COVID-19 VACCINATION AND CASES DASHBOARD REPORT

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Roll No 201980030

Subject Data Warehouse

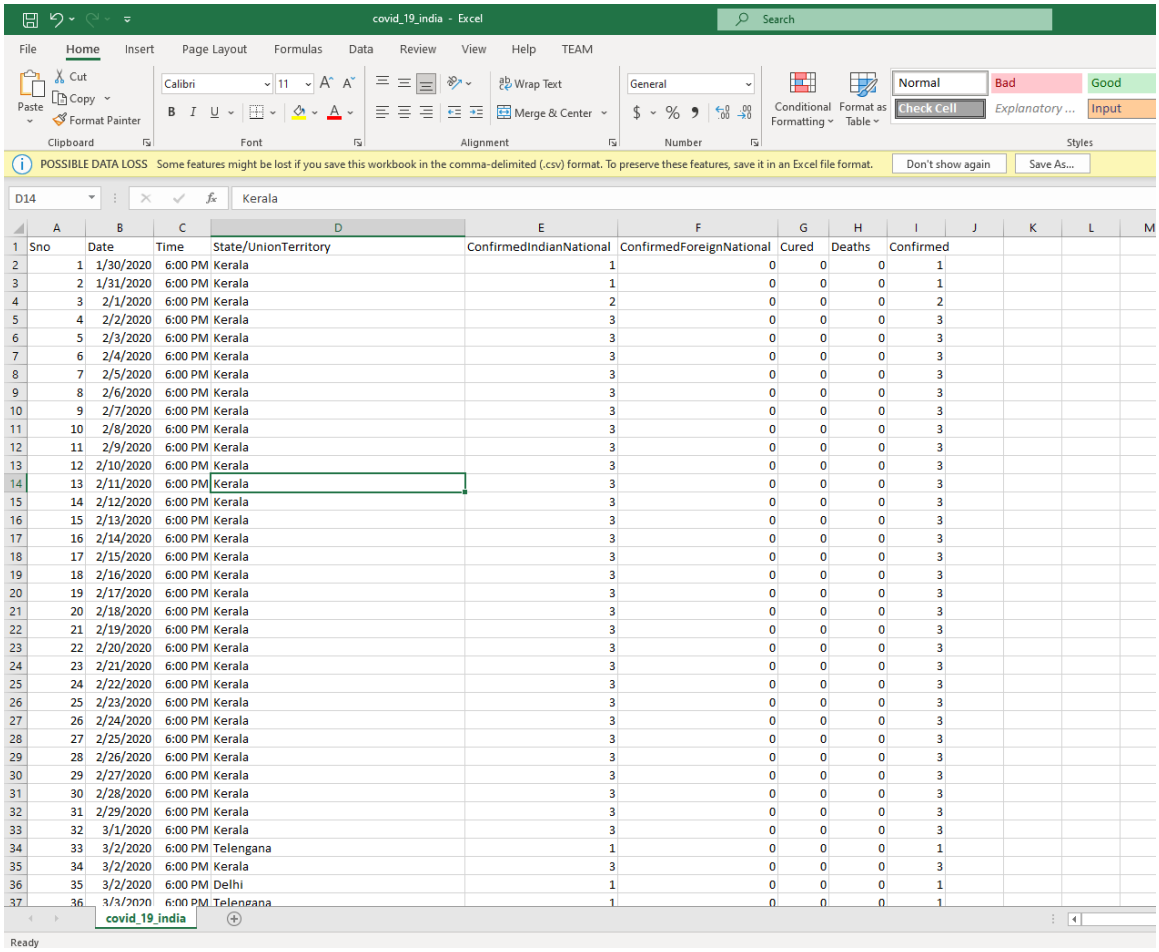
Contents

1. Dataset Overview

Data Source

The data used for this report is sourced The dataset includes COVID-19 vaccination details, case numbers, deaths, and demographic information about vaccinated individuals. The data is structured to allow analysis of trends, comparisons, and insights into vaccination efforts and COVID-19 case severity.

Covid_19_india



covid_19_india - Excel

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Clipboard Font Alignment Number Styles

POSSIBLE DATA LOSS Some features might be lost if you save this workbook in the comma-delimited (.csv) format. To preserve these features, save it in an Excel file format. Don't show again Save As...

