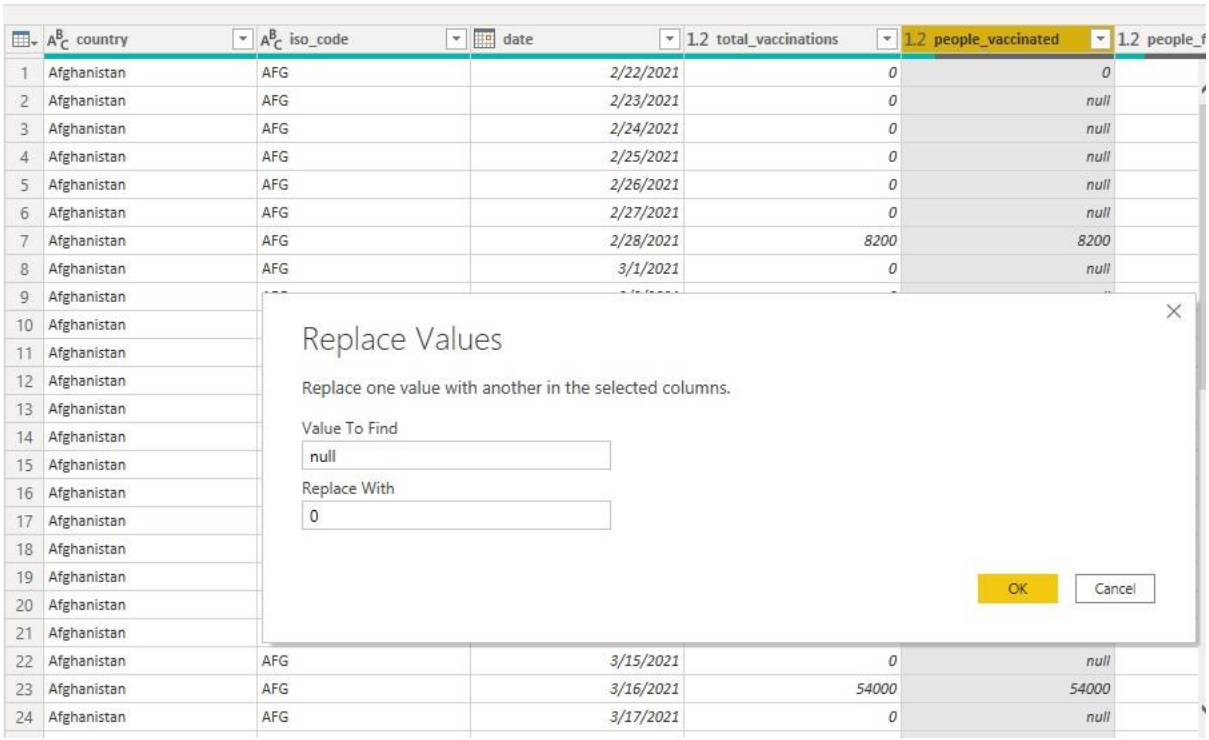
World Vaccine Progress Analysis

The aim of the project was to analyze world vaccine progress data sets that are available from Kaggle application in Power BI. The data sets included country, daily vaccinations, date, people fully vaccinated, total vaccinated, and vaccine sources. The project's data analysis process included process of collecting the data from Kaggle application, cleaning, interpreting, transforming, and generating reports to help make decision.

The data was extracted from two data sources including MS SQL Server and CSV file by selecting **Get Data** tab from **home** ribbon in Power BI Desktop.

- The table was selected for load.
- The **Fields** pane displayed the data.

Step 1: Data Cleaning



	country	iso_code	date	total_vaccinations	people_vaccinated	people_f
1	Afghanistan	AFG	2/22/2021	0	0	
2	Afghanistan	AFG	2/23/2021	0	null	
3	Afghanistan	AFG	2/24/2021	0	null	
4	Afghanistan	AFG	2/25/2021	0	null	
5	Afghanistan	AFG	2/26/2021	0	null	
6	Afghanistan	AFG	2/27/2021	0	null	
7	Afghanistan	AFG	2/28/2021	8200	8200	
8	Afghanistan	AFG	3/1/2021	0	null	
9	Afghanistan					
10	Afghanistan					
11	Afghanistan					
12	Afghanistan					
13	Afghanistan					
14	Afghanistan					
15	Afghanistan					
16	Afghanistan					
17	Afghanistan					
18	Afghanistan					
19	Afghanistan					
20	Afghanistan					
21	Afghanistan					
22	Afghanistan	AFG	3/15/2021	0	null	
23	Afghanistan	AFG	3/16/2021	54000	54000	
24	Afghanistan	AFG	3/17/2021	0	null	

Fig. 1. Replacement of value

In this process, few particular things were modified. As seen in Fig.1, the null values in each columns were replaced with 0 and assumed that nothing has happened regarding that particular column. Next, the numeric values columns were converted from object type to integer type. The date column was duplicated and split into 'year', 'month', and 'date'. The date column was converted into datetime from object type.

