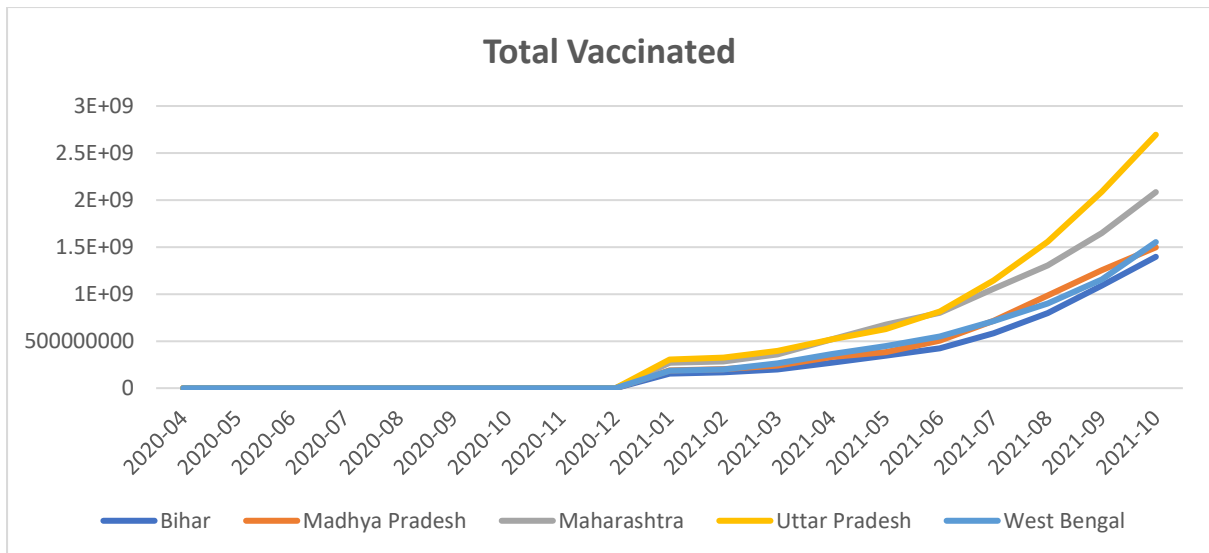
For population >= 8 Cr



📍 Maharashtra witnesses the highest number of confirmed cases of Covid-19 pandemic from its very 2nd quarter compared to the other states in this cluster. Maharashtra has many airports in the state that connects many parts of the world owing to most travelling of the people. Many people come from outside to work here than any other part of the country.

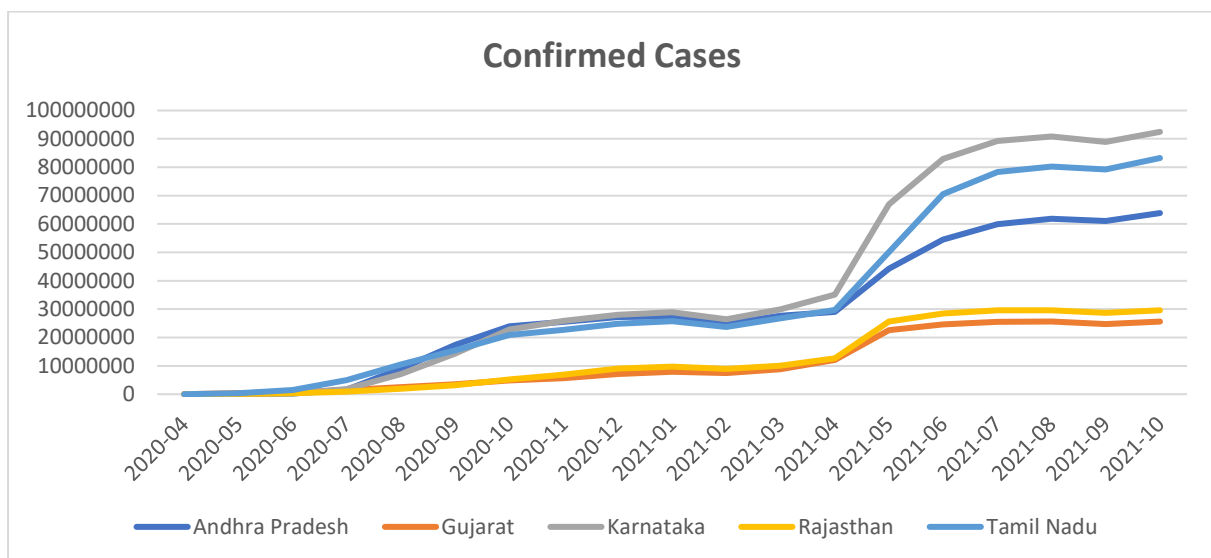
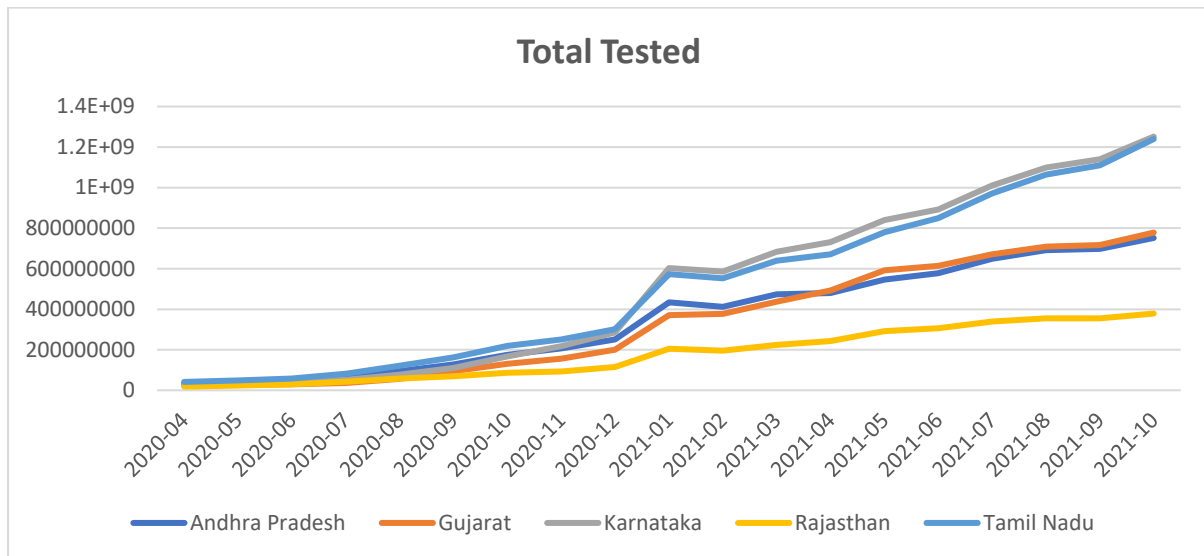


- Bihar had a steady positive recovery rate from the upsurge of the pandemic and is increasing every month, which infers the best of medical facilities there during that period.
- West Bengal witnesses the highest number of mourners in the very second month of the pandemic which decreased with time.

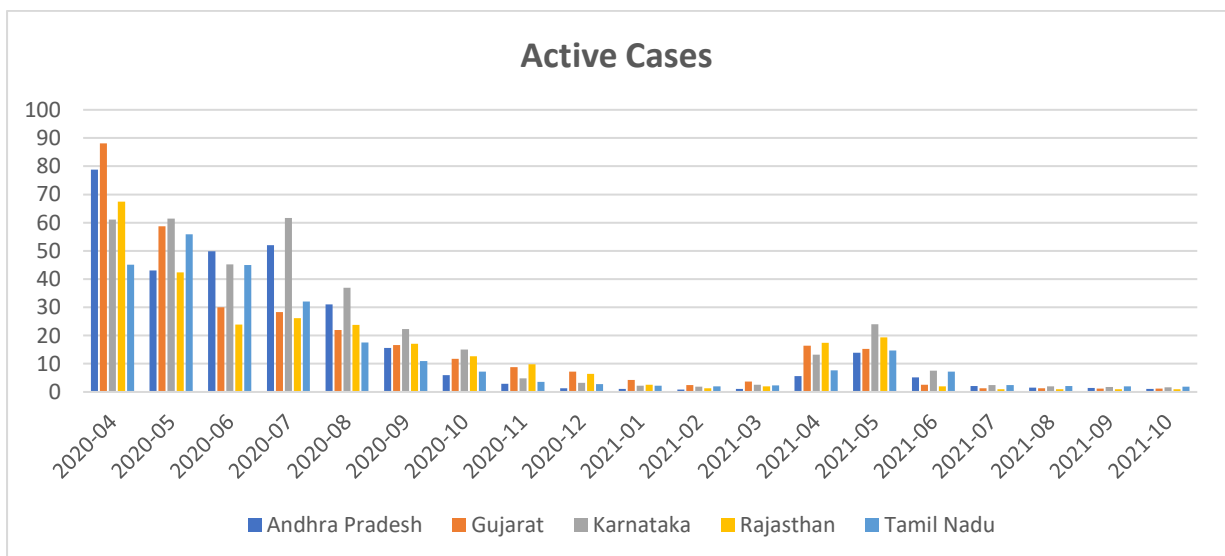
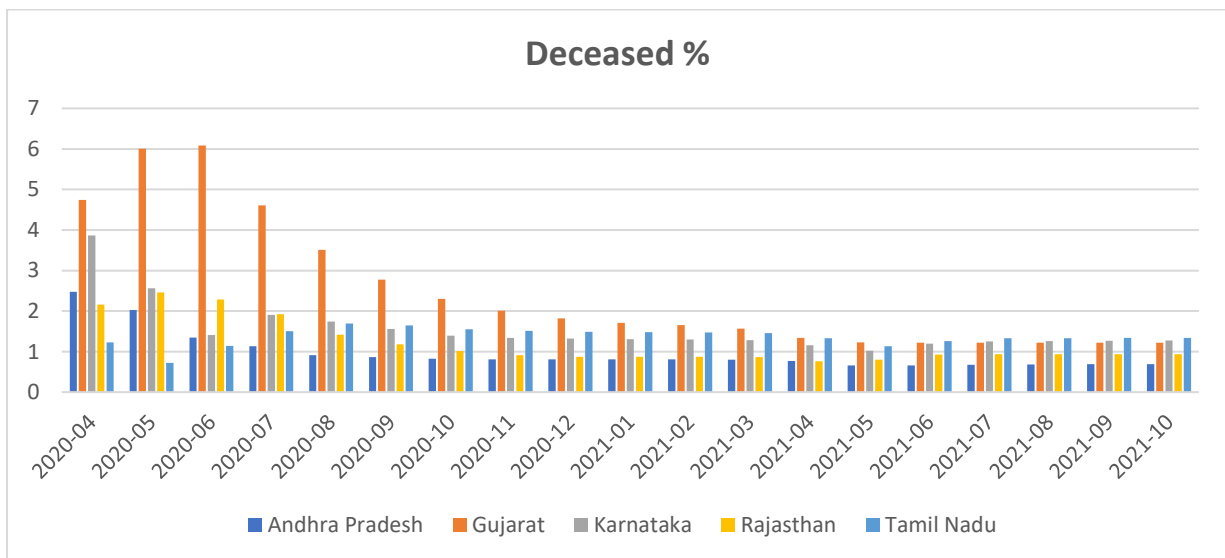
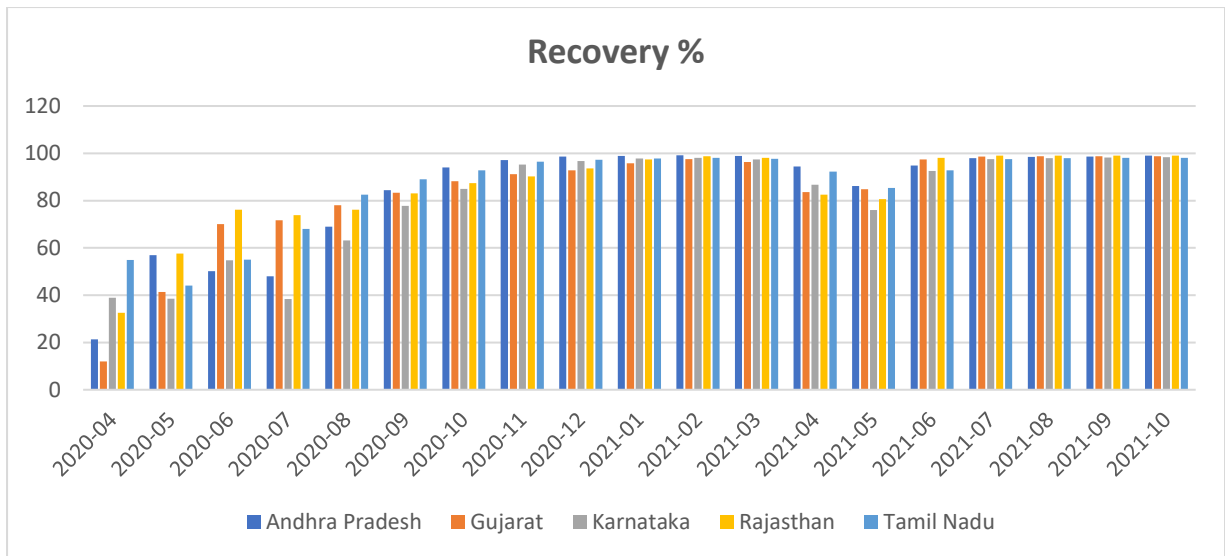


Uttar Pradesh gets the highest number of vaccine doses in CoviShield as compared to others in this cluster thus maintaining a positive rate in recovery and less demise.