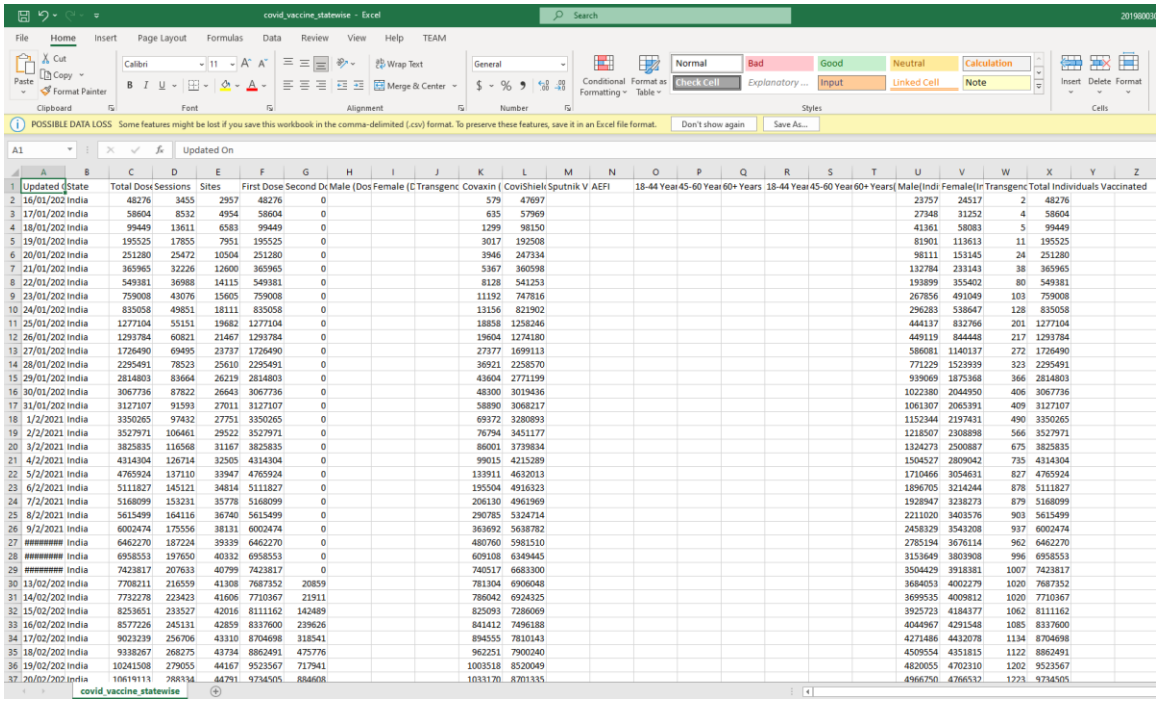
D14 Kerala

	A	B	C	D	E	F	G	H	I
1	Sno	Date	Time	State/UnionTerritory	ConfirmedIndianNational	ConfirmedForeignNational	Cured	Deaths	Confirmed
2	1	1/30/2020	6:00 PM	Kerala	1	0	0	0	1
3	2	1/31/2020	6:00 PM	Kerala	1	0	0	0	1
4	3	2/1/2020	6:00 PM	Kerala	2	0	0	0	2
5	4	2/2/2020	6:00 PM	Kerala	3	0	0	0	3
6	5	2/3/2020	6:00 PM	Kerala	3	0	0	0	3
7	6	2/4/2020	6:00 PM	Kerala	3	0	0	0	3
8	7	2/5/2020	6:00 PM	Kerala	3	0	0	0	3
9	8	2/6/2020	6:00 PM	Kerala	3	0	0	0	3
10	9	2/7/2020	6:00 PM	Kerala	3	0	0	0	3
11	10	2/8/2020	6:00 PM	Kerala	3	0	0	0	3
12	11	2/9/2020	6:00 PM	Kerala	3	0	0	0	3
13	12	2/10/2020	6:00 PM	Kerala	3	0	0	0	3
14	13	2/11/2020	6:00 PM	Kerala	3	0	0	0	3
15	14	2/12/2020	6:00 PM	Kerala	3	0	0	0	3
16	15	2/13/2020	6:00 PM	Kerala	3	0	0	0	3
17	16	2/14/2020	6:00 PM	Kerala	3	0	0	0	3
18	17	2/15/2020	6:00 PM	Kerala	3	0	0	0	3
19	18	2/16/2020	6:00 PM	Kerala	3	0	0	0	3
20	19	2/17/2020	6:00 PM	Kerala	3	0	0	0	3
21	20	2/18/2020	6:00 PM	Kerala	3	0	0	0	3
22	21	2/19/2020	6:00 PM	Kerala	3	0	0	0	3
23	22	2/20/2020	6:00 PM	Kerala	3	0	0	0	3
24	23	2/21/2020	6:00 PM	Kerala	3	0	0	0	3
25	24	2/22/2020	6:00 PM	Kerala	3	0	0	0	3
26	25	2/23/2020	6:00 PM	Kerala	3	0	0	0	3
27	26	2/24/2020	6:00 PM	Kerala	3	0	0	0	3
28	27	2/25/2020	6:00 PM	Kerala	3	0	0	0	3
29	28	2/26/2020	6:00 PM	Kerala	3	0	0	0	3
30	29	2/27/2020	6:00 PM	Kerala	3	0	0	0	3
31	30	2/28/2020	6:00 PM	Kerala	3	0	0	0	3
32	31	2/29/2020	6:00 PM	Kerala	3	0	0	0	3
33	32	3/1/2020	6:00 PM	Kerala	3	0	0	0	3
34	33	3/2/2020	6:00 PM	Telengana	1	0	0	0	1
35	34	3/2/2020	6:00 PM	Kerala	3	0	0	0	3
36	35	3/2/2020	6:00 PM	Delhi	1	0	0	0	1
37	36	3/3/2020	6:00 PM	Telengana	1	0	0	0	1

covid_19_india

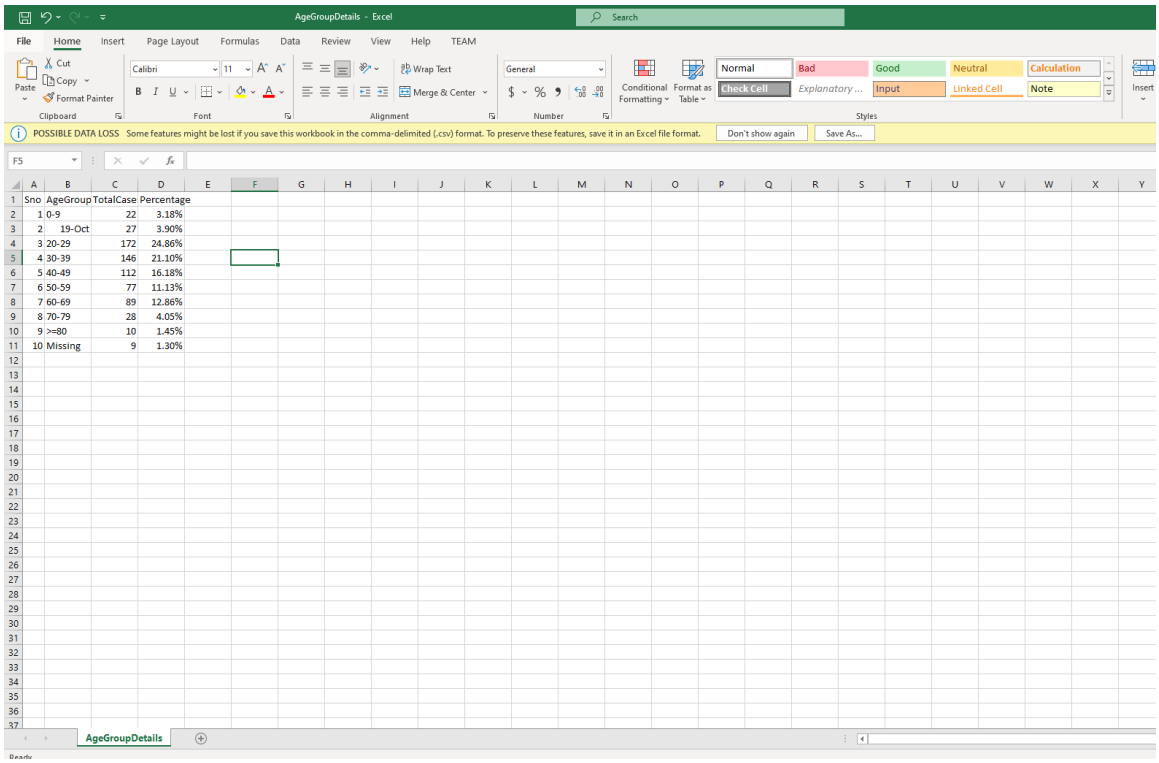
Ready

Covid_vaccine_statewise



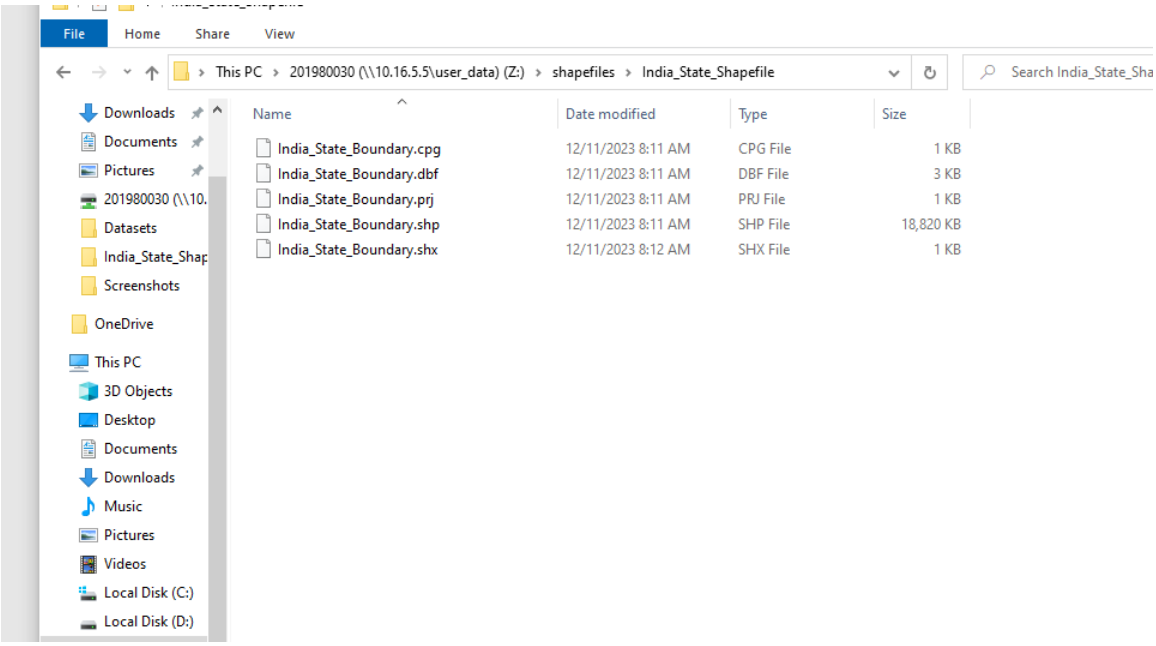
Updated On	State	Total Dose	Sessions	Sites	First Dose	Second Dose	Male (Doses)	Female (Doses)	Transgender	Covaxin (Doses)	CoviShield (Doses)	Sputnik V (Doses)	AEFI	18-44 Years (Doses)	45-60 Years (Doses)	60+ Years (Doses)	18-44 Years	45-60 Years	60+ Years	Male(Individuals)	Female(Individuals)	Transgender	Total Individuals Vaccinated
16/01/2021	India	48276	3455	2957	48276	0				579	47697									23757	24517	2	48276
17/01/2021	India	58604	8532	4954	58604	0				635	57969									27348	31252	4	58604
18/01/2021	India	99449	13611	6583	99449	0				1299	98150									41361	58083	5	99449
19/01/2021	India	195525	17855	7951	195525	0				3017	192508									81901	113613	11	195525
20/01/2021	India	251280	25472	10504	251280	0				3946	247334									98111	153145	24	251280
21/01/2021	India	365965	32226	12600	365965	0				5367	360598									132784	233143	38	365965
22/01/2021	India	549381	36988	14115	549381	0				8128	541253									193899	355402	80	549381
23/01/2021	India	759008	43076	15605	759008	0				11192	747816									267856	491049	103	759008
24/01/2021	India	835058	49851	18111	835058	0				13156	821902									296283	538647	128	835058
25/01/2021	India	1277104	55151	19682	1277104	0				18858	1258246									444137	832766	201	1277104
26/01/2021	India	1293784	60821	21467	1293784	0				19604	1274180									449119	844448	217	1293784
27/01/2021	India	1726490	69495	23737	1726490	0				27377	1699113									586081	1140137	272	1726490
28/01/2021	India	2295491	78523	25610	2295491	0				36921	2258570									771229	1523939	323	2295491
29/01/2021	India	2814803	83664	26219	2814803	0				43604	2771199									939069	1875368	366	2814803
30/01/2021	India	3067736	87822	26643	3067736	0				48300	3019436									1022380	2044950	406	3067736
31/01/2021	India	3127107	91593	27011	3127107	0				58890	3068217									1061307	2065391	409	3127107
1/2/2021	India	3350265	97432	27751	3350265	0				69372	3280893									1152344	2197431	490	3350265
2/2/2021	India	3527971	106461	29522	3527971	0				76794	3451177									1218507	2308898	566	3527971
3/2/2021	India	3825835	116568	31167	3825835	0				86001	3739834									1324273	2500887	675	3825835
4/2/2021	India	4314304	126714	32505	4314304	0				99015	4215289									1504527	2809042	735	4314304
5/2/2021	India	4765924	137110	33947	4765924	0				133911	4632013									1710466	3054631	827	4765924
6/2/2021	India	5111827	145121	34814	5111827	0				195504	4916323									1896705	3214244	878	5111827
7/2/2021	India	5168099	153231	35778	5168099	0				206130	4961969									1928947	3238273	879	5168099
8/2/2021	India	5615499	164116	36740	5615499	0				290785	5324714									2211020	3403576	903	5615499
9/2/2021	India	6002474	175556	38131	6002474	0				363692	5638782									2458329	3543208	937	6002474
########	India	6462270	187224	39339	6462270	0				480760	5981510									2785194	3676114	962	6462270
########	India	6958553	197650	40332	6958553	0				609108	6349445									3153649	3803908	996	6958553
########	India	7423817	207633	40799	7423817	0				740517	6683300									3504429	3918381	1007	7423817
13/02/2021	India	7708211	216559	41308	7687352	20859				781304	6906048									3684053	4002279	1020	7687352
14/02/2021	India	7732278	223423	41606	7710367	21911				786042	6924325									3699535	4009812	1020	7710367
15/02/2021	India	8253651	233527	42016	8111162	142489				825093	7286069									3925723	4184377	1062	8111162
16/02/2021	India	8577226	245131	42859	8337600	239626				841412	7496188									4044967	4291548	1085	8337600
17/02/2021	India	9023239	256706	43310	8704698	318541				894555	7810143									4271486	4432078	1134	8704698
18/02/2021	India	9338267	268275	43734	8862491	475776				962251	7900240									4509554	4351815	1122	8862491
19/02/2021	India	10241508	279055	44167	9523567	717941				1003518	8520049									4820055	4702310	1202	9523567
20/02/2021	India	10619113	288334	44791	9734505	884608				1033170	8701335									4966750	4766532	1223	9734505

