Power BI Project: Global Health Expenditure Analysis

Overview: In this Power BI project, we have analysed global health expenditure data to gain insights into different aspects of health spending across countries and regions. The dataset used in this project contain information on health expenditure, GDP, population, and other relevant metrics.

Objective: The objective of this Power BI project is to analyse global health expenditure data to gain valuable insights into various aspects of health spending across countries and regions. The primary goal is to provide a comprehensive and data-driven view of health expenditure trends, its relationships, and identify key patterns. The analysis aims to answer critical questions and support decision-making in the field of global healthcare

Data Source: We have used a dataset that includes the following key columns:

- ***CountryID:*** It contains unique identifiers to different countries
- ***Country:*** Name of the country or region.
- ***YearID:*** It contains unique identifiers to different years
- ***Year:*** Year of the data record.
- ***Health Expenditure:*** Total health expenditure in US dollars.
- ***GDP:*** Gross Domestic Product in US dollars.
- ***Population:*** Total population of the country or region.

Project Steps:

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Data Loading and Data Modelling:

- Imported the dataset into Power BI.
- Performed data cleaning and transformation as needed.
- Created a data model with appropriate relationships between tables .
- Ensured all relevant columns have appropriate data types.

Data Analysis using DAX Functions:

- Created a new table that consolidates information from multiple tables using DAX
- Countries/regions with the highest and lowest health expenditure for all years.
  Used DAX to find out the ranking of the countries based on health expenditure.

Luxembourg has the highest health expenditure while Democratic Republic of the Congo has the lowest health expenditure for all the years.

- Determined the percentage of health expenditure as a share of GDP for each country.
  We have used DAX with Divide function to get the percentage health expenditure
- Calculate the average health expenditure per capita for each country/region.
  DAX used to find the average of health expenditure per capita of each country.

Visualisations:

- Calculated the year-to-year percentage change in health expenditure.
  From year 2018 to 2019 ,there was a drop in the health expenditure whlile from 2019 to 2020 there is a uptrend.

- Calculated the average annual growth rate of health expenditure over a selected period.
  Average annual growth of health expenditure is increasing .

- Created a line chart to visualise the trend of health expenditure over the years for selected countries/regions.

- Created a bar chart to compare health expenditure across different countries/regions for a 2020 year.

- Used a scatter plot to explore the relationship between health expenditure and GDP.

- Utilised a map visualisation to show health expenditure distribution geographically.

Insights and Conclusions:

- Global Health Expenditure analysis is thoroughly carried out using Power BI.The process involved extracting and transforming data set,employing DAX transformations through Power BI Desktop and Power Query Editor.
- Visualization is achieved through Line Charts, Bar graph, Scatter Plot and Map to find the key insights.

- The visualizations reveal that over the period of time, there is an increase of 52 percent in global health expenditure after the 2019 may be due to the pandemic.
- Health expenditures have increased in proportion to the respective GDPs of the countries. It seems to be constant for countries having comparatively small GDPs.
- In future also countries should try to keep a sufficient amount for Health from there GDPs to handle the pandemic situations effectively.