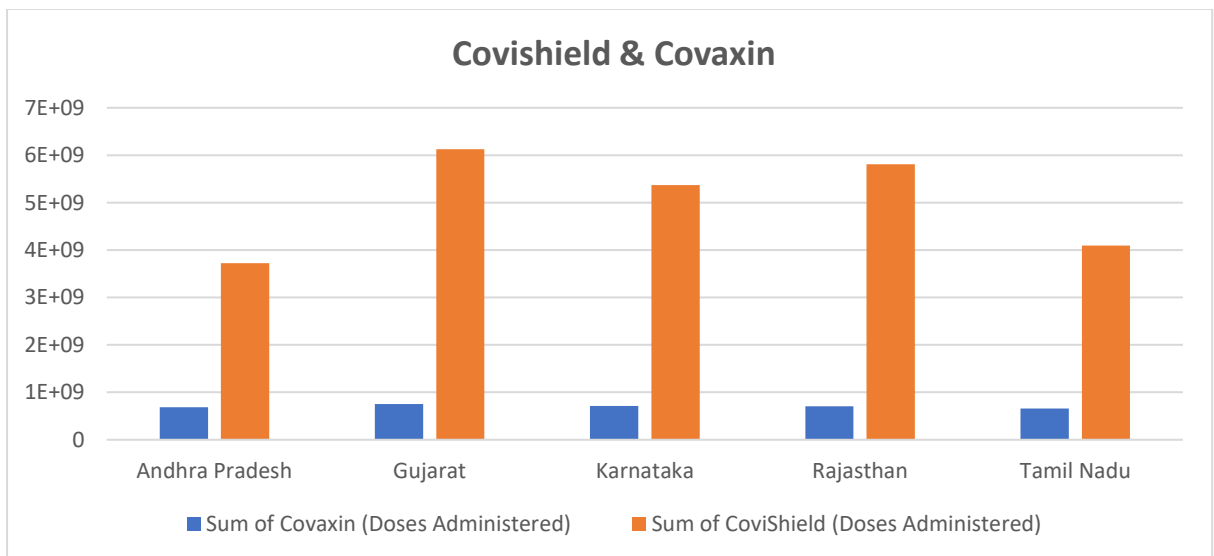
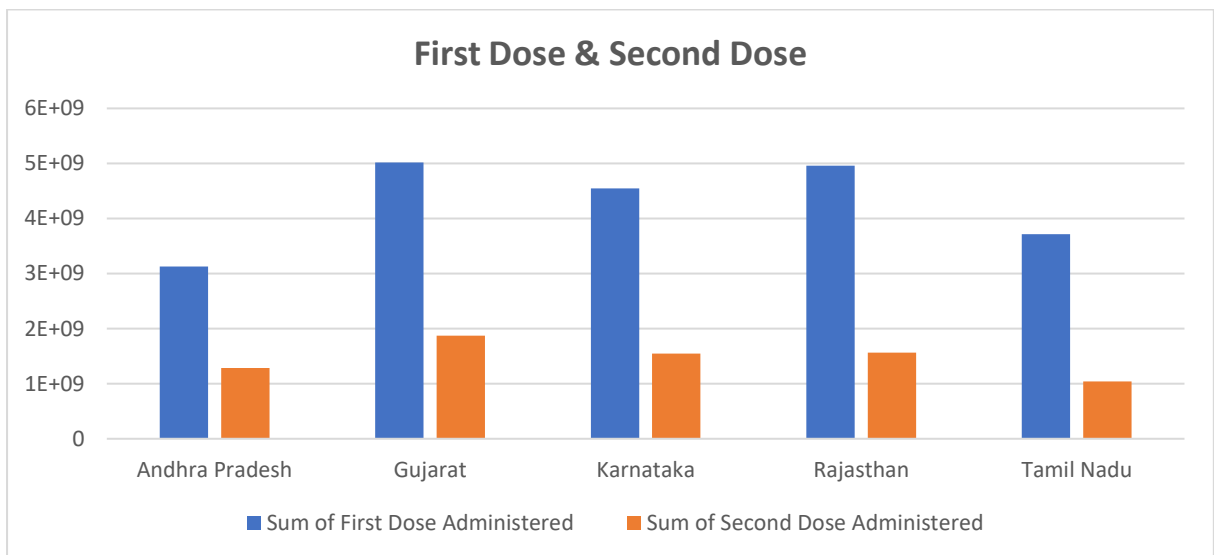
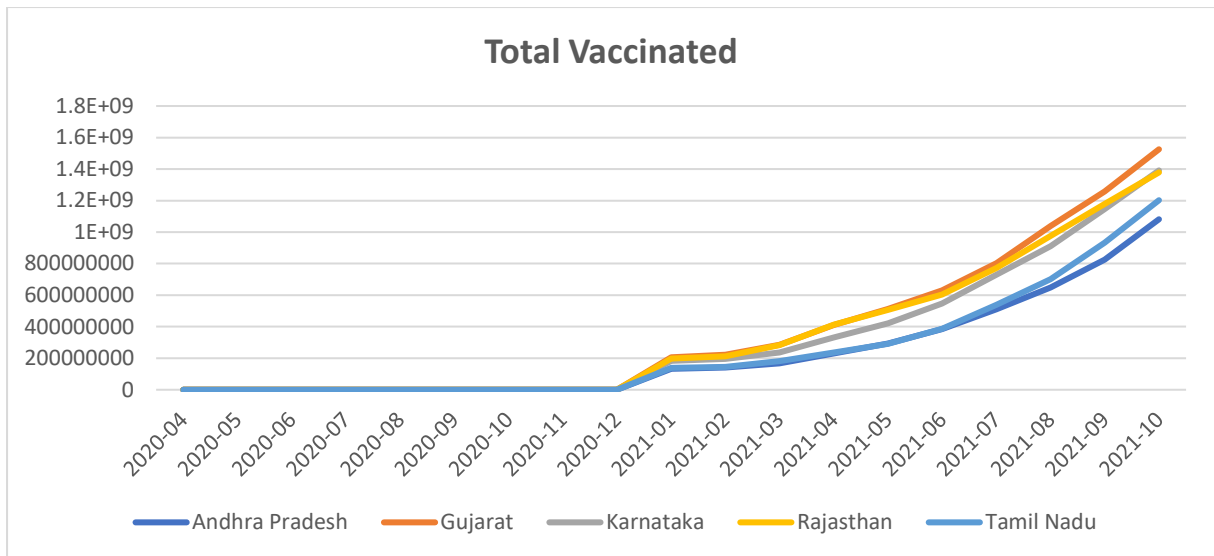
For population $\geq 5\text{Cr}$ to $< 8\text{Cr}$



- ✚ Karnataka gets the highest number of confirmed cases within this timespan leading the other states from after 6 months after the pandemic roots in India.
- ✚ Gujarat remains the lowest in confirming cases during the entire time.

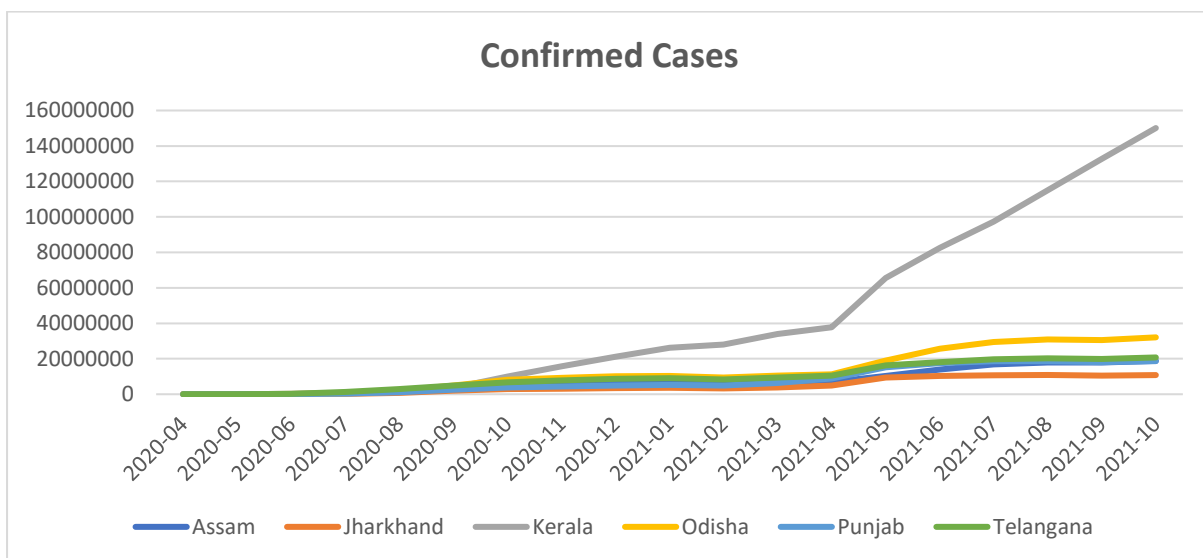
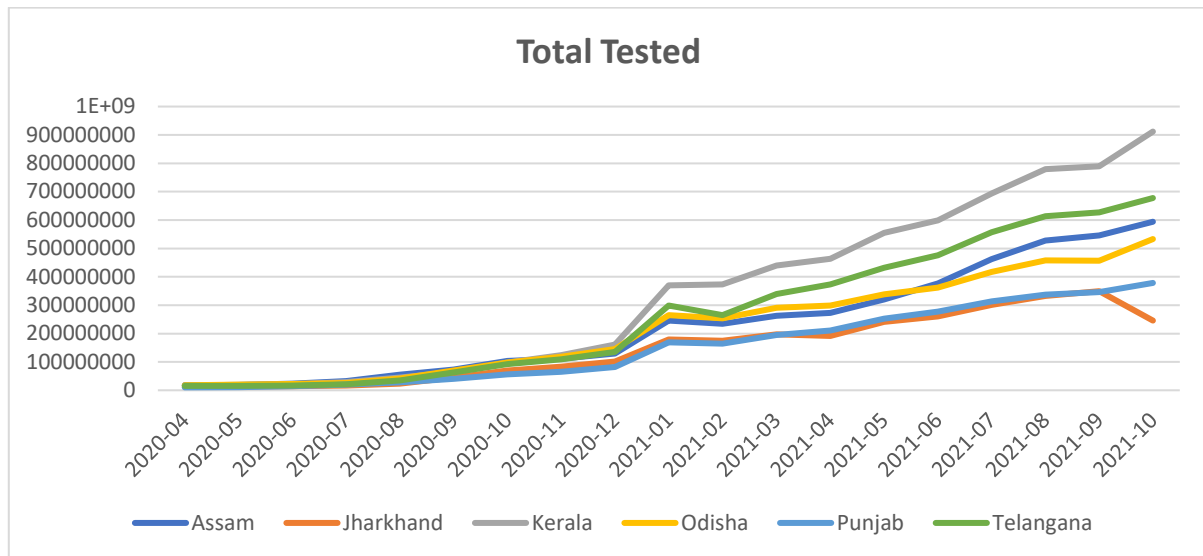


Gujarat witnesses the highest number of deaths in the initial months of the pandemic and had the highest number of active cases in the first month in spite of having the lowest number of confirmed cases.

