Global COVID-19 Impact Analysis: Trends and Insights

INTRODUCTION

The **"Global COVID-19 Impact Analysis: Trends and Insights"** project leverages data from the CovidVaccination and CovidDeaths tables within the Portfolio_project database. The data comprises various metrics related to COVID-19 cases, deaths, and vaccinations worldwide. This project aims to provide a comprehensive overview of the COVID-19 pandemic through exploratory data analysis (EDA) and data visualization using SQL, Excel, and Tableau. The visualizations generated offer valuable insights into the spread and impact of the pandemic across different regions.

Data Source

The data is sourced from the following tables:

- **CovidVaccination**: Contains information on COVID-19 vaccinations.
- **CovidDeaths**: Includes data on COVID-19 cases, deaths, and population statistics for various locations.

Exploratory Data Analysis (EDA)

The EDA involved several key steps:

1. **Basic Data Retrieval**:
    - Extracted all records from the CovidVaccination table.
    - Retrieved data from the CovidDeaths table, including formatted dates for better readability and analysis.
2. **Data Summarization**:
    - Extracted metrics such as total cases, new cases, total deaths, and population from the CovidDeaths table.
    - Calculated the death percentage (total deaths/total cases) for various locations.
    - Determined the percentage of the population infected by dividing total cases by population.
3. **Country-Specific Analysis**:
    - Focused on India to calculate death percentage and infection rates relative to its population.
4. **Highest Infection and Death Rates**:
    - Identified countries with the highest infection rates compared to their population.
    - Listed countries with the highest total death counts.
    - Analyzed continents to determine those with the highest death counts.

Key Findings and Insights

1. **Death and Infection Rates**:
    - The death percentage was calculated for different locations, providing insights into the severity of the pandemic in terms of fatalities.
    - Infection rates were also analyzed, showing how widespread the virus was in various regions.
2. **Population Impact**:
    - The percentage of the population infected was calculated to understand the impact of COVID-19 on different populations.
    - This metric helped highlight regions with higher infection rates relative to their population size.
3. **Geographical Comparison**:
    - Analysis of different countries and continents provided a comparative view of the COVID-19 impact.
    - Countries with the highest infection and death rates were identified, offering insights into the most affected regions.

Conclusion

The "Global COVID-19 Impact Analysis: Trends and Insights" project provides a comprehensive analysis of the COVID-19 pandemic, utilizing SQL for data extraction and transformation, Excel for further data manipulation, and Tableau for data visualization. The project offers critical insights into the pandemic's impact across different regions and populations. By visualizing key metrics such as total cases, deaths, and infection rates, the project highlights the severity and spread of COVID-19 globally. These insights are essential for understanding the pandemic's trajectory and informing data-driven decisions and policies to combat its effects.