Step 2: Data Transform/ Shape

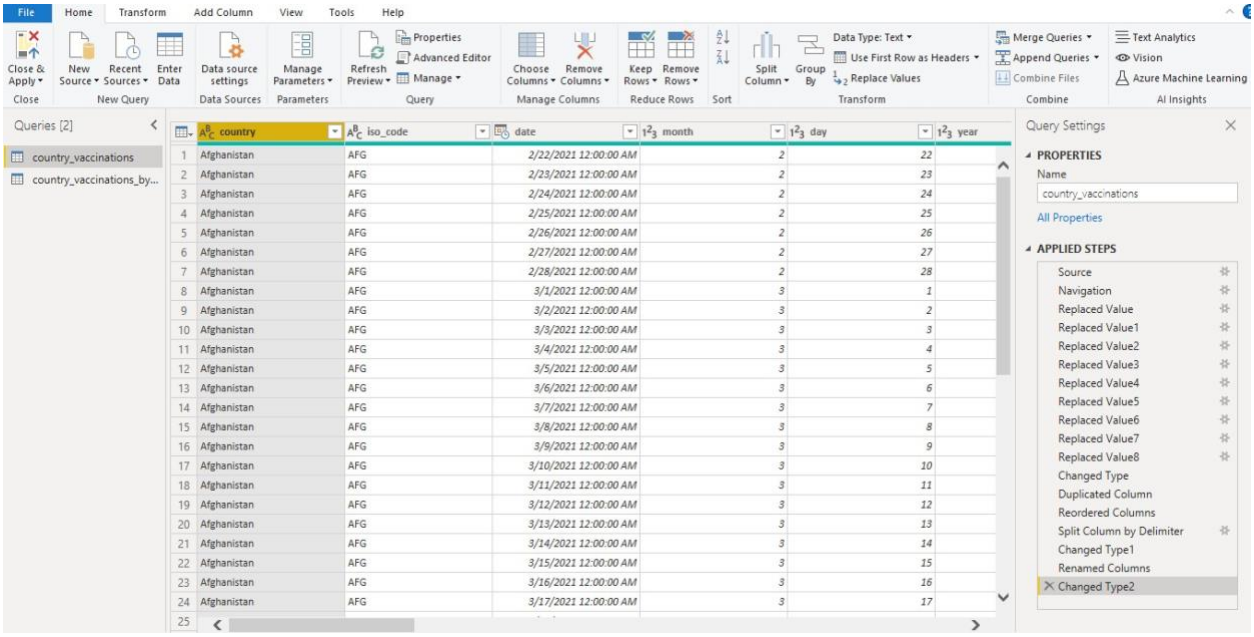


Fig. 2. Shape and combine multiple data

In this process, Power Query Editor was utilized to transform a data type. The steps of shaping data are captured in the Applied Steps of Query Settings. Three Custom Columns was added and renamed. Irrelevant column was removed. After applying the changes, Power Query Editor was closed and apply from home ribbon tab.