AgeGroupDetails

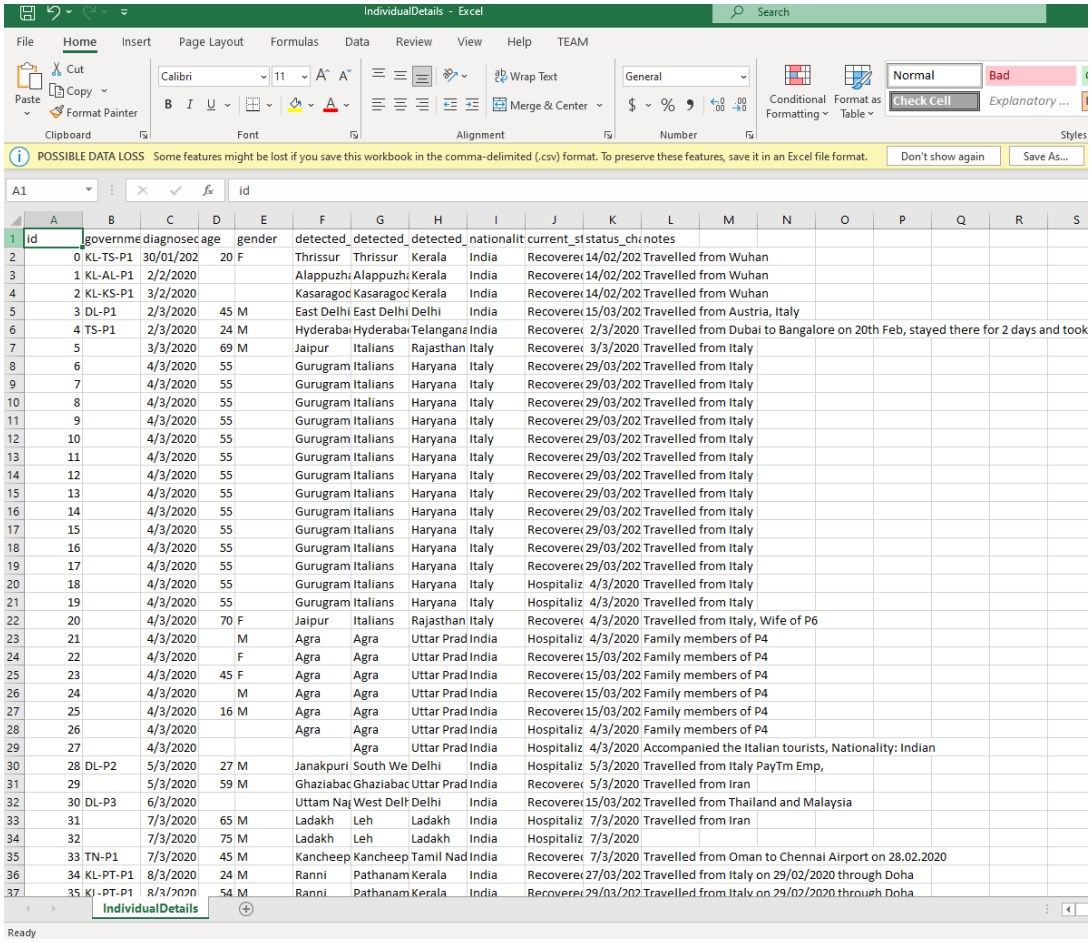


Sno	AgeGroup	TotalCase	Percentage
1	0-9	22	3.18%
2	19-Oct	27	3.90%
3	20-29	172	24.86%
4	30-39	146	21.10%
5	40-49	112	16.18%
6	50-59	77	11.13%
7	60-69	89	12.86%
8	70-79	28	4.05%
9	>=80	10	1.45%
10	Missing	9	1.30%

