**Power BI Project Report: Global Health Expenditure Analysis**

1. **Overview:**

* In this Power BI project, we present a comprehensive analysis of global health expenditure data to gain valuable insights into various aspects of health spending across countries and regions. The dataset utilized in this project includes information on health expenditure, GDP, population for year 2018 to 2020. Our objective is to provide a data-driven perspective on health expenditure trends, their relationships, and key patterns that support decision-making in the field of global healthcare.

1. **Project Steps:**

* **Data Loading and Data Modeling:**
  + Imported the dataset into Power BI.
  + Conducted data cleaning and transformation as necessary.
  + Established a data model with appropriate relationships between tables.
  + Ensured all relevant columns have suitable data types.
* **Data Analysis using DAX Functions:**
  + Created a new table consolidating information from multiple tables using DAX.
  + Identified countries with the highest and lowest health expenditure for all years.
  + Calculated the percentage of health expenditure as a share of GDP for each country.
  + Determined the average health expenditure per capita for each country.
  + Determined the growth of health expenditure for each year.
* **Visualizations:**
  + Calculated the year-to-year percentage change in health expenditure.
  + Computed the average annual growth rate of health expenditure over a selected period.
  + Developed a line chart to visualize the trend of health expenditure over the years for selected countries.
  + Created a bar chart to compare health expenditure across different countries for the year 2020.
  + Utilized a scatter plot to explore the relationship between health expenditure and GDP.
  + Employed a map visualization to depict the geographical distribution of health expenditure.

1. **Key Findings:**

* **Health Expenditure Trends:**
  + Health expenditure has generally increased over the years, with some fluctuations. But there is gradually increase in health expenditure in year 2020 due to the Covid-19.
  + Countries such as the Monaco, Luxembourg and Norway have consistently high health expenditure.
* **Health Expenditure as a Share of GDP:**
  + We found that the percentage of health expenditure relative to GDP varies widely across countries. Some nations allocate a significant portion of their GDP to healthcare, while others allocate less.
* **Health Expenditure per Capita:**
  + Calculated the average health expenditure per capita, revealing disparities between high and low-income countries.
* **Year-to-Year Changes and Growth Rates:**
  + Explored the annual percentage changes in health expenditure, identifying periods of rapid growth or decline.
  + Calculated average annual growth rates to assess the sustainability of health expenditure.

1. **Visualizations:**

* The line chart depicts the health expenditure trends over the years for selected countries/regions.
* The bar chart compares health expenditure across different countries/regions for the year 2020.
* The scatter plot visually represents the relationship between health expenditure and GDP.
* The map visualization illustrates the geographical distribution of health expenditure.

1. **Conclusion:**

* This Power BI project offers a comprehensive analysis of global health expenditure data, delivering valuable insights into trends, relationships, and key patterns in healthcare spending across countries and regions. The findings are instrumental in supporting informed decision-making in the global healthcare sector. Understanding the dynamics of health expenditure, its share of GDP, and per capita spending is vital for governments, policymakers, and healthcare professionals to ensure efficient allocation of resources and improvement of healthcare systems.