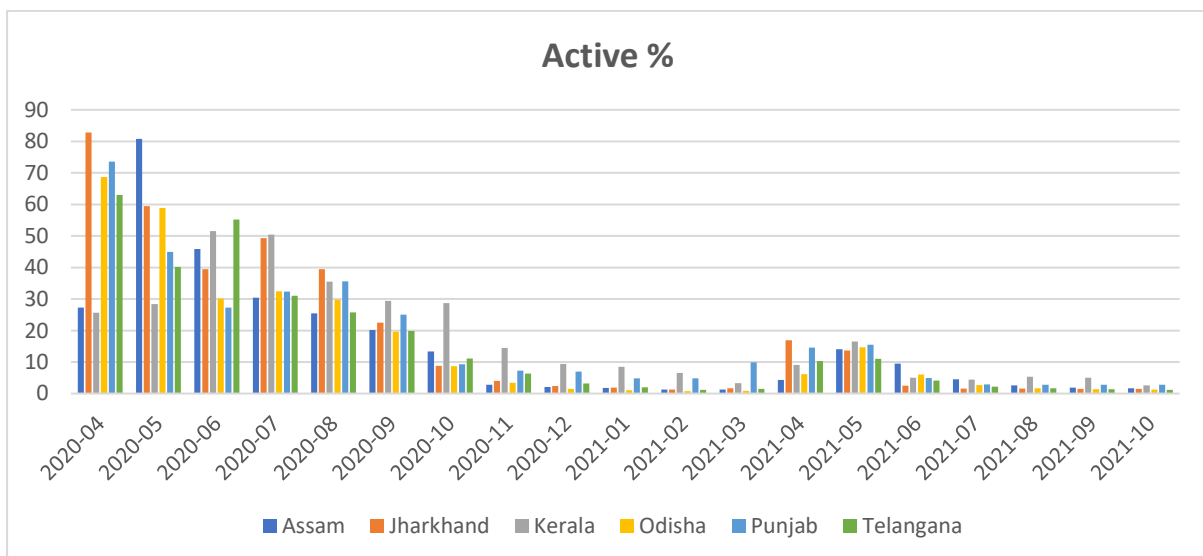
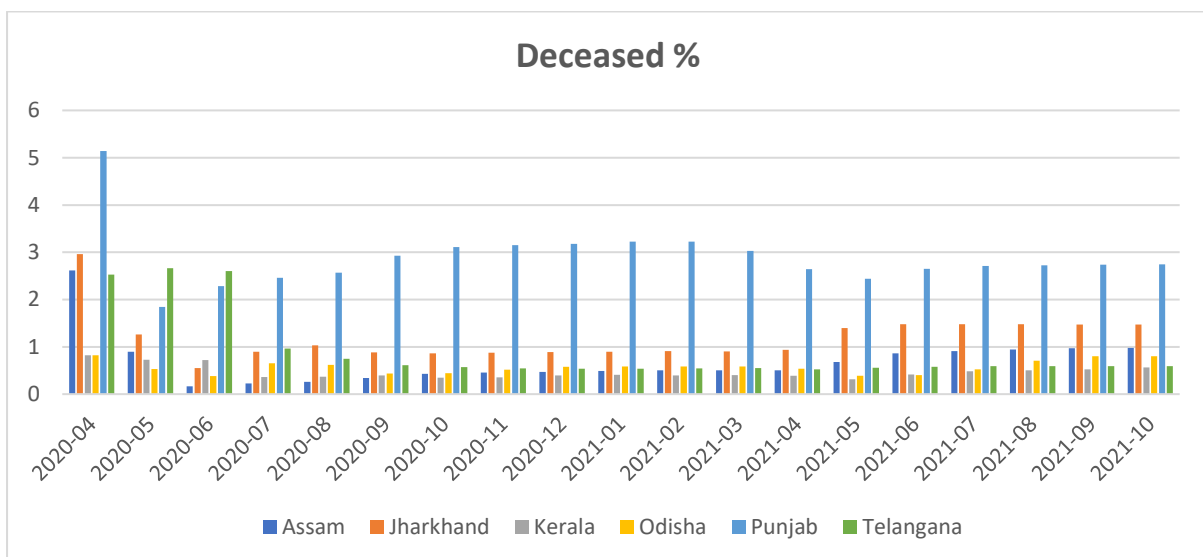
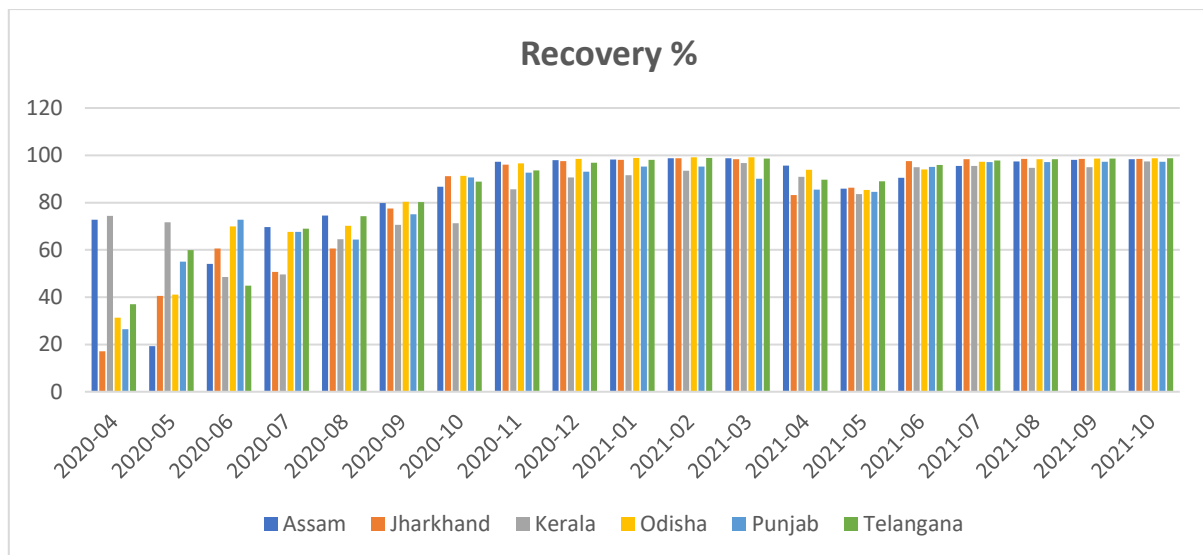





📌 Gujarat and Rajasthan got the highest number of CoviShield vaccines as compared to other states in this cluster.

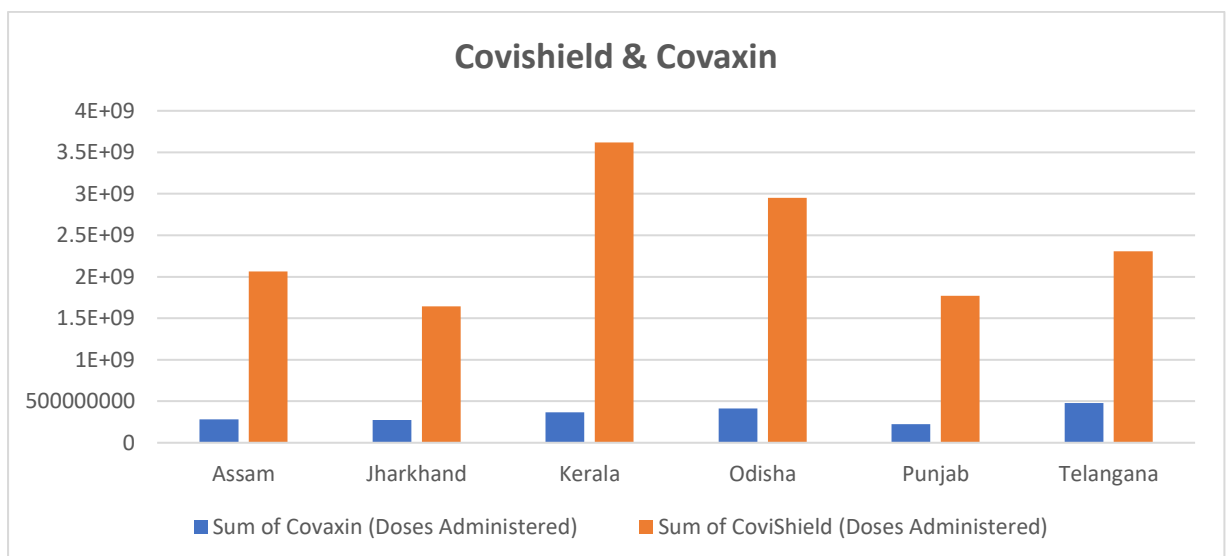
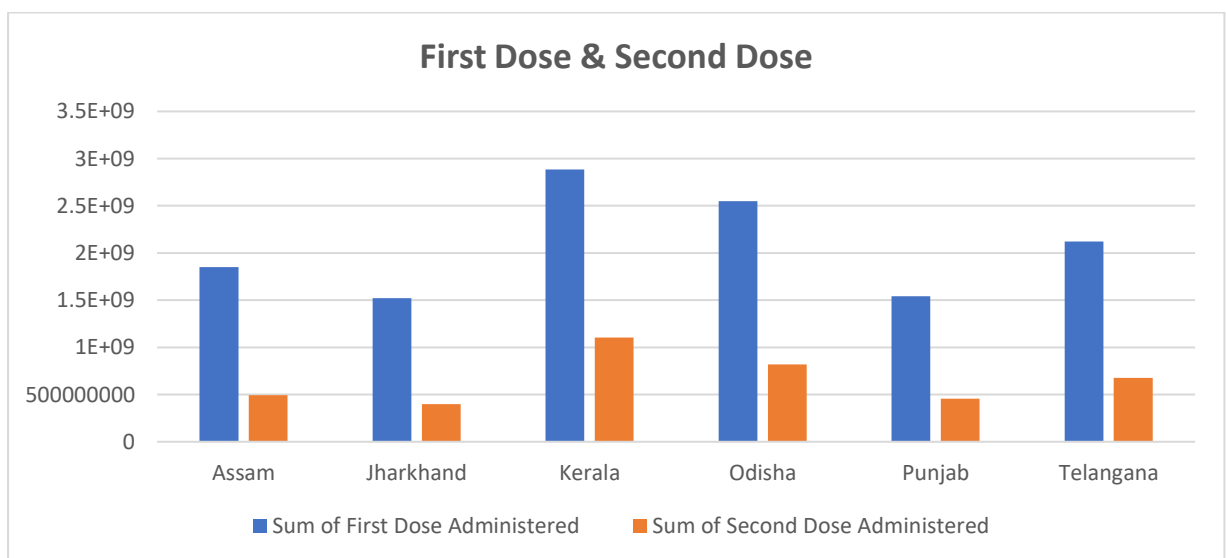
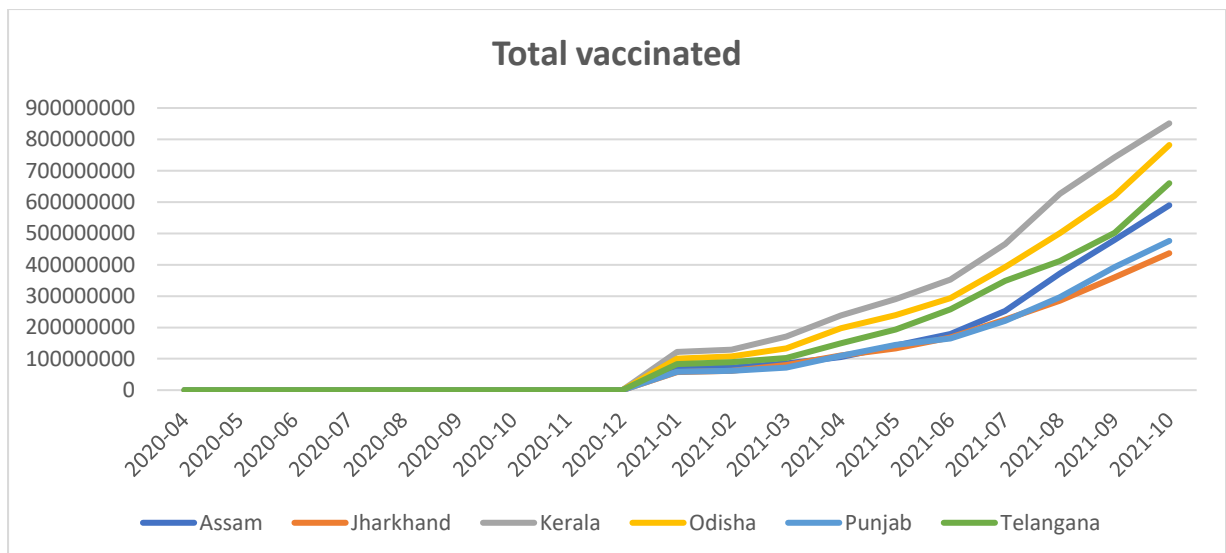
For population $\geq 3\text{Cr}$ to $< 5\text{Cr}$




- ✚ The population of Kerala was tested the most and it led to the highest number of confirmed cases in this cluster, whereas the other states got very less affected.
- ✚ Jharkhand remains low amongst all the other states in this cluster.

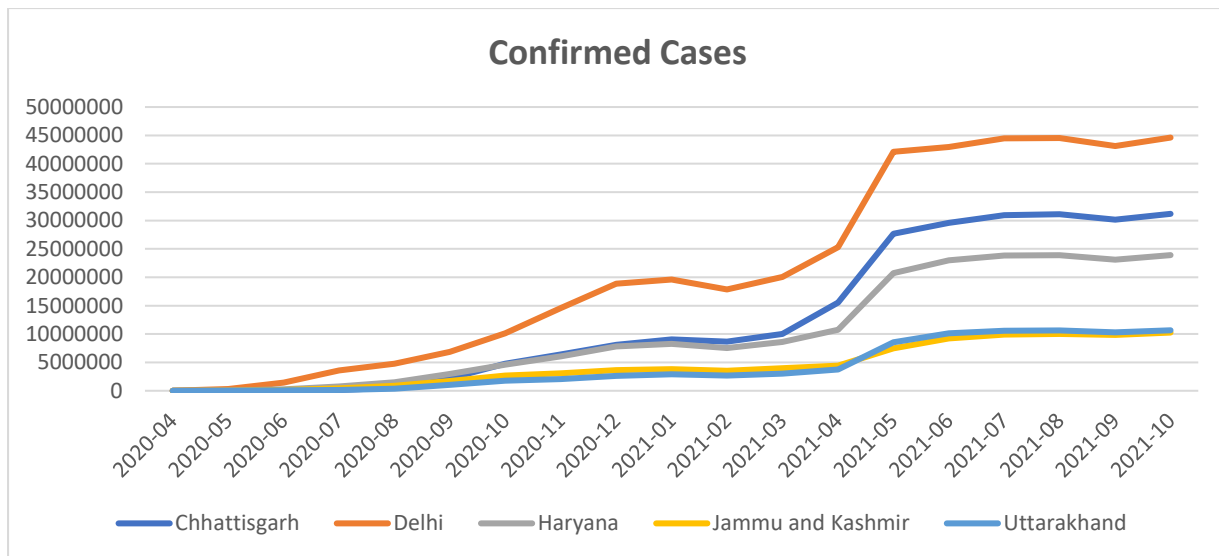
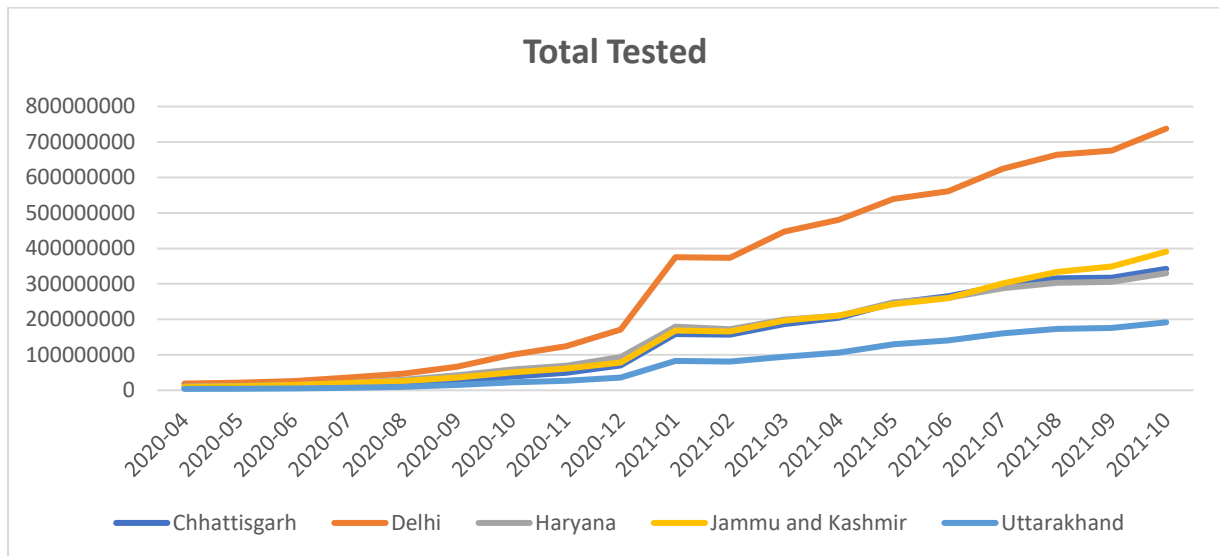


-  Assam had a steady recovery curve.
-  Punjab witnesses most deaths in this population cluster during the pandemic.
-  Jharkhand had the highest number of active cases in the initial month of Covid 19.