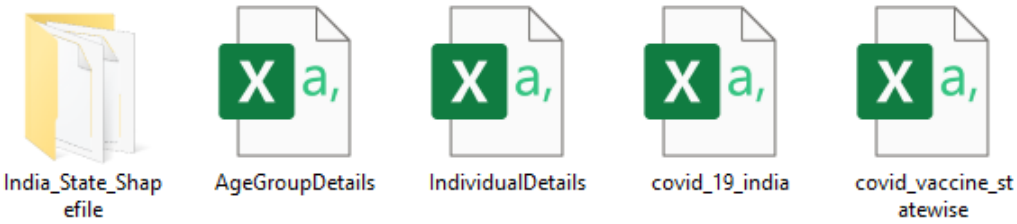
India_State_Boundary



IndividualDetails



id	governme	diagnosec	age	gender	detected_	detected_	detected_	nationalit	current_st	status_ch	notes
0	KL-TS-P1	30/01/202	20	F	Thrissur	Thrissur	Kerala	India	Recovere	14/02/202	Travelled from Wuhan
1	KL-AL-P1	2/2/2020			Alappuzh	Alappuzh	Kerala	India	Recovere	14/02/202	Travelled from Wuhan
2	KL-KS-P1	3/2/2020			Kasaragoc	Kasaragoc	Kerala	India	Recovere	14/02/202	Travelled from Wuhan
3	DL-P1	2/3/2020	45	M	East Delhi	East Delhi	Delhi	India	Recovere	15/03/202	Travelled from Austria, Italy
4	TS-P1	2/3/2020	24	M	Hyderaba	Hyderaba	Telangana	India	Recovere	2/3/2020	Travelled from Dubai to Bangalore on 20th Feb, stayed there for 2 days and took
5		3/3/2020	69	M	Jaipur	Italians	Rajasthan	Italy	Recovere	3/3/2020	Travelled from Italy
6		4/3/2020	55		Gurugram	Italians	Haryana	Italy	Recovere	29/03/202	Travelled from Italy
7		4/3/2020	55		Gurugram	Italians	Haryana	Italy	Recovere	29/03/202	Travelled from Italy
8		4/3/2020	55		Gurugram	Italians	Haryana	Italy	Recovere	29/03/202	Travelled from Italy
9		4/3/2020	55		Gurugram	Italians	Haryana	Italy	Recovere	29/03/202	Travelled from Italy
10		4/3/2020	55		Gurugram	Italians	Haryana	Italy	Recovere	29/03/202	Travelled from Italy
11		4/3/2020	55		Gurugram	Italians	Haryana	Italy	Recovere	29/03/202	Travelled from Italy
12		4/3/2020	55		Gurugram	Italians	Haryana	Italy	Recovere	29/03/202	Travelled from Italy
13		4/3/2020	55		Gurugram	Italians	Haryana	Italy	Recovere	29/03/202	Travelled from Italy
14		4/3/2020	55		Gurugram	Italians	Haryana	Italy	Recovere	29/03/202	Travelled from Italy
15		4/3/2020	55		Gurugram	Italians	Haryana	Italy	Recovere	29/03/202	Travelled from Italy
16		4/3/2020	55		Gurugram	Italians	Haryana	Italy	Recovere	29/03/202	Travelled from Italy
17		4/3/2020	55		Gurugram	Italians	Haryana	Italy	Recovere	29/03/202	Travelled from Italy
18		4/3/2020	55		Gurugram	Italians	Haryana	Italy	Hospitaliz	4/3/2020	Travelled from Italy
19		4/3/2020	55		Gurugram	Italians	Haryana	Italy	Hospitaliz	4/3/2020	Travelled from Italy
20		4/3/2020	70	F	Jaipur	Italians	Rajasthan	Italy	Recovere	4/3/2020	Travelled from Italy, Wife of P6
21		4/3/2020		M	Agra	Agra	Uttar Prad	India	Hospitaliz	4/3/2020	Family members of P4
22		4/3/2020		F	Agra	Agra	Uttar Prad	India	Recovere	15/03/202	Family members of P4
23		4/3/2020	45	F	Agra	Agra	Uttar Prad	India	Recovere	15/03/202	Family members of P4
24		4/3/2020		M	Agra	Agra	Uttar Prad	India	Recovere	15/03/202	Family members of P4
25		4/3/2020	16	M	Agra	Agra	Uttar Prad	India	Recovere	15/03/202	Family members of P4
26		4/3/2020			Agra	Agra	Uttar Prad	India	Hospitaliz	4/3/2020	Family members of P4
27		4/3/2020				Agra	Uttar Prad	India	Hospitaliz	4/3/2020	Accompanied the Italian tourists, Nationality: Indian
28	DL-P2	5/3/2020	27	M	Janakpuri	South We	Delhi	India	Hospitaliz	5/3/2020	Travelled from Italy PayTm Emp,
29		5/3/2020	59	M	Ghaziabac	Ghaziabac	Uttar Prad	India	Recovere	5/3/2020	Travelled from Iran
30	DL-P3	6/3/2020			Uttam Na	West Delh	Delhi	India	Recovere	15/03/202	Travelled from Thailand and Malaysia
31		7/3/2020	65	M	Ladakh	Leh	Ladakh	India	Hospitaliz	7/3/2020	Travelled from Iran
32		7/3/2020	75	M	Ladakh	Leh	Ladakh	India	Hospitaliz	7/3/2020	
33	TN-P1	7/3/2020	45	M	Kancheep	Kancheep	Tamil Nad	India	Recovere	7/3/2020	Travelled from Oman to Chennai Airport on 28.02.2020
34	KL-PT-P1	8/3/2020	24	M	Ranni	Pathanam	Kerala	India	Recovere	27/03/202	Travelled from Italy on 29/02/2020 through Doha
35	KL-PT-P1	8/3/2020	54	M	Ranni	Pathanam	Kerala	India	Recovere	29/03/202	Travelled from Italy on 29/02/2020 through Doha



Key Columns in the Dataset

Column Name	Description
Confirmed	The total number of confirmed COVID-19 cases on that date
Deaths	The number of deaths due to COVID-19 reported on that date
First Dose Administered	The number of first doses of the vaccine administered
Second Dose Administered	The number of second doses of the vaccine administered
Age Group	The age group of vaccinated individuals (e.g., 0-19, 20-29, 30-39, etc.)
Gender	The gender of vaccinated individuals (Male, Female, or Other)
Covishield	The number of Covishield vaccine doses administered
Covaxin	The number of Covaxin vaccine doses administered
Sputnik V	The number of Sputnik V vaccine doses administered

This dataset allows us to analyze the effectiveness and reach of the COVID-19 vaccination program by examining the distribution of vaccines among different age groups, gender, and time periods. Additionally, it provides insights into COVID-19 trends, highlighting case spikes and death rates.

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2. Visualization Explanation

The dashboard consists of multiple visualizations designed to provide meaningful insights into the pandemic's impact and vaccination efforts.

