**Power BI : Covid insight analysis**

**Overview:** The Covid-19 pandemic has had a profound impact on global health, economies, and societies worldwide. As the pandemic continues to evolve, there is a growing need for data-driven insights to understand the spread of the virus, assess its impact on different regions, and inform effective public health responses. This Power BI project aims to provide a comprehensive and interactive analysis of Covid-19 data, enabling stakeholders to visualise trends, calculate key metrics, and gain valuable insights into the ongoing pandemic.

**Objectives:**

The primary objective of this project is to visualise the temporal trends of Covid-19 cases, deaths, and recoveries. By creating interactive line charts and bar graphs, we aim to provide a clear understanding of how the virus has evolved over time and how different variables correlate with one another.

The project seeks to analyse the regional impact of Covid-19 by using geospatial visualisations. By plotting data on maps, we can identify hotspots, patterns of spread, and areas that require special attention or intervention.

**Data Source:** We will use a dataset that includes the following key columns:

* ***WHOID:*** Unique identifiers for WHO entities.
* ***WHO Region:*** Geographical region of the WHO entity or country.
* ***CountryID:*** Unique identifiers for different countries.
* ***CountryName:*** Full names of the countries corresponding to the CountryID codes.
* ***Step:*** Different stages or steps in a process or event.
* ***Date:*** Dates when data was recorded or reported.
* ***Confirmed:*** Number of confirmed cases related to the entities or countries.
* ***Deaths:*** Number of deaths related to the entities or countries.
* ***Recovered:*** Number of individuals who have recovered from a condition or disease.
* ***Active:*** Number of currently active cases related to the entities or countries.

**Project Steps:**

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Below is a step-by-step guide to creating a Power BI project on Covid insight analysis:

**Data Preparation**

* Load the dataset into Power BI either by connecting to a data source or importing a CSV/Excel file.

**Data Modeling**

* Review the data and ensure it is clean and structured correctly.
* Create relationships between tables (if necessary) to enable cross-filtering between different tables.

**DAX Functions:**

* Total Confirmed Cases: Calculates the total number of confirmed Covid-19 cases.
* Total Deaths: Calculates the total number of deaths due to Covid-19.
* Total Recovered Cases: Calculates the total number of recovered Covid-19 cases.
* Active Cases: Calculates the current active cases by deducting deaths and recovered cases from the total confirmed cases.
* Check whether the Active cases count is exactly the same as sum of Active cases column
* Mortality Rate (%): Calculates the percentage of deaths out of total confirmed cases.
* Recovery Rate (%): Calculates the percentage of recovered cases out of total confirmed cases.
* Daily New Cases: Identifies the number of new confirmed cases for each day.(create a table using summarize)

**Creating Visualisations**

Visualisations you can create include:

* Line chart showing the trend of confirmed cases, deaths, and recovered cases over time.
* Stacked column chart showing the distribution of cases by region or country.
* Geospatial map showing the impact of Covid-19 on different regions with colour-coded circles based on case numbers.
* Donut chart representing the percentage of deaths and recoveries out of the total cases.
* Table visualisations showing the top regions with the highest number of cases, deaths, and recoveries

**Create a Dashboard**

* Arrange the visualisations on a dashboard to provide a comprehensive view of Covid-19 insights.
* Add slicers or filters to allow users to interact with the data and customise the analysis based on their preferences.

**Insights and Analysis**

* Analyse the visualisations to draw meaningful insights from the data.
* Look for trends, patterns, and anomalies in the data.

Remember to document each step thoroughly and use best practices in data visualisation and storytelling. Make the report and dashboard user-friendly and accessible for the audience. Additionally, use slicers or filters to allow users to change parameters and view different aspects of the data easily.