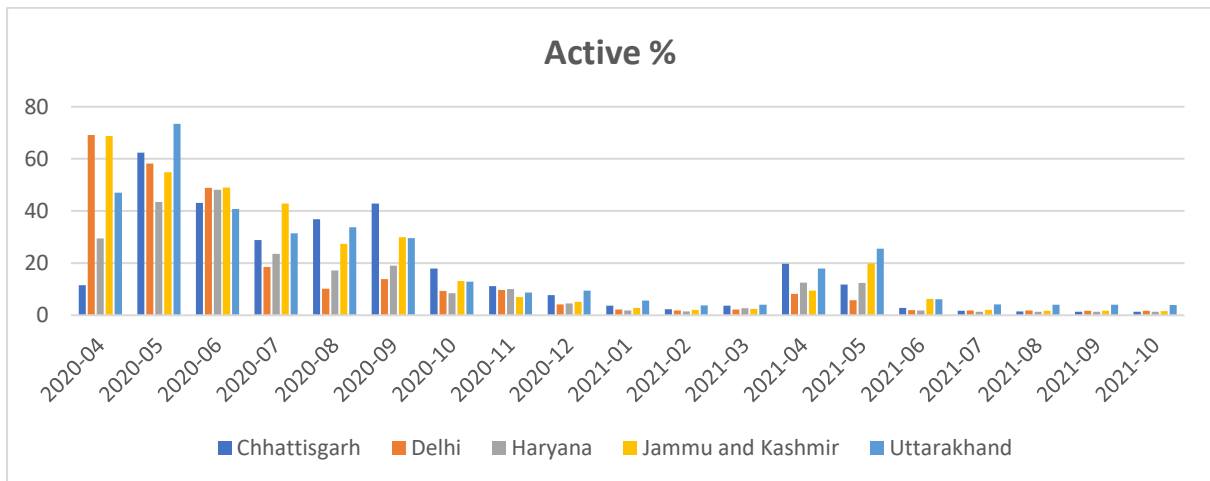
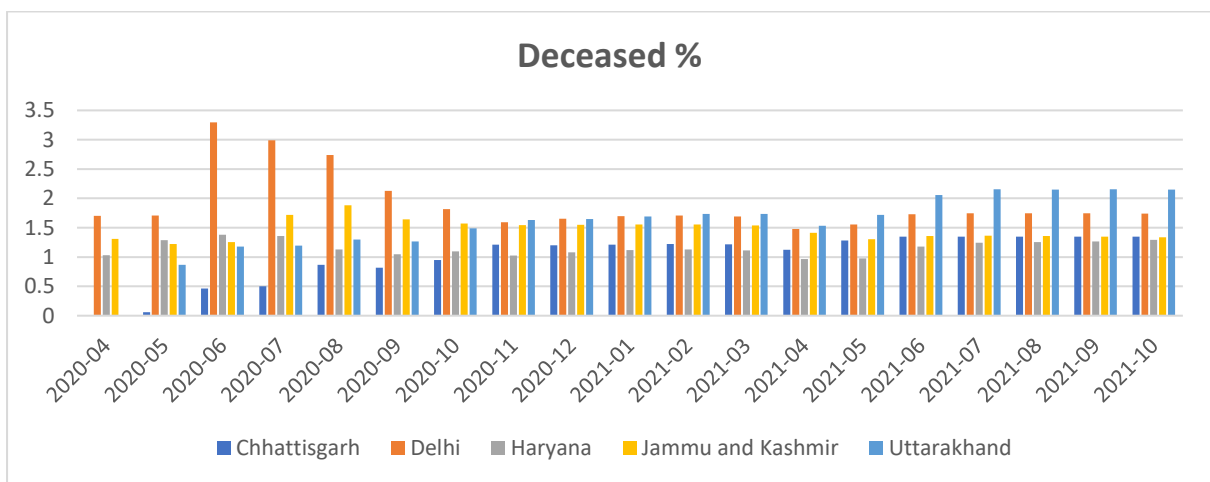
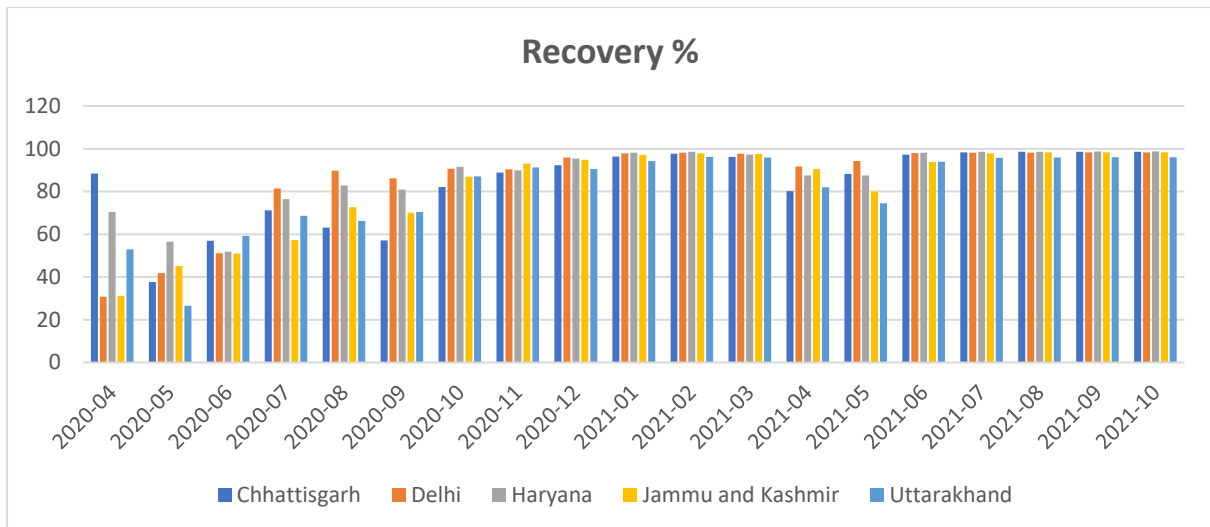





 Kerala receives the highest number of vaccines of CoviShield since it had the highest number of confirmed cases of Covid 19.

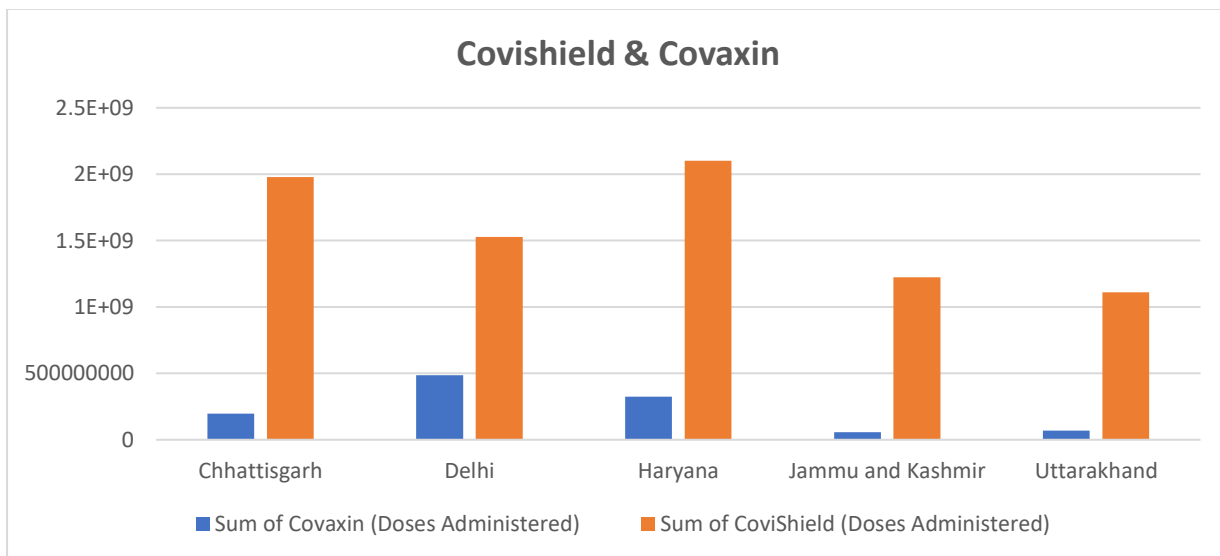
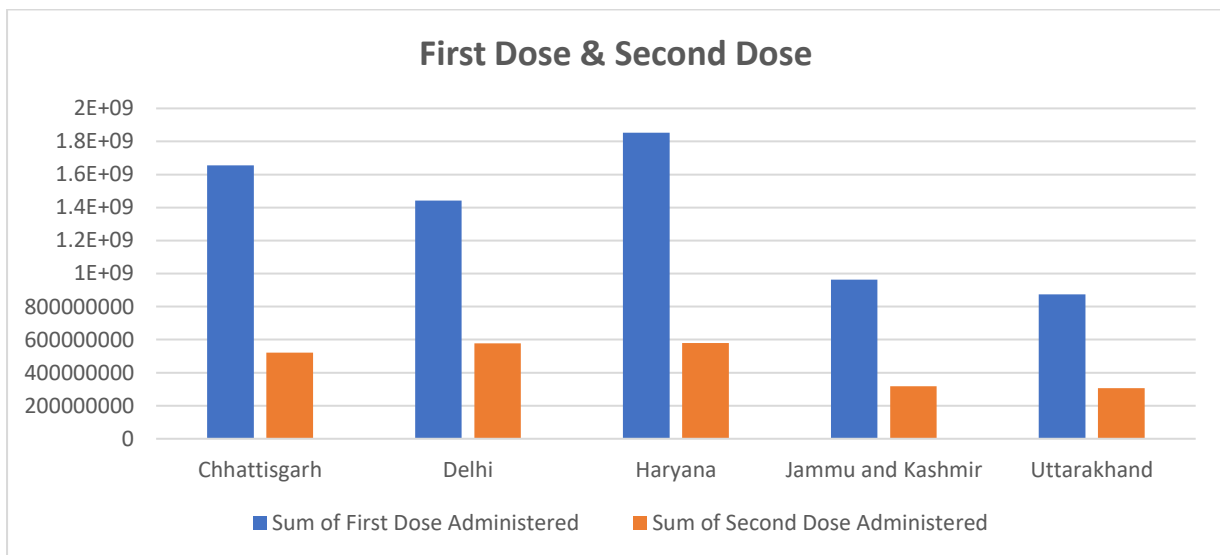
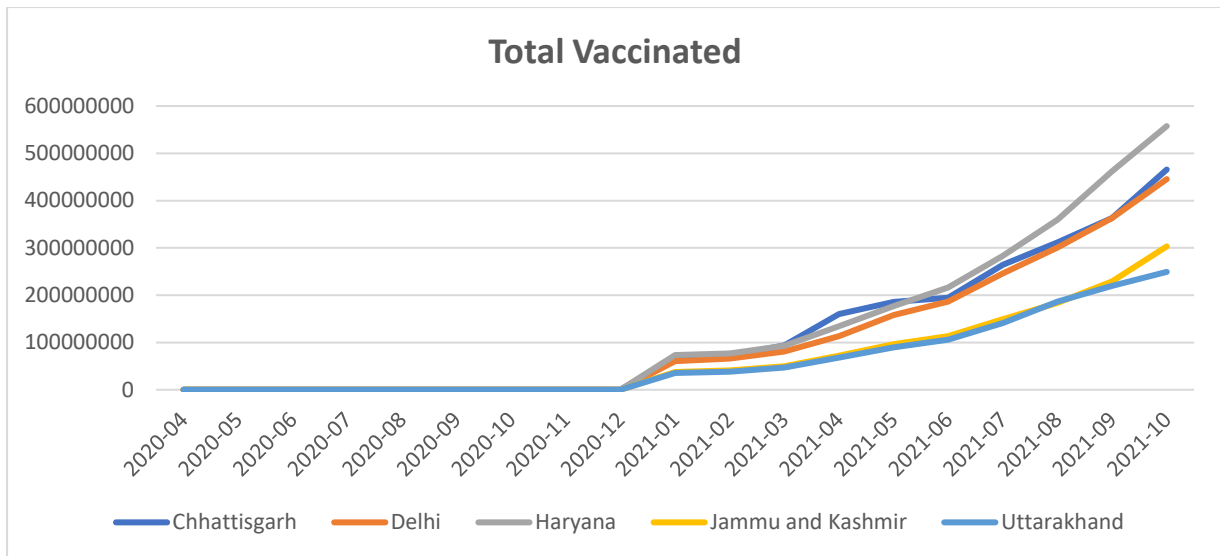
For population $\geq 1\text{Cr}$ to $< 3\text{Cr}$




- ✚ The population of Delhi were the most affected than any other states in the cluster.
- ✚ Right from the initial month, Delhi leads this group with respect to the number of confirmed cases.