A. COVID-19 Cases vs. Deaths Over Time

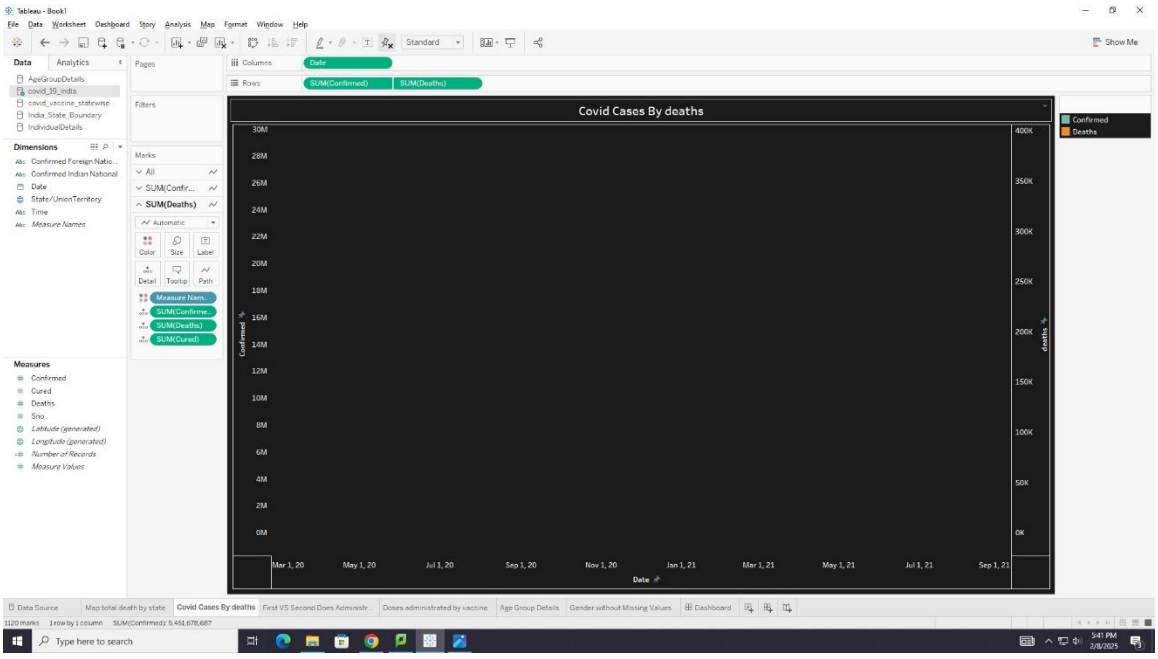
Visualization Type: Dual Line Chart

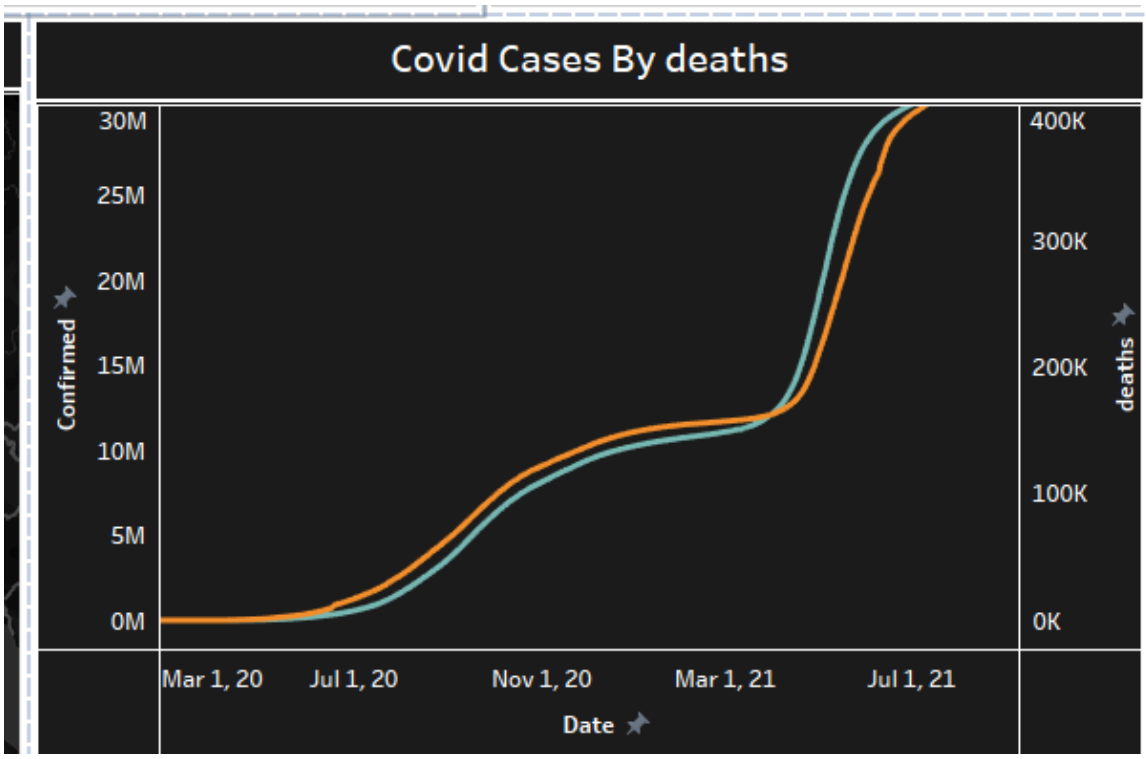
Purpose:

This line chart displays the trends of confirmed COVID-19 cases and deaths over time. It helps in understanding the fluctuations in case numbers and mortality rates.

Insights:

- The number of confirmed cases and deaths follows similar trends, with peaks and troughs occurring together.
- A sharp increase in cases corresponds to a rise in deaths, indicating the severity of certain COVID-19 waves.
- The highest peaks likely correspond to major waves, such as the second wave in mid-2021.
- This visualization helps in assessing the correlation between case surges and fatality rates.





B. First vs. Second Dose Administered

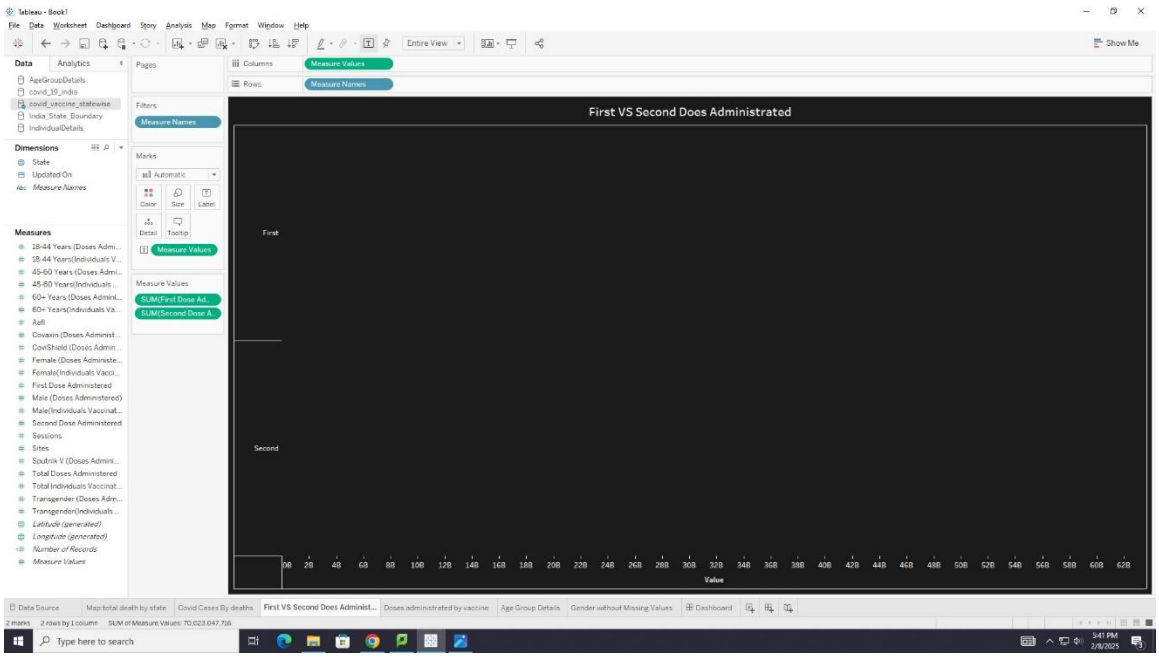
Visualization Type: Bar Chart

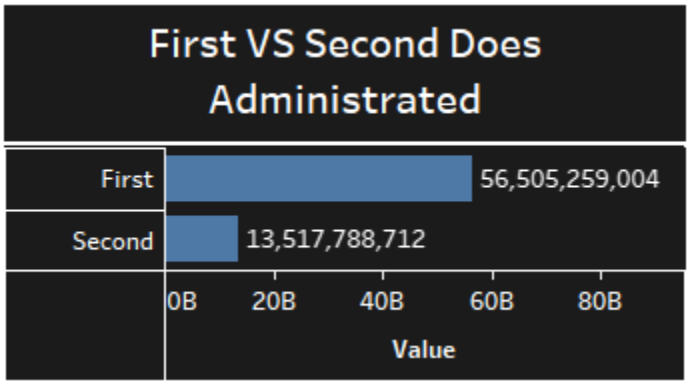
Purpose:

This bar chart compares the total number of first doses and second doses administered over time. It highlights gaps in vaccination completion.

Insights:

- A significantly higher number of first doses have been administered compared to second doses.
- This suggests that many individuals may have started but not completed their vaccination schedule.
- The vaccination program may need to focus on improving second-dose administration to ensure full immunization.





C. Doses Administered by Vaccine Type

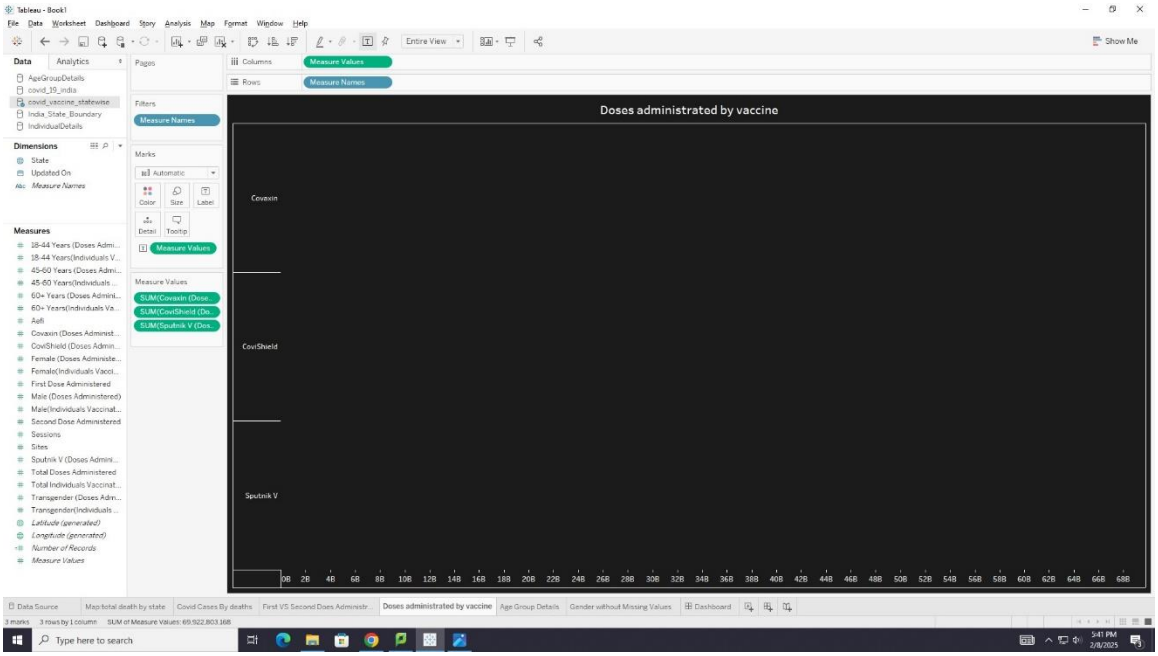
Visualization Type: Horizontal Bar Chart