Step 3: Data Visualization

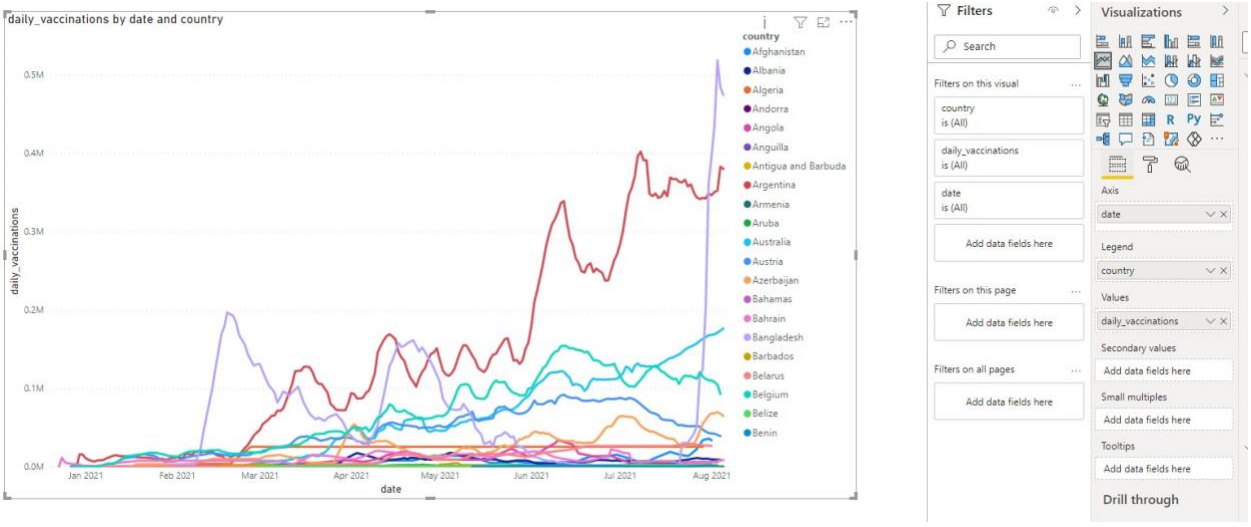


Fig. 3. Daily vaccinations by date and country

In this visualization, a line chart was used to visualize daily vaccination trend in different countries. As per Fig. 3, axis represent date, legend represent country, and values represent daily vaccinations.

Fig. 4. People vaccinated vs people fully vaccinated in the world.

In this visualization, an area chart was utilized to notice how many people are vaccinated versus people fully vaccinated by date. The axis represents date and values represent people vaccinated and people fully vaccinated.

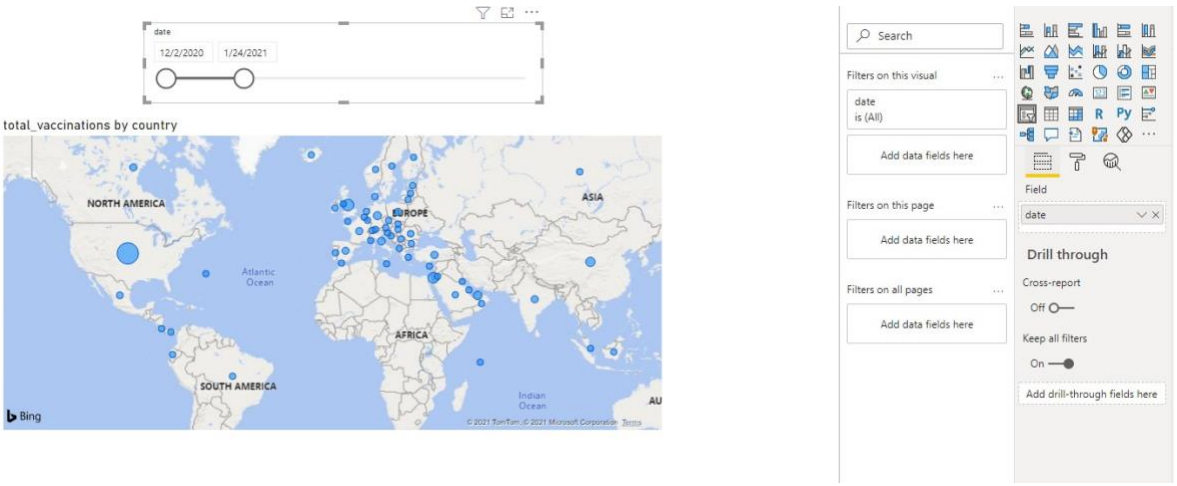


Fig. 5. Vaccinated countries

In this visualization, the map was utilized to see different countries across the globe vaccinated. Axis represent country. A slicer with field of date was used to track the vaccination progress.