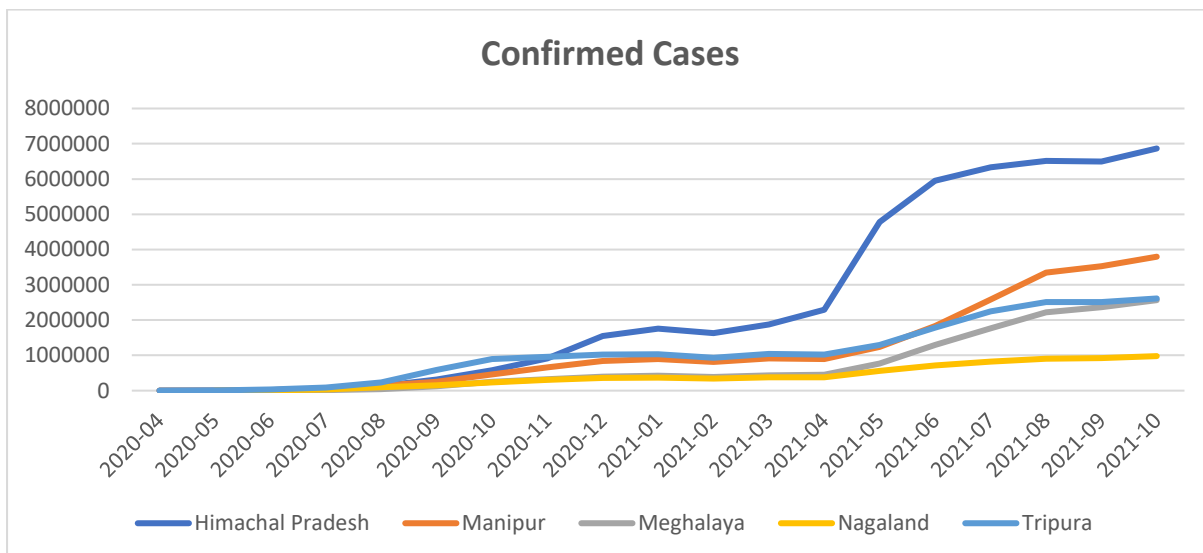
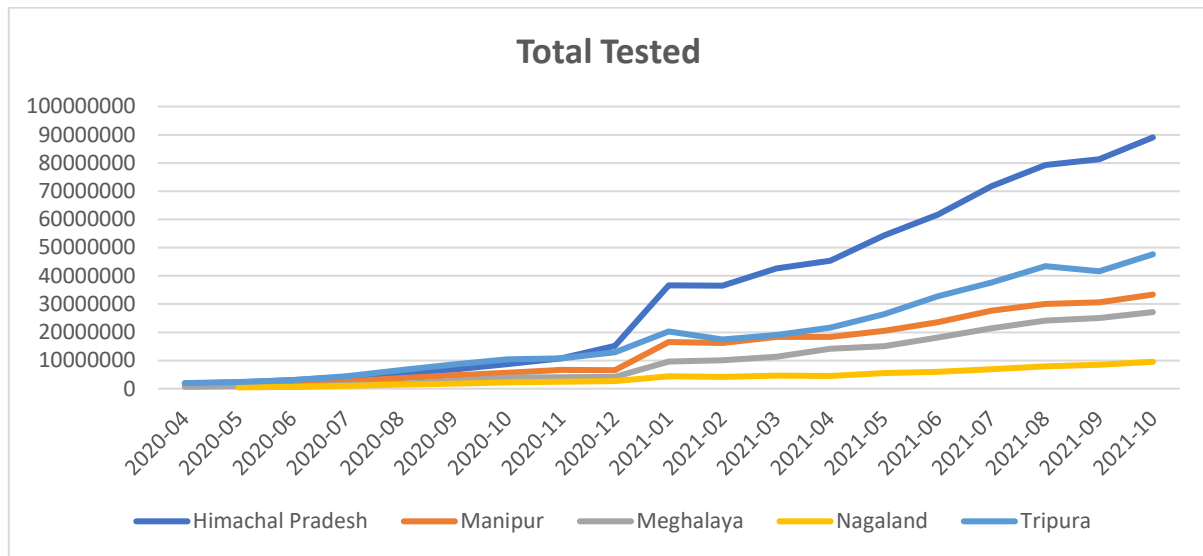


-  Delhi witnesses highest number of deaths in the initial months when the pandemic hit India.
-  Uttarakhand witnesses an increase in the deceased percentage from the end of year 2020.

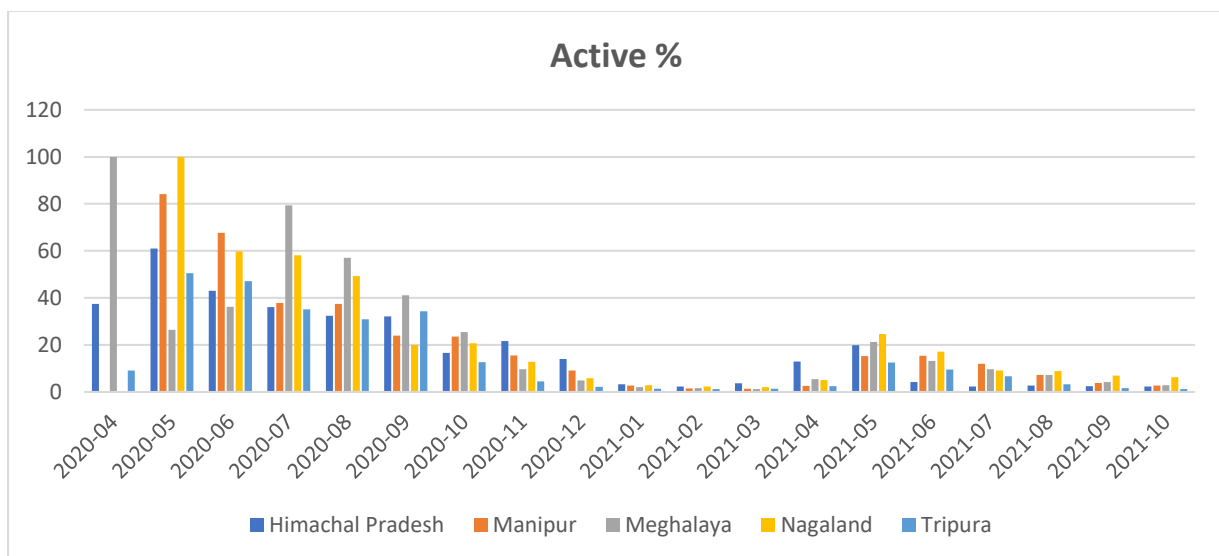
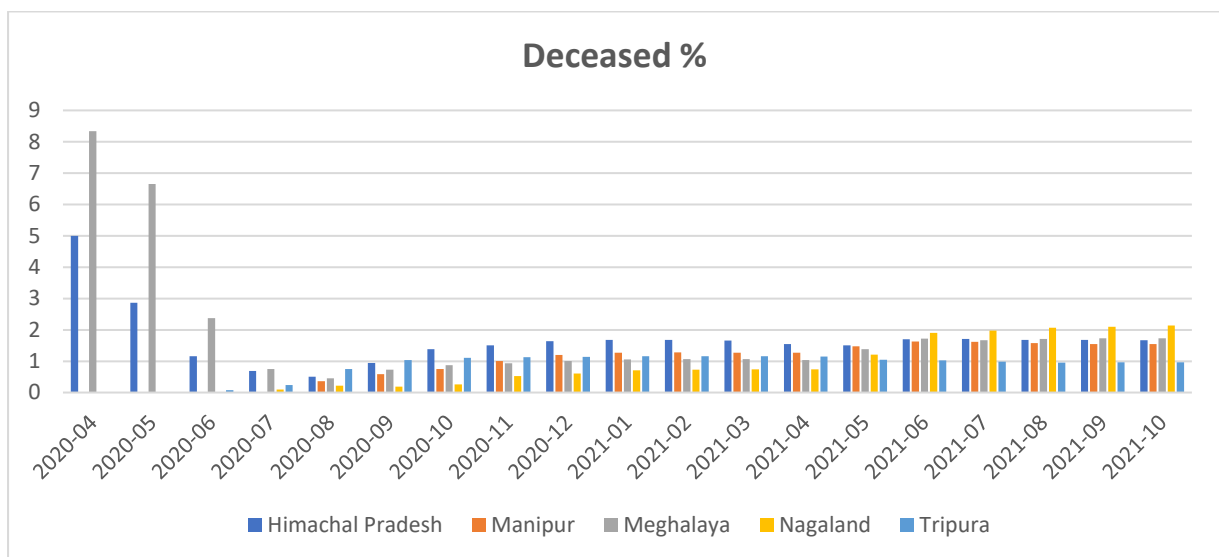
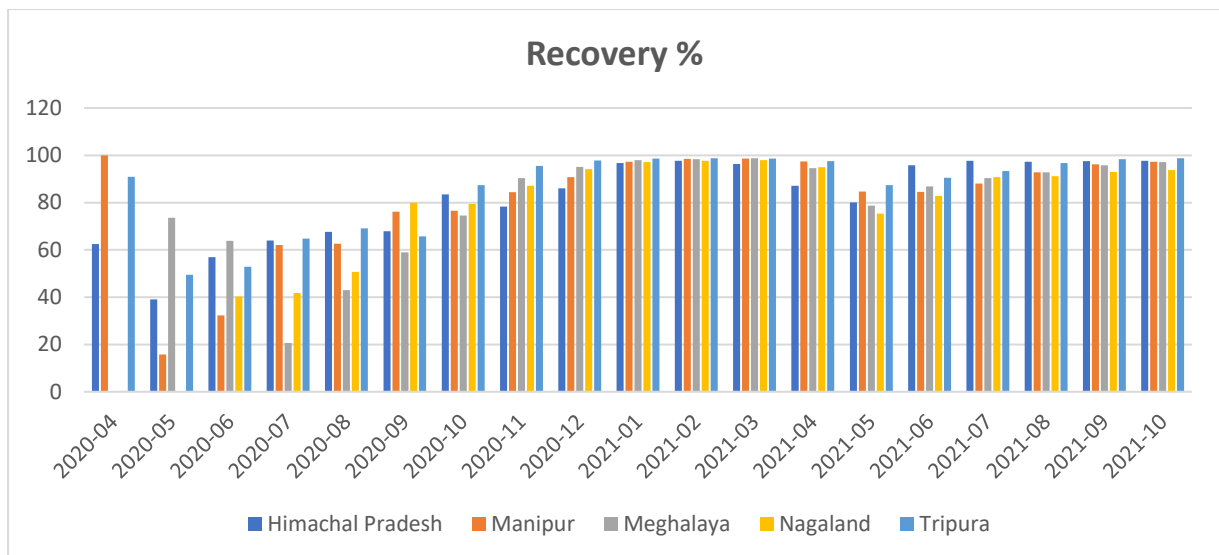


 Haryana gets the highest number of vaccines of CoviShield compared to the other states.