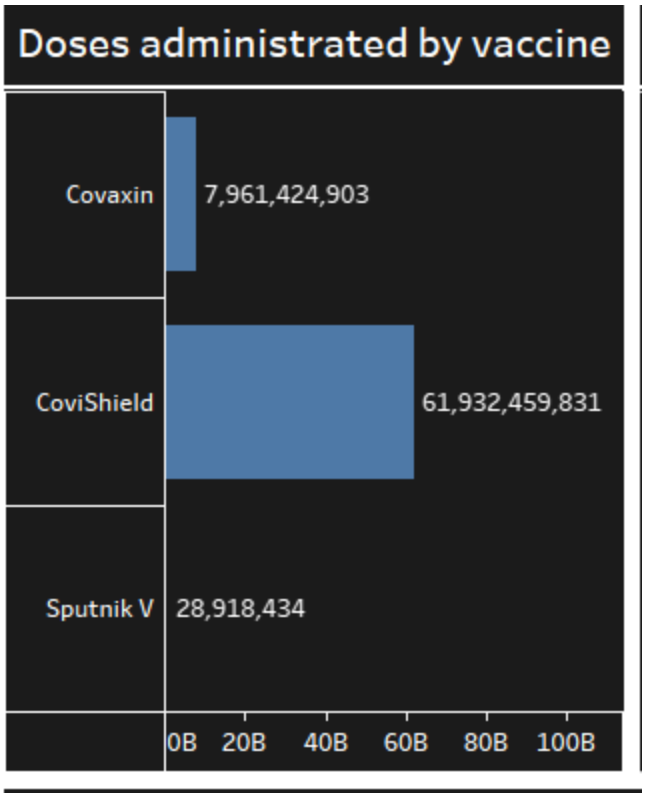
Purpose:

This bar chart illustrates the total number of vaccine doses administered by type (Covishield, Covaxin, and Sputnik V).

Insights:

- **Covishield** is the most administered vaccine, followed by **Covaxin**, while **Sputnik V** has the least number of doses administered.
- This visualization helps in understanding vaccine preference and distribution across the region.
- Government policies and supply constraints may have influenced the preference for Covishield.





D. Age Group Distribution of Vaccination

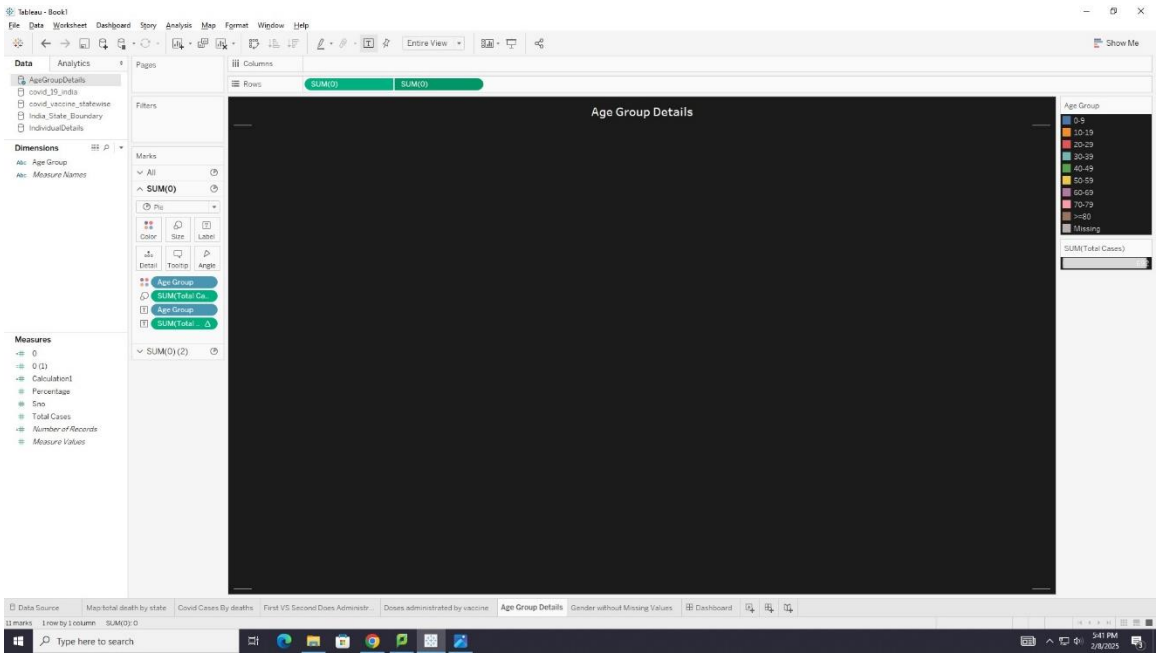
Visualization Type: Donut Chart

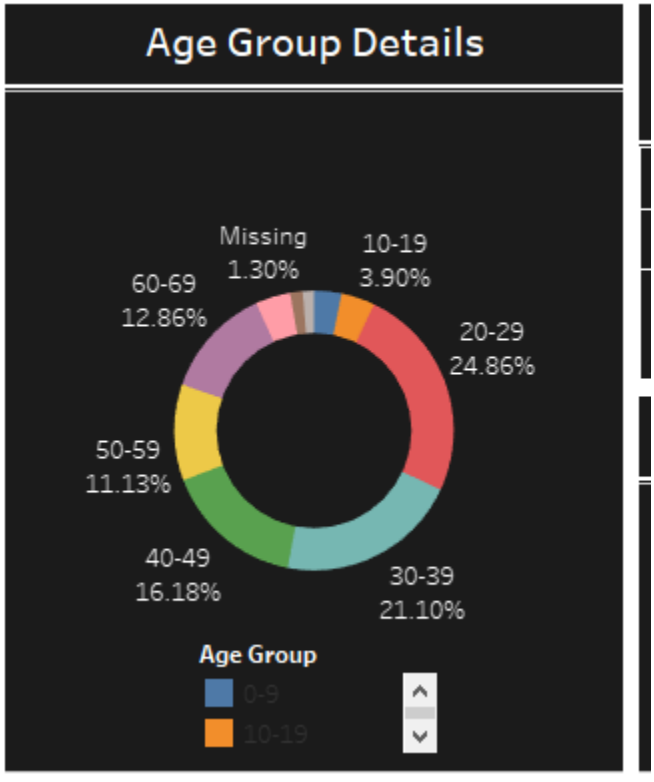
Purpose:

This chart represents the percentage distribution of vaccinated individuals across different age groups.

Insights:

- The majority of vaccinations are seen in the **20-29** and **30-39** age groups.
- This suggests that younger adults were more proactive in getting vaccinated, possibly due to job requirements or increased awareness.
- The vaccination rate among the elderly is lower, which could indicate accessibility challenges or vaccine hesitancy in older populations.