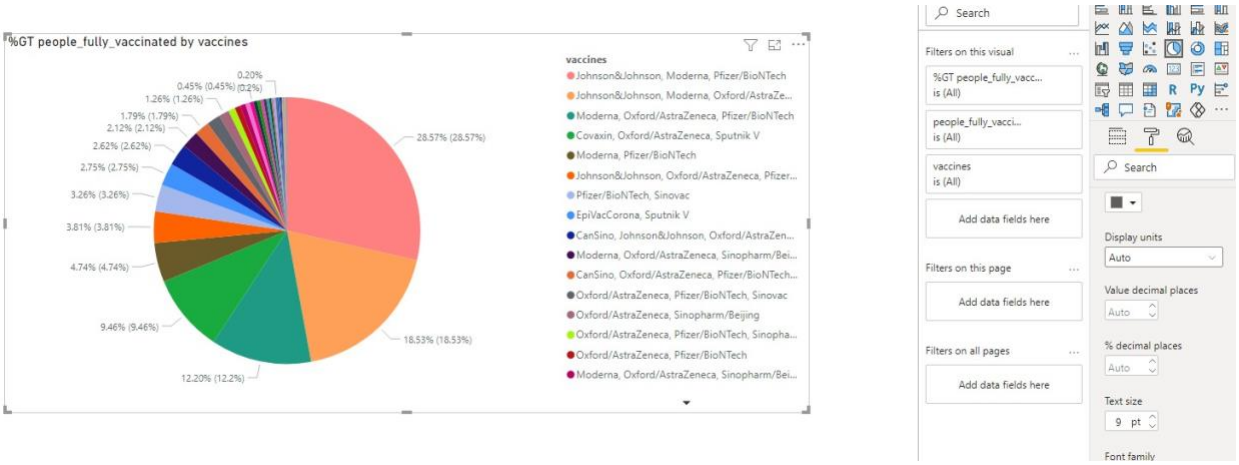


Fig. 6. Various vaccines and their uses

In this visualization, a pie chart was used to see the most used vaccine. Legend represents types of vaccine and values represent people fully vaccinated.

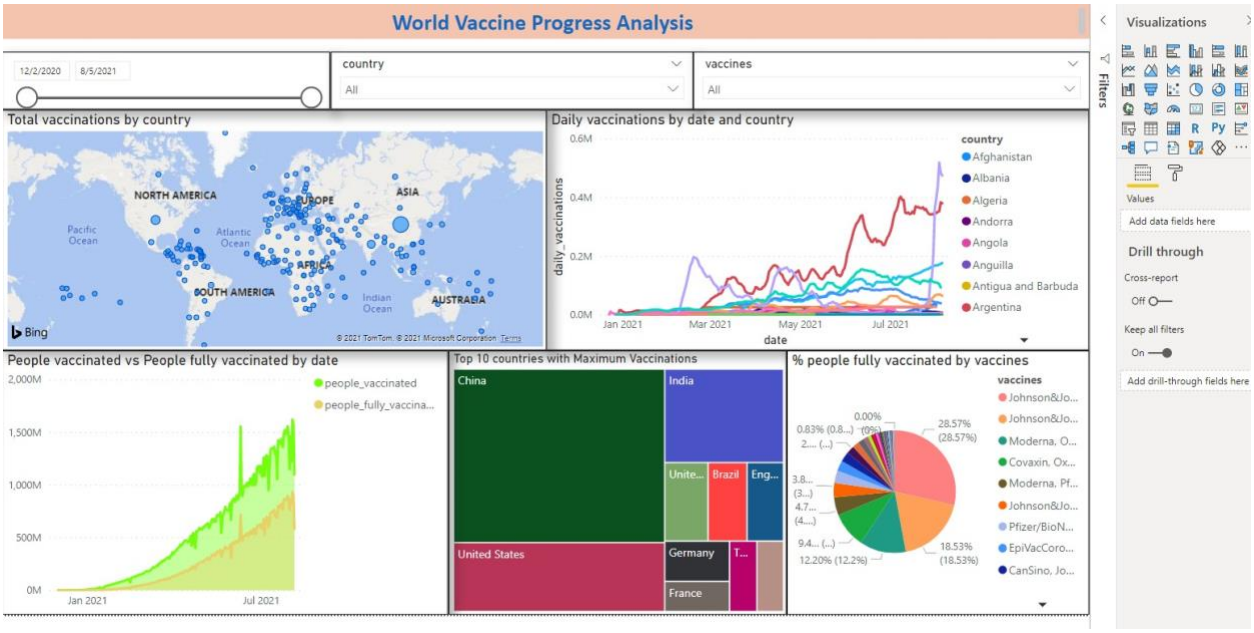


Fig. 7. World Vaccine Progress Analysis dashboard

In this visualization, a dashboard was created to help analyze different vaccine information, time frames, and vaccines. The dashboard was developed by creating action filters and parameters, designed to provide multiple visualization and critical data, and empower decision-making to effectively track the health of world Covid-19 vaccine progress.