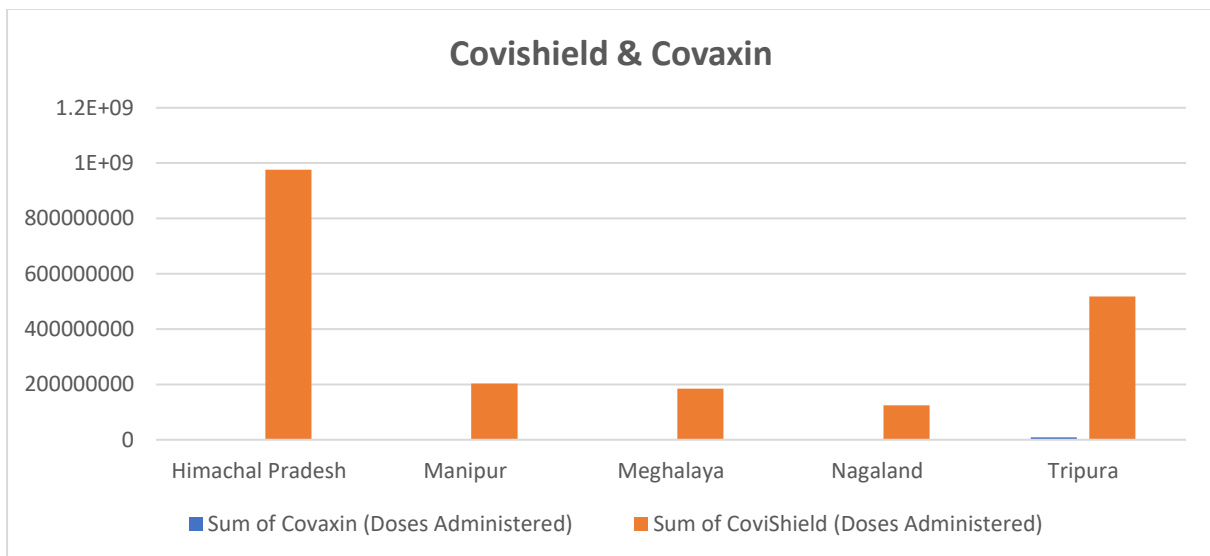
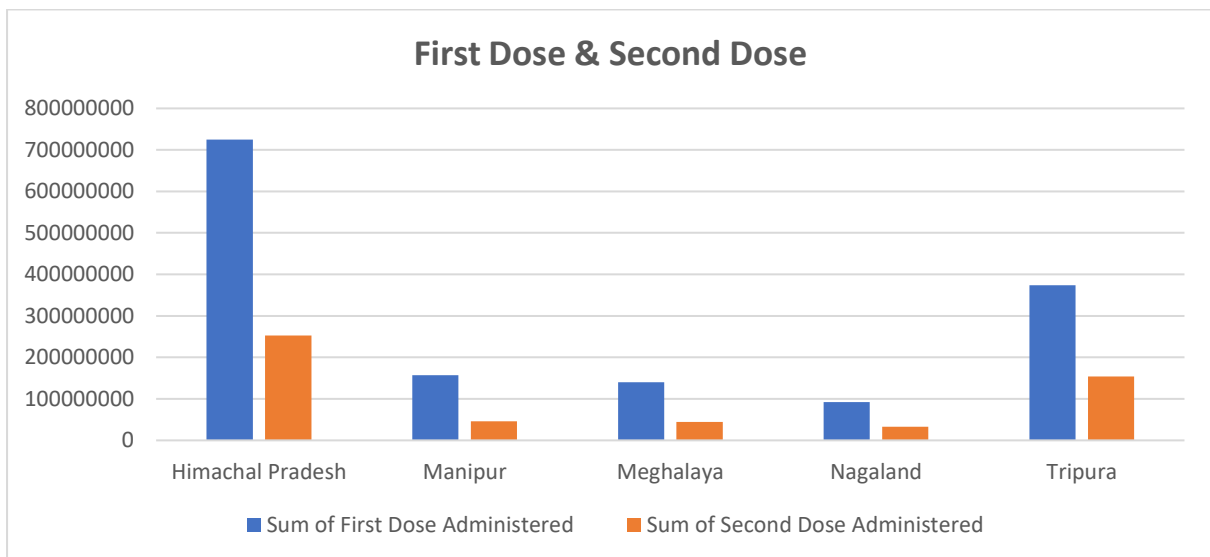
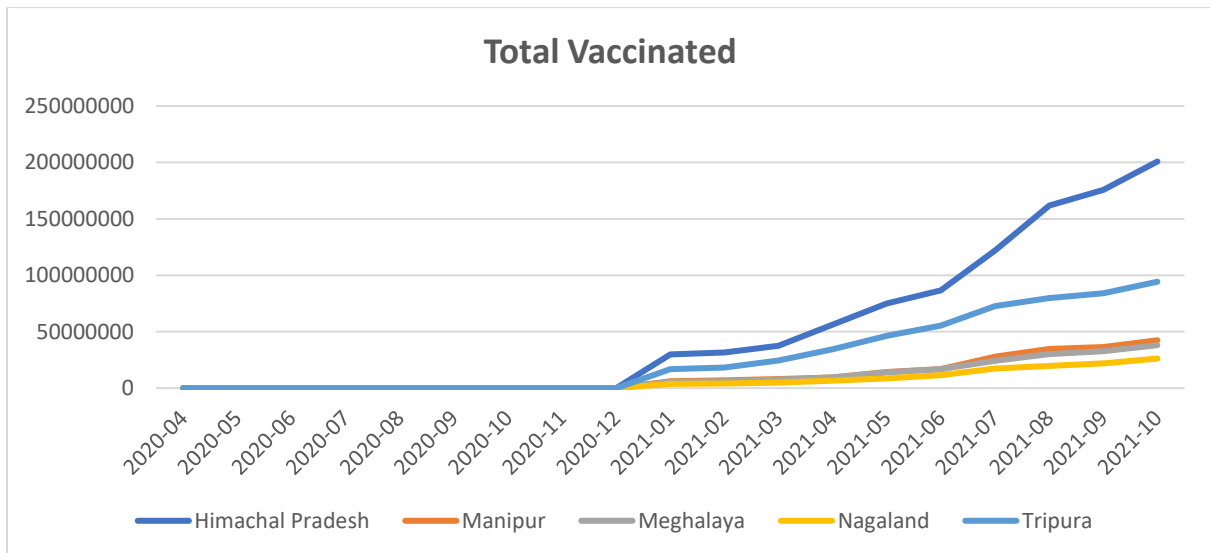
For population >=20lakhs to <1Cr



- 📍 Himachal Pradesh leads the cluster with the highest number of covid positive people.
- 📍 Nagaland remains the lowest.

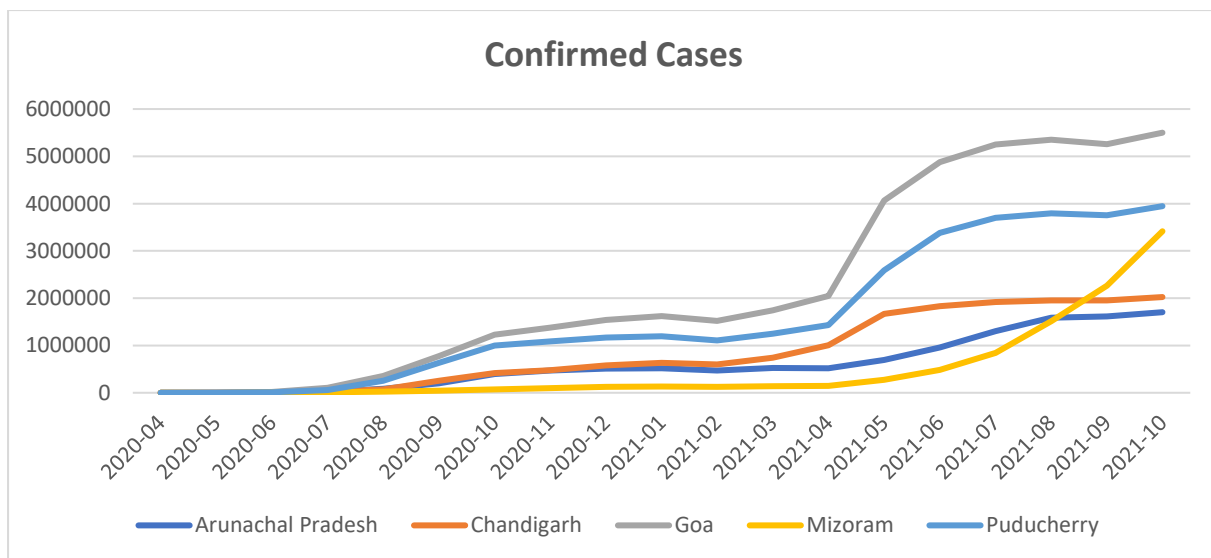
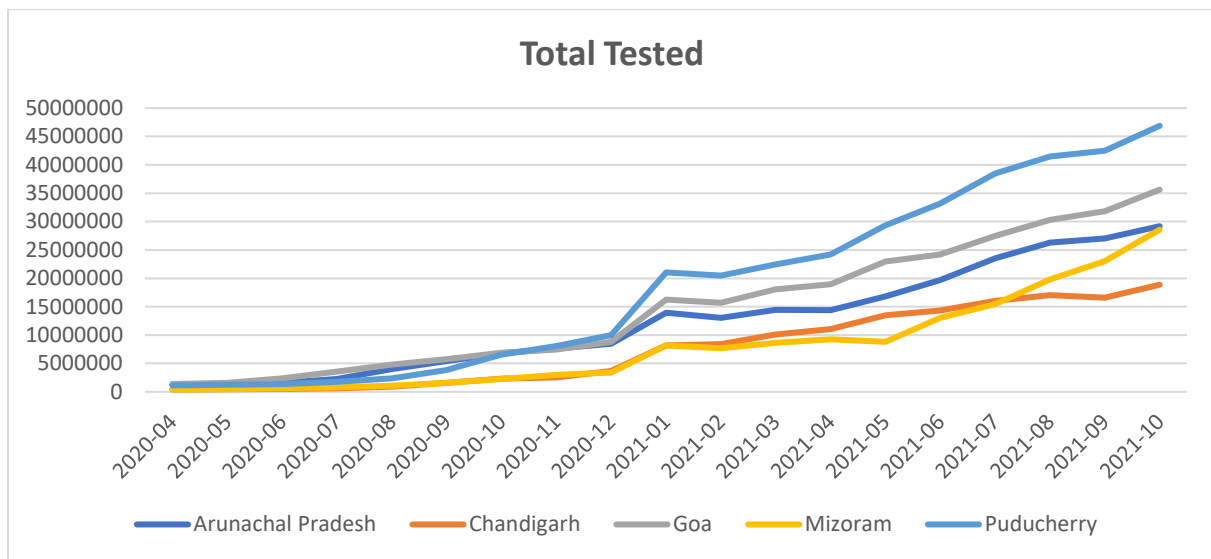


- ✚ Himachal and Meghalaya witnesses highest no of deceased people in the initial quarter of the covid-19 attack in India which gradually got reduced with time.
- ✚ Meghalaya had a steady figure in the active cases of the pandemic.
- ✚ Himachal and Manipur started recovering in the initial months and the other states got a bit slow in recovering from this disease.

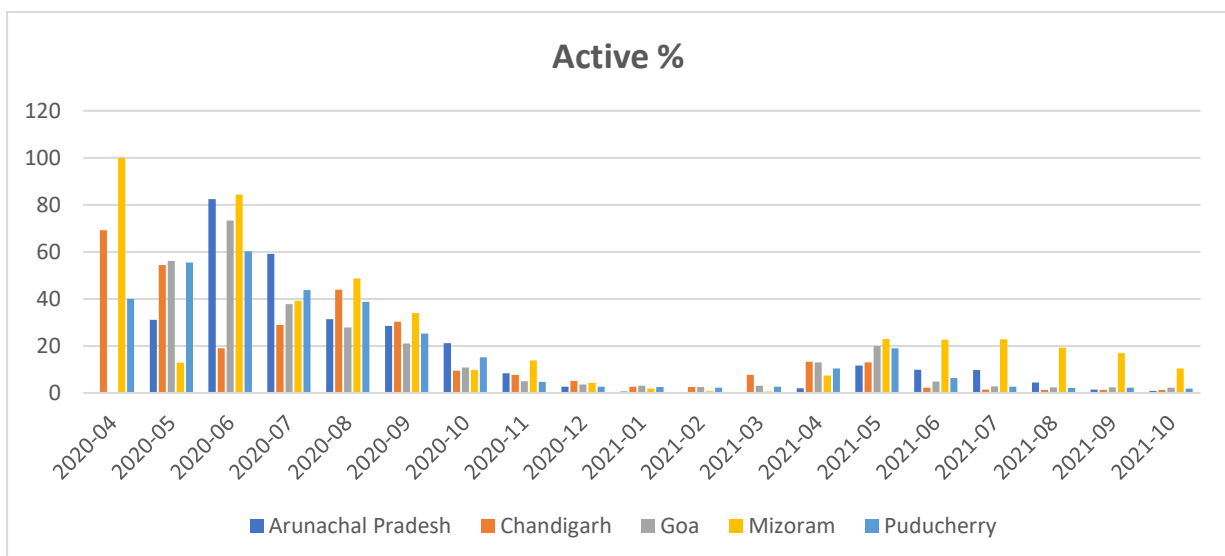
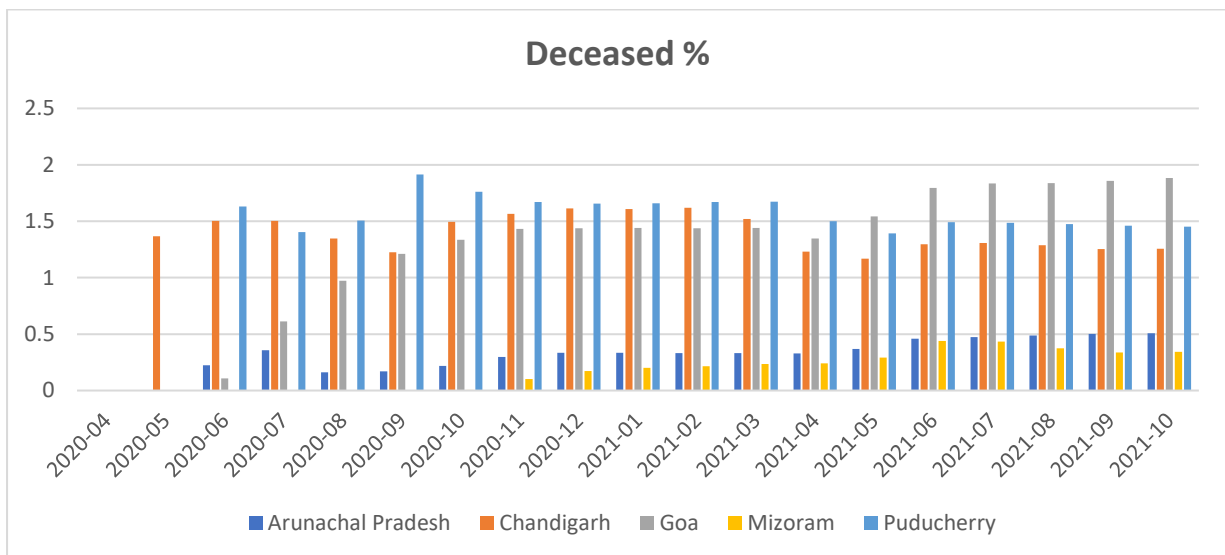
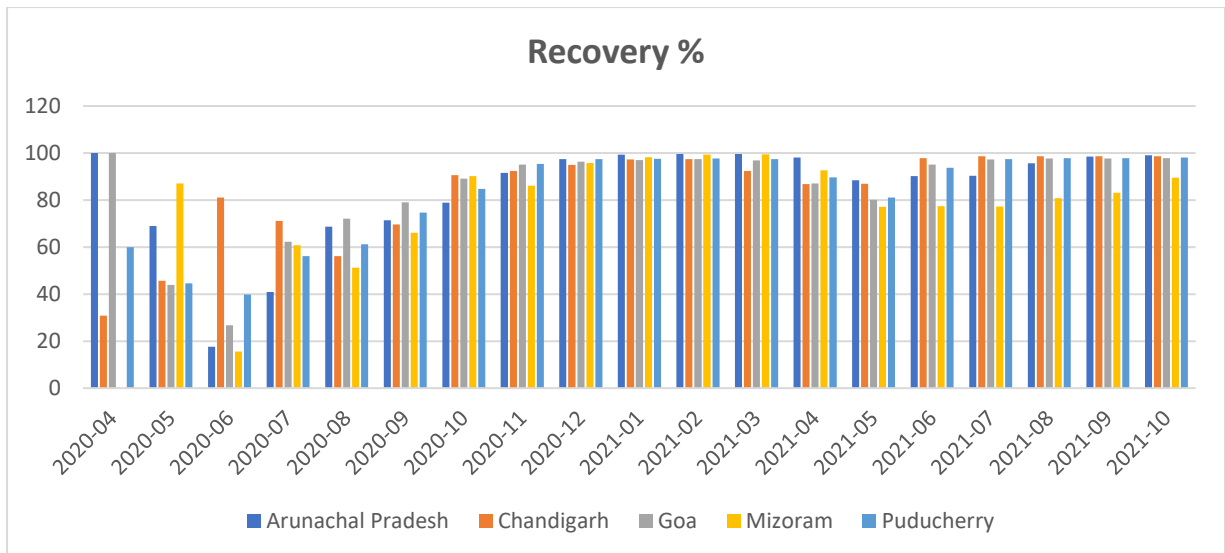