E. Gender Distribution of Vaccination

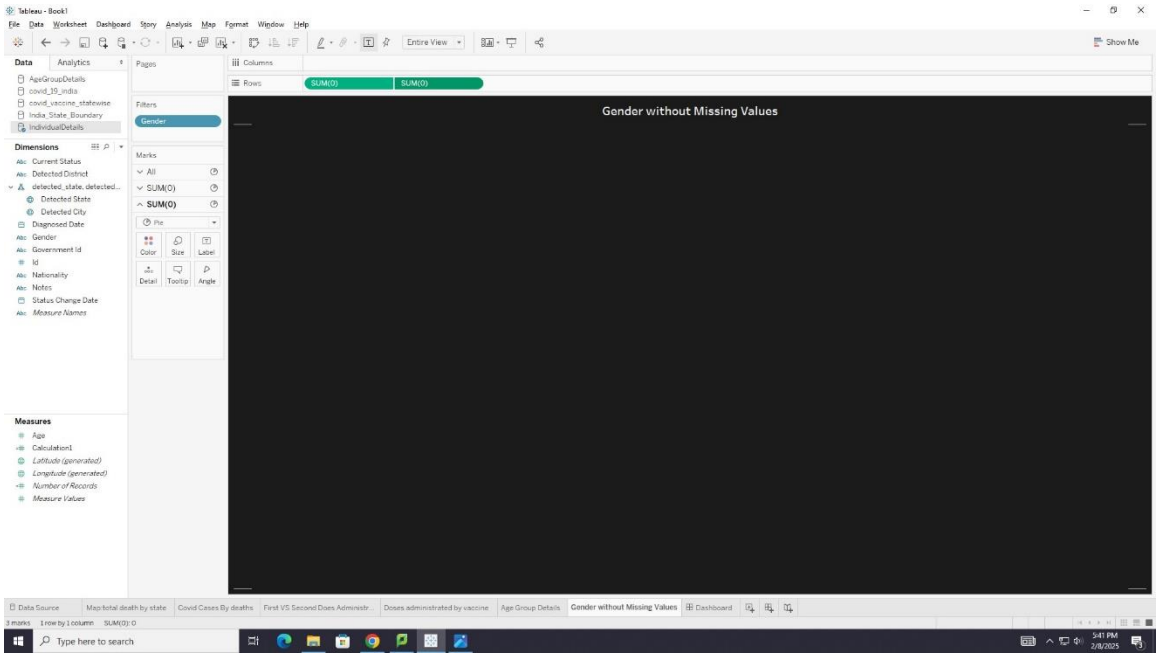
Visualization Type: Pie Chart

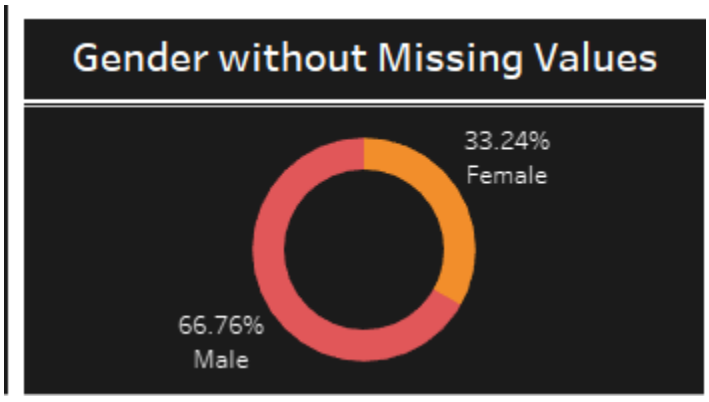
Purpose:

This chart visualizes the gender distribution of vaccinated individuals.

Insights:

- Males account for **66.76%** of vaccinations, while females account for **33.24%**.
- This highlights a gender gap in vaccination rates, which may be due to cultural, logistical, or societal factors.
- Policies should be aimed at increasing vaccine accessibility for women.





F. COVID-19 Deaths by State

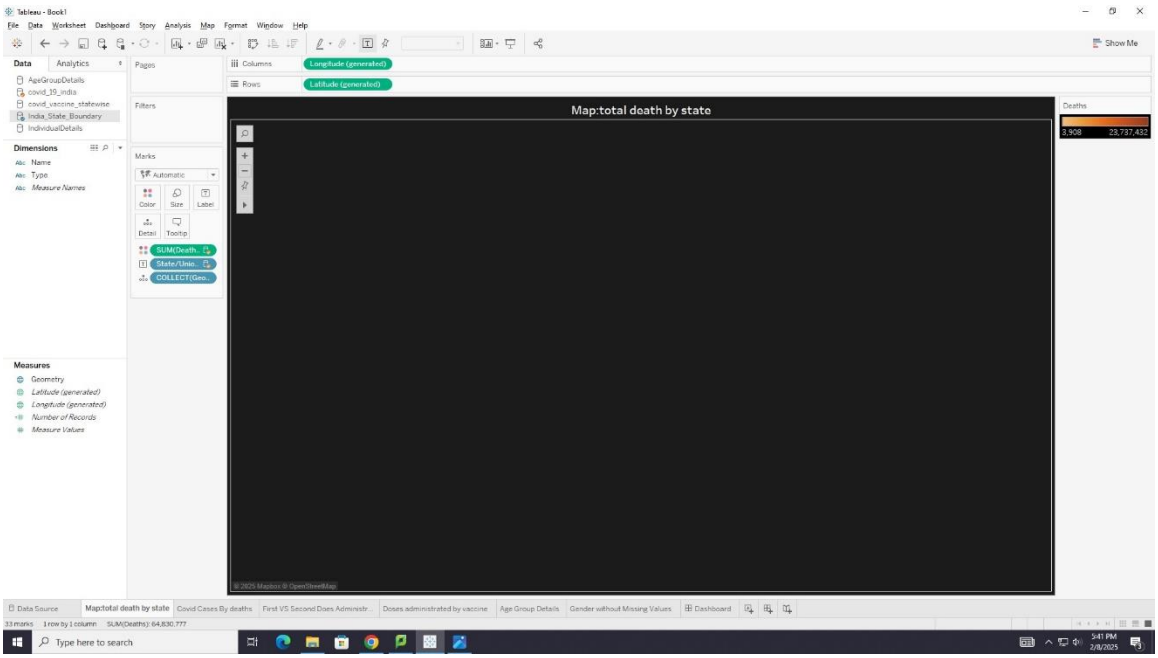
Visualization Type: Map

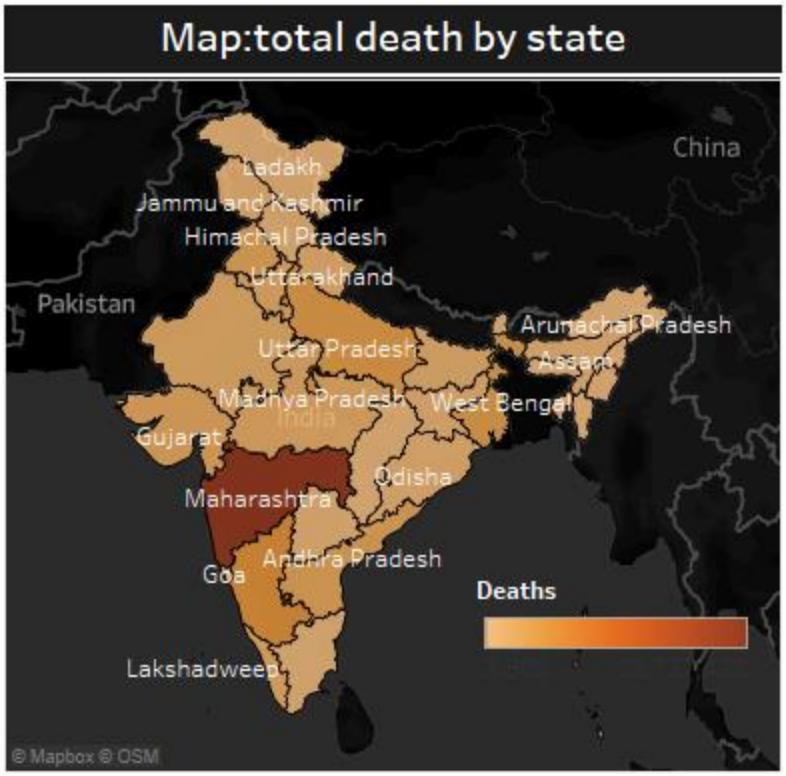
Purpose:

This map represents the total number of COVID-19 deaths by state in India.

Insights:

- **Maharashtra, Uttar Pradesh, and Delhi** report the highest number of deaths.
- **Northeastern states** show lower fatality rates, likely due to lower population density or effective containment measures.
- This visualization helps in identifying high-risk areas and allocating healthcare resources efficiently.





