1. **Research Question**

   What is the impact of the recent surge in GLP-1 medication use (e.g., Ozempic, Wegovy) for weight loss purposes on healthcare resource utilization, patient health outcomes, and societal perceptions toward obesity management?

2. **Justification - Why is this relevant to you or your industry?**

   The exponential rise in the off-label and approved use of GLP-1 medications for weight loss has significant implications for healthcare systems, pharmaceutical industries, and public health strategies. As a professional involved in healthcare analytics, understanding the outcomes and societal impacts of this surge will aid in strategic planning, resource allocation, and policy recommendations for sustainable obesity management.

3. **Data Sources - Did you find this data online or collect yourself? Provide links.**

   - **Healthcare Utilization Data**: Publicly available claims data, possibly from CMS (https://data.cms.gov/)
   - **Patient Outcomes and Side-effects Data**: FDA Adverse Event Reporting System (FAERS) (https://www.fda.gov/drugs/questions-and-answers-fdas-adverse-event-reporting-system-faers)
   - **Public Perception and Social Media Data**: Twitter and Reddit APIs to scrape and analyze public sentiment.

4. **Libraries Potentially Being Used:**

   - **Pandas**: For data manipulation and exploratory analysis.
   - **NumPy**: For numerical operations and statistical analyses.
   - **Matplotlib & Seaborn**: To create visualizations such as histograms, scatter plots, and bar charts.
   - **NLTK or spaCy**: For text preprocessing, sentiment analysis, and natural language processing on social media data.
   - **Requests and Tweepy**: For data extraction from web APIs.

5. **EDA and Summary Statistics:**

   Initial exploratory data analysis will involve visualizing prescription trends, patient demographics, reported side effects, and sentiment trends over time. Statistical measures such as mean, median, mode, and variance will be calculated to summarize and understand patterns within the data. Visualizations such as bar plots for medication usage by demographics, scatter plots for patient outcomes versus dosage, and sentiment analysis plots from social media data will provide comprehensive initial insights into this phenomenon.