Himachal receives most vaccines of CoviShield since its no of active people and deceased were the most.

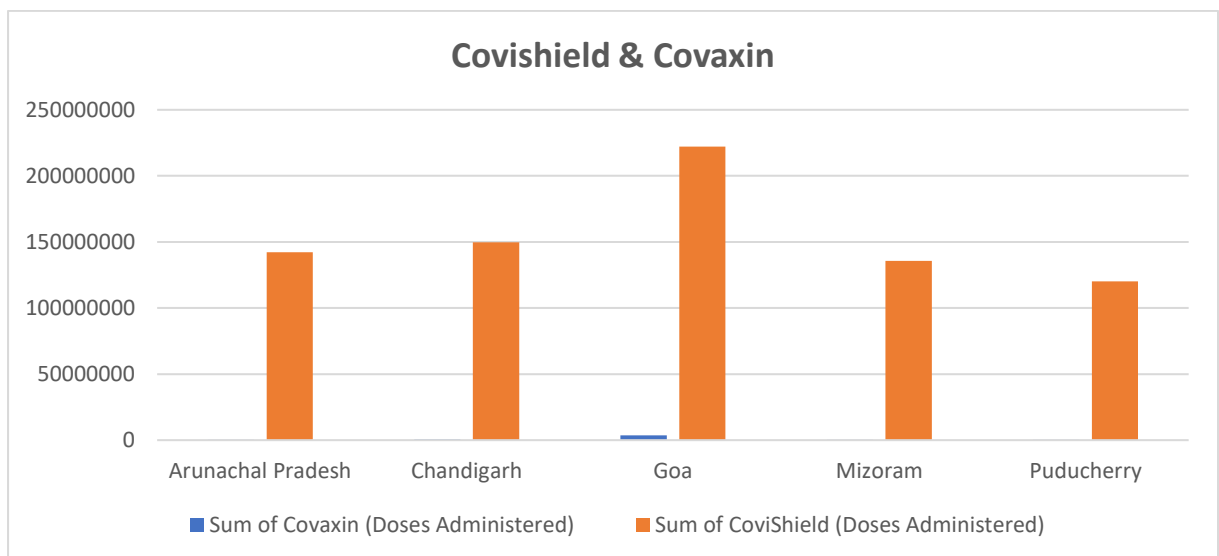
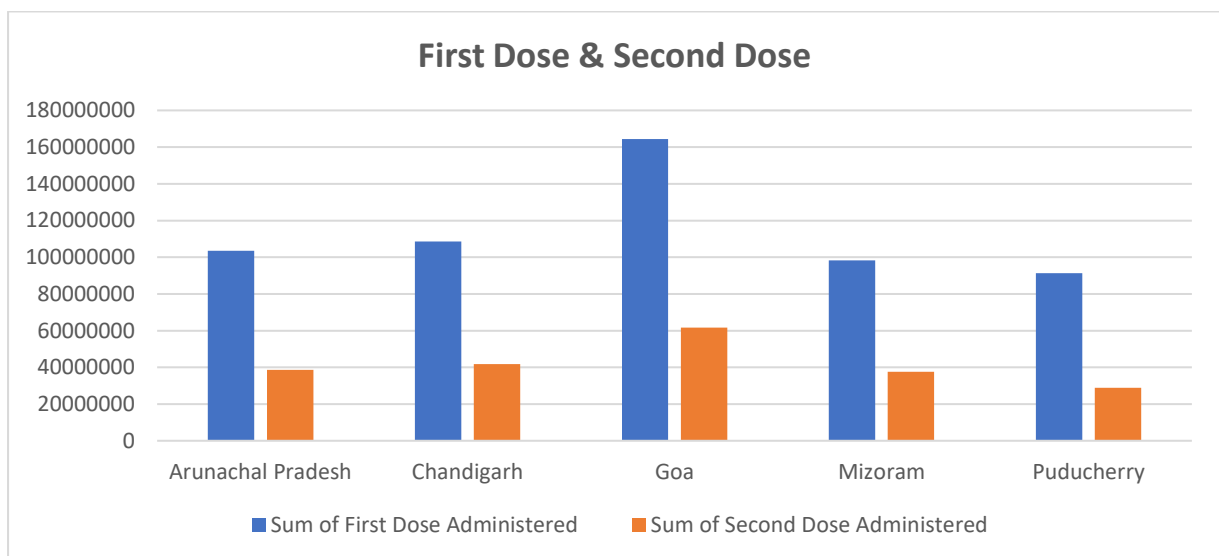
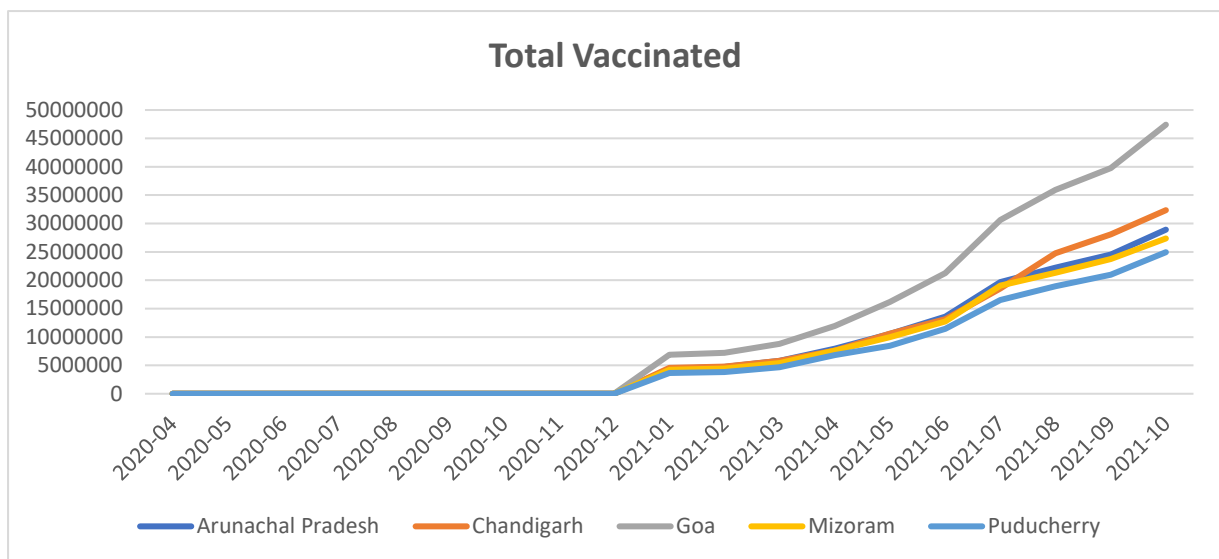
For population >=10lakhs to <20lakhs



- Goa confirms most positive cases in this cluster followed by Puducherry.
- Puducherry population were the most tested and remains second in the list of confirmed cases.

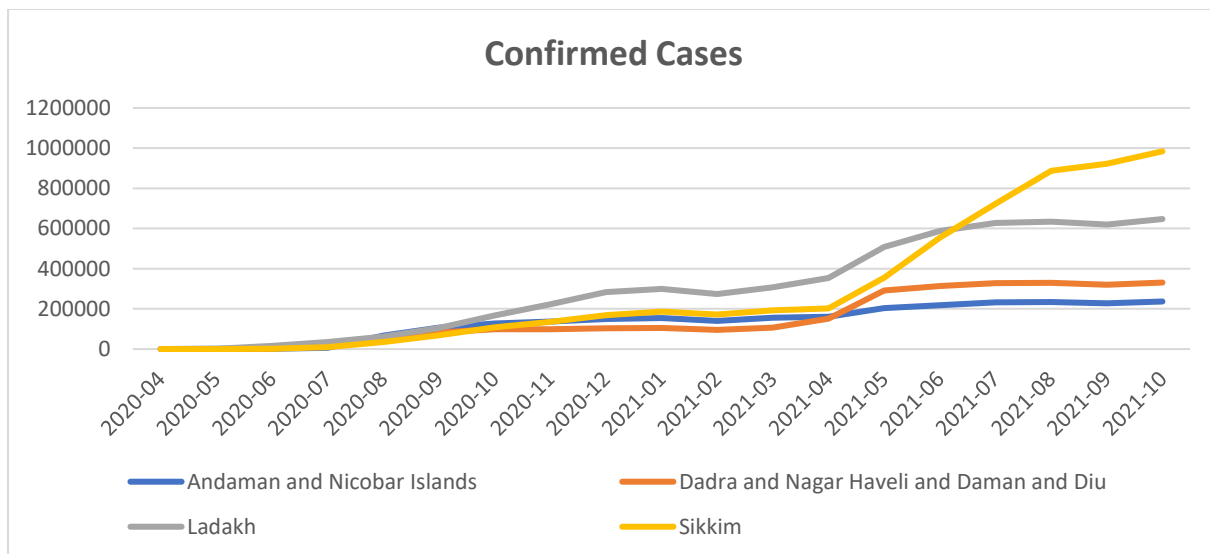
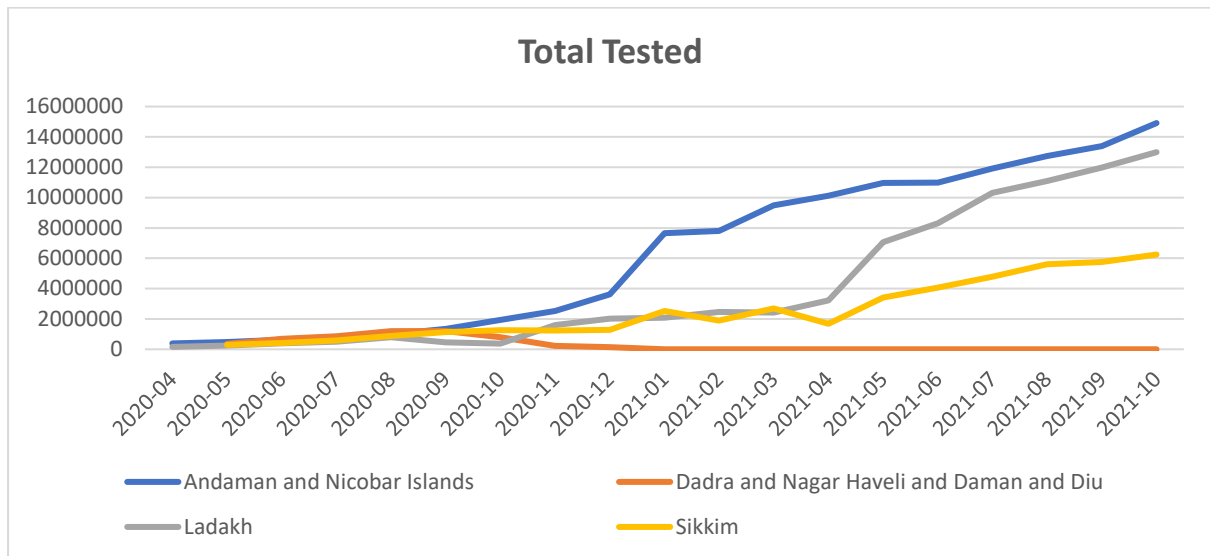


-  Goa recovers more than the other states which decreases with time.
-  Chandigarh witnesses more deaths with a steady curve which was taken over by Puducherry in the second quarter which was again left behind by Goa during the last quarters.