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3. Dashboard Overview

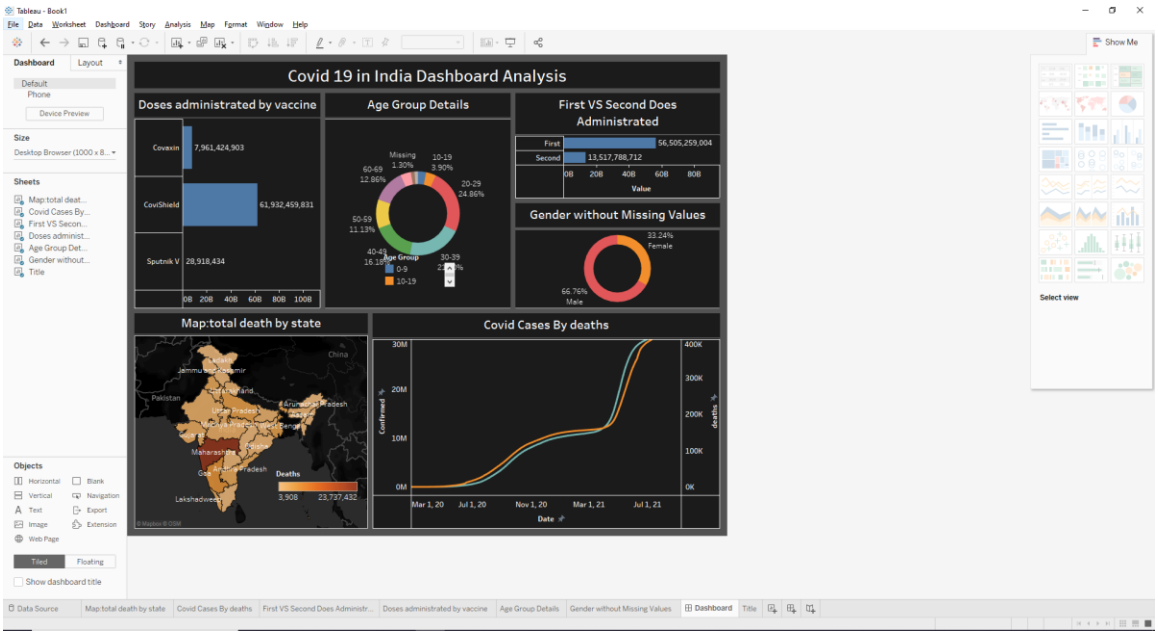
Layout and Interaction

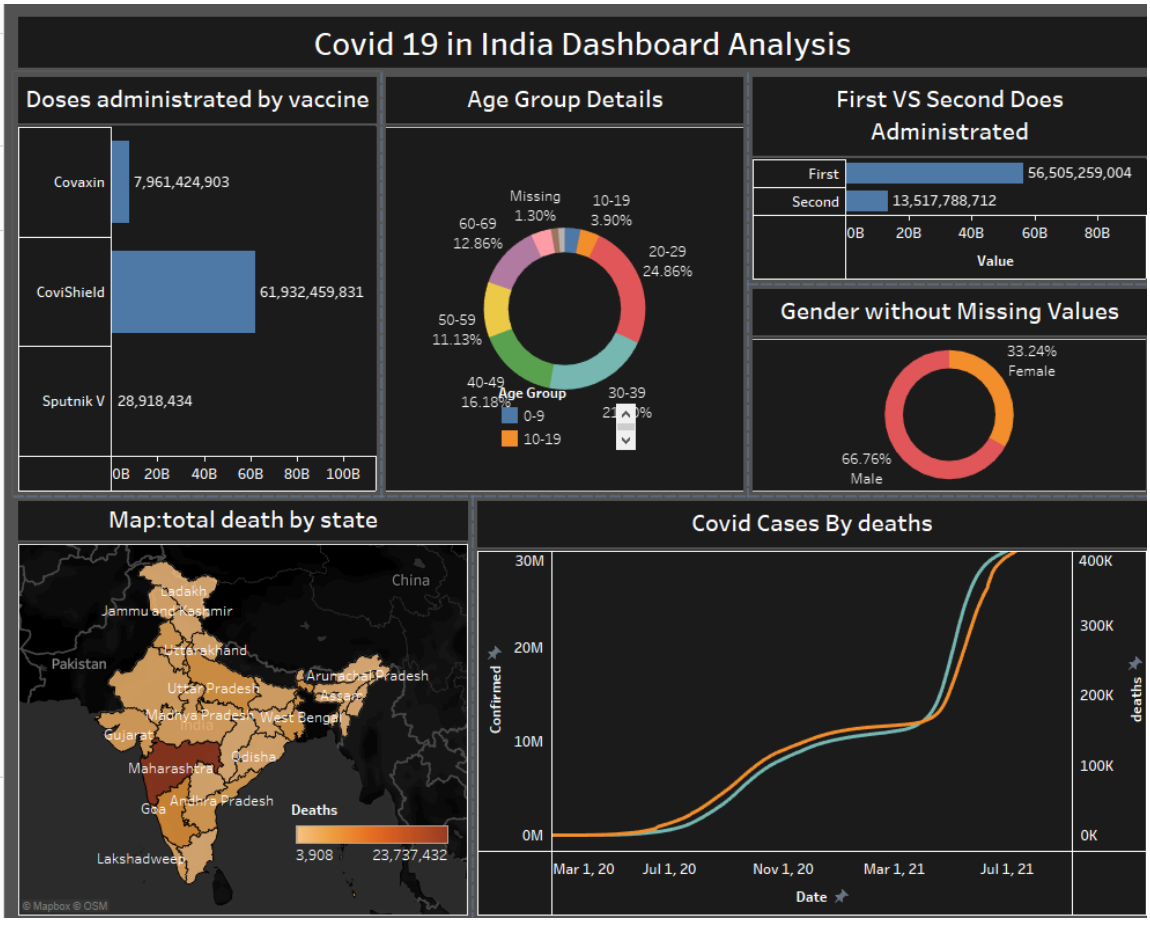
The dashboard is structured in a logical flow to allow easy navigation and analysis:

1. **Vaccine Data at the Top:** Users can see an overview of doses administered by vaccine, age group, and gender.
2. **State-wise Analysis in the Middle:** The map provides geographical insights into deaths per state.
3. **Time-Series Data at the Bottom:** The line chart helps users analyze trends over time.

User Interaction

- **Hover Effects:** Users can hover over charts to see detailed tooltips with exact numbers.
- **Filters:** Users can apply filters to focus on specific states, age groups, or time periods.
- **Interactive Map:** The heatmap allows users to explore state-wise data by clicking on regions.


Covid 19 in India Dashboard Analysis
Doses administrated by vaccine
Covaxin
7,961,424,903
CoviShield
61,932,459,831
Sputnik V
28,918,434
Age Group Details
First VS Second Does Administrated
First
56,505,259,004
Second
13,517,788,712
Value
Gender without Missing Values
33.24%
Female
66.76%
Male
Map:total death by state
Deaths
3,908
23,737,432
Covid Cases By deaths
Confirmed
deaths
Date


Covid 19 in India Dashboard Analysis
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Covaxin
7,961,424,903
CoviShield
61,932,459,831
Sputnik V
28,918,434
0B 20B 40B 60B 80B 100B
Age Group Details
Missing 1.30%
10-19 3.90%
20-29 24.86%
30-39
40-49 16.18%
50-59 11.13%
60-69 12.86%
Age Group
0-9
10-19
First VS Second Does Administrated
First
56,505,259,004
Second
13,517,788,712
0B 20B 40B 60B 80B
Value
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Map:total death by state
China
Ladakh
Jammu and Kashmir
Pakistan
Uttarakhand
Uttar Pradesh
Arunachal Pradesh
Madhya Pradesh
West Bengal
Gujarat
Maharashtra
Odisha
Goa
Andhra Pradesh
Deaths
3,908
23,737,432
Lakshadweep
© Mapbox © OSM
Covid Cases By deaths
30M
20M
10M
0M
Confirmed
400K
300K
200K
100K
0K
deaths
Mar 1, 20
Jul 1, 20
Nov 1, 20
Mar 1, 21
Jul 1, 21
Date

4. Reflection on the Process

Creating this dashboard involved several critical steps:

1. Data Cleaning & Preparation

- Handling missing values to ensure accurate representation.
- Structuring data into appropriate dimensions and measures.

2. Choosing the Right Visualizations

- Selecting charts that effectively communicate trends and comparisons.
- Using appropriate colors and layouts to enhance readability.

3. Designing an Intuitive Dashboard

- Ensuring a logical flow of information from general trends to specific insights.
- Adding filters and interactivity for deeper analysis.

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6. Conclusion

This dashboard effectively visualizes the impact of COVID-19 by analyzing case trends, vaccination rates, and mortality statistics. The insights gained from these visualizations can help policymakers, healthcare professionals, and the general public understand the progress of the vaccination program and areas that need improvement.

Key takeaways include:

- **Covishield was the most widely used vaccine.**
- **The second-dose administration rate was significantly lower than the first dose.**
- **Males had a higher vaccination rate than females.**
- **Certain states faced significantly higher mortality rates.**
- **COVID-19 waves followed a distinct pattern of confirmed cases and deaths.**