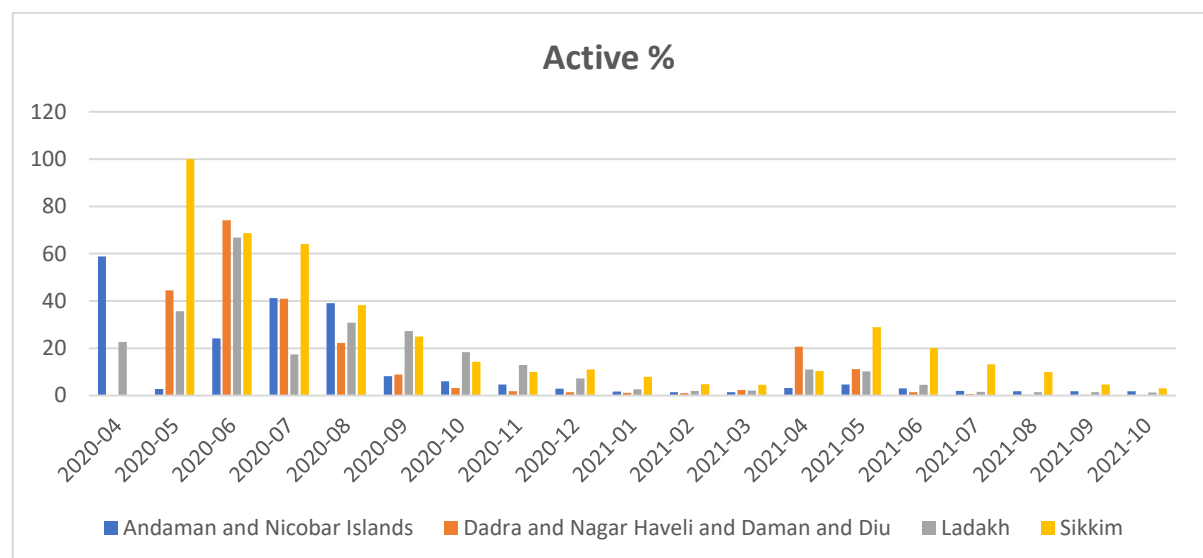
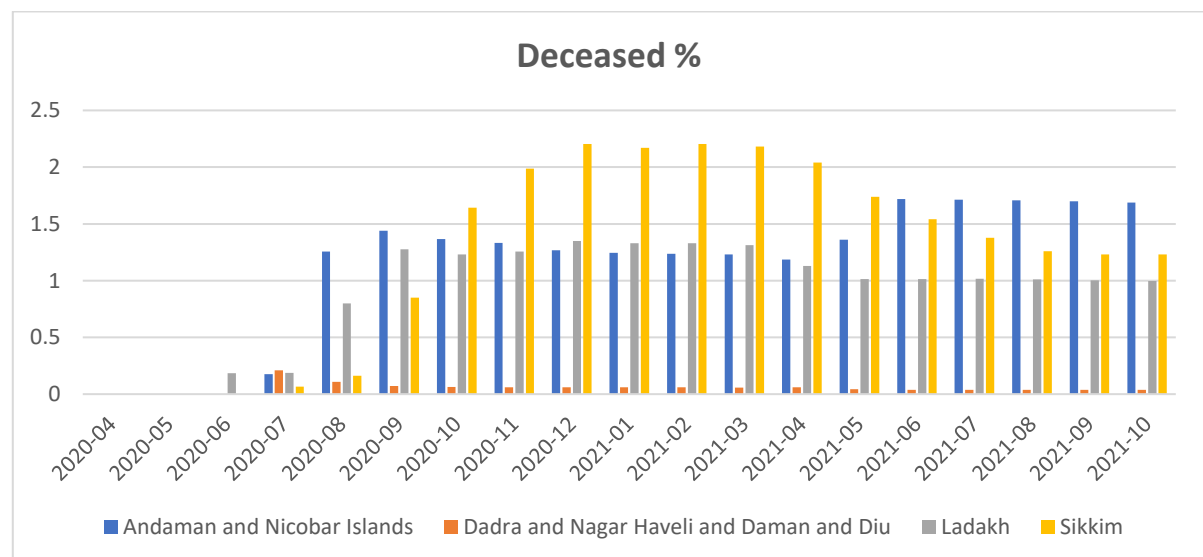
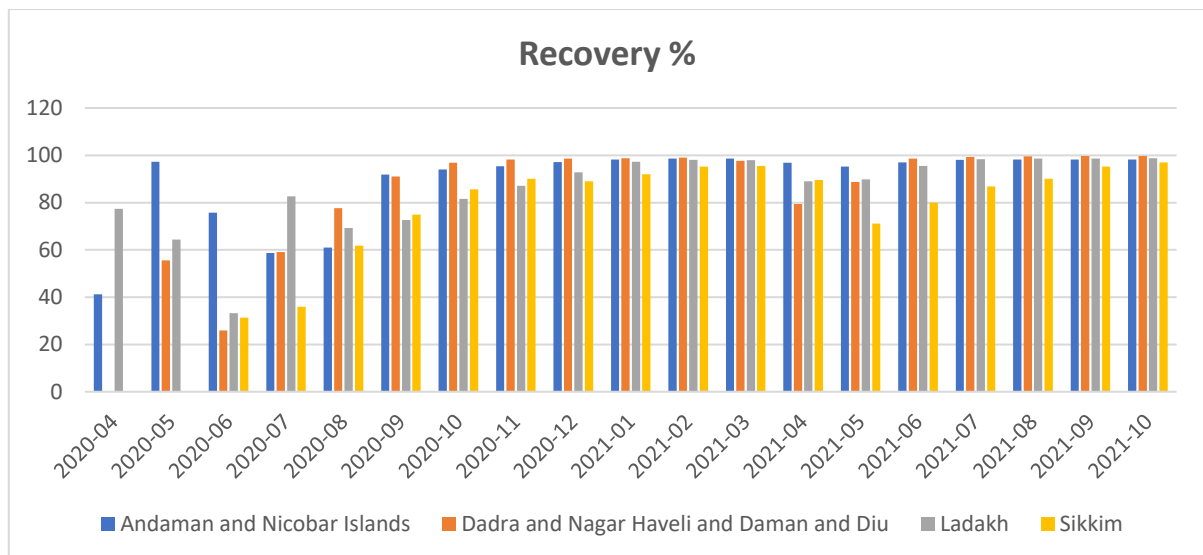


Goa receives the highest no of vaccines of CoviShield which is proved by the highest number of recoveries in the former graphs.

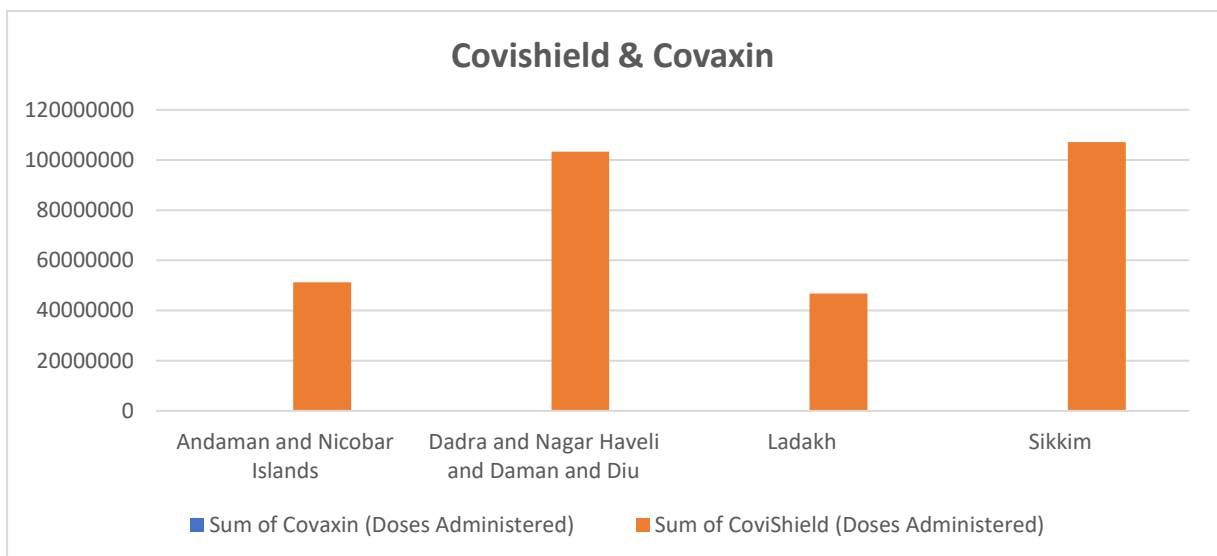
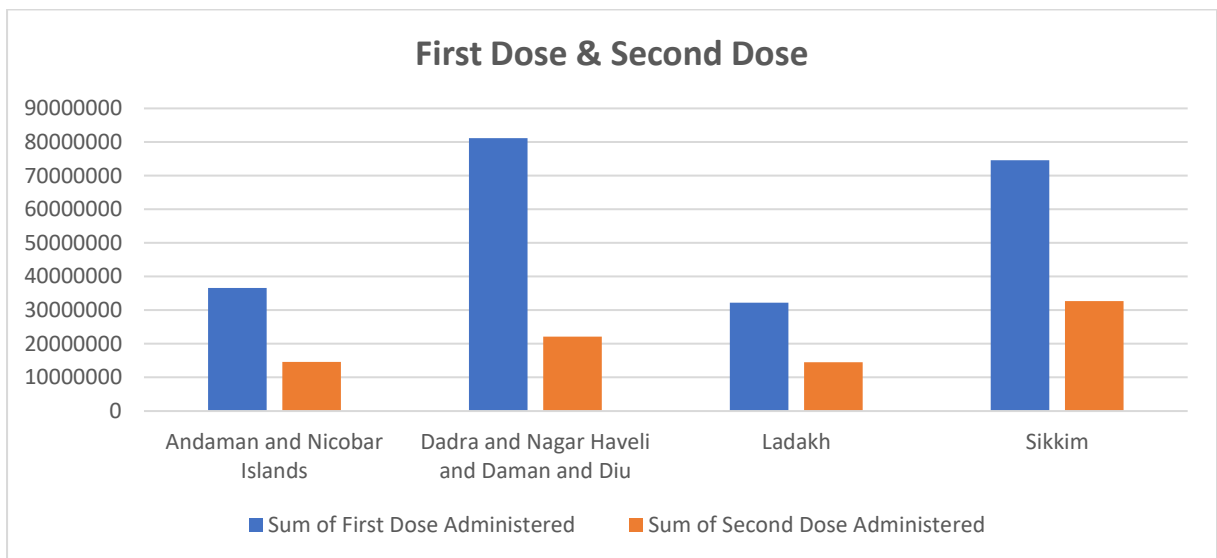
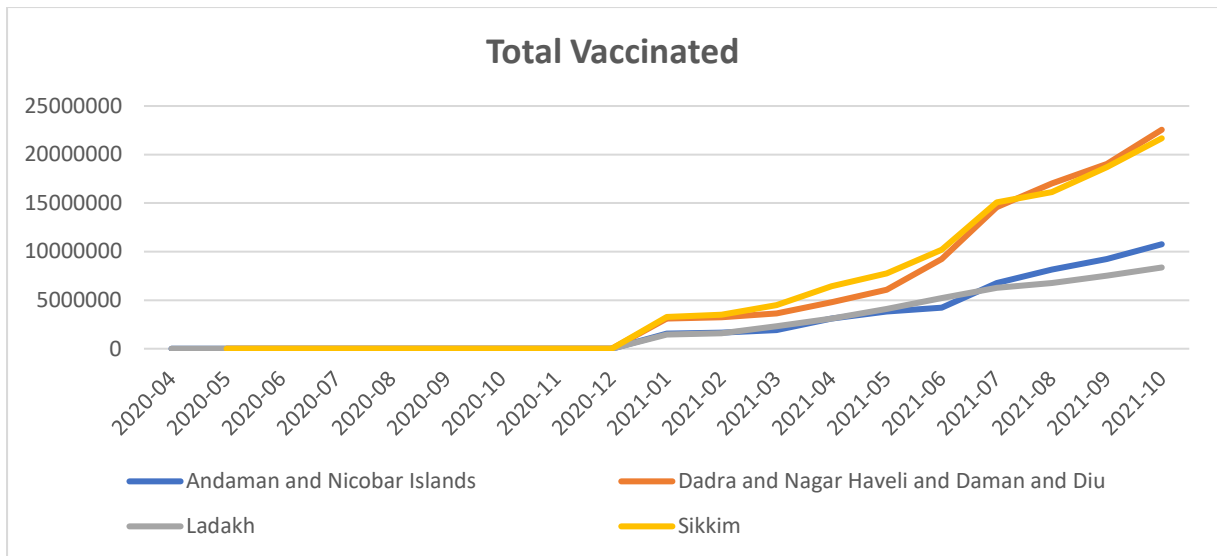
For population <10lakhs



- Ladakh confirms more positive cases from the second quarter of the pandemic.
- Sikkim leaves Ladakh behind from the middle of 2021 and maintains the lead thereafter.
- Andaman remains low compared to others.



- ■
■
■
 Ladakh witnesses its first deceased at the end of the first quarter since the recovery rate was steady.
- ■
■
■
 Sikkim had more deceased people from the latter part of 2020 with a steady decrease in active cases from the first quarter.



Sikkim gets the highest number of CoviShield vaccines which is evident from the steady decrease of active cases from the first quarter.

Conclusion:

- After a detailed study of the data provided by the website, the surge of cases in each state was explored with every detail and intricacy.
- In general, the first surge of cases has taken place in the month of April 2020.
- It took almost one year for people to get vaccinated.
- It's also noticed in each respective states, festive seasons created a certain upsurge of cases.