**Hospital Patient Analysis Report**

Introduction: The following report presents the findings and insights gained from the analysis of hospital patient data. The analysis aimed to uncover valuable information related to high-risk patients, gender distribution, common diagnoses, mortality rates, and more. The analysis was conducted by utilizing three datasets: **drug\_codes.csv**, **diagnostic\_codes.csv**, and **patient\_data.csv**.

Question 1: Identifying High-Risk Patients: Upon analyzing the data, we identified high-risk patients based on their severity of diagnosis and mortality status. The results show a list of **subject\_id** and corresponding **gender** for high-risk patients. This information can be crucial for healthcare professionals to allocate resources and provide tailored care to high-risk individuals.

Question 2: Gender Distribution among Expired Patients: By examining the gender distribution among expired patients, we discovered that approximately 62.2% of the expired patients are female, while 37.8% are male. This distribution can be useful in understanding potential gender-specific health vulnerabilities and needs.

Question 3: Common Diagnoses for High-Risk Patients: Our analysis unveiled the top 3 common diagnoses among high-risk patients. Diagnoses coded as D58, D56, and D49 appeared most frequently. These findings can guide healthcare providers in focusing on these specific diagnoses when treating high-risk patients.

Question 4: Mortality Rate by Diagnosis Type: The analysis provided insights into the mortality rates associated with different diagnosis types. The visualization in the form of a bar chart depicted the mortality rates for various diagnosis codes. This visualization can assist medical professionals in prioritizing diagnoses with higher mortality rates.

Question 5: Age of Patients with Common Diagnoses: The average age of patients with common diagnoses (D58, D56, D49) was computed. The bar chart illustrating this data indicated potential age-related patterns in these diagnoses. This information could aid in tailoring treatments and interventions for patients of different age groups.

Question 6: Mortality Rate by Gender: Our analysis showcased the mortality rates based on gender. The bar chart visualization highlighted gender-specific variations in mortality rates. This insight is valuable for understanding mortality trends and designing targeted healthcare strategies.

Question 7: Mortality Rate by Drug Severity: The analysis provided an understanding of mortality rates associated with different drug severity levels. By visualizing these rates in a bar chart, we observed variations in mortality rates across severity levels. This information can be instrumental in assessing the impact of drug severity on patient outcomes.

Conclusion: In conclusion, the analysis of hospital patient data revealed crucial insights that can inform healthcare decision-making. From identifying high-risk patients to understanding gender distributions, common diagnoses, and mortality rates, these findings offer valuable information for healthcare providers and policymakers. The analysis underscores the importance of data-driven approaches in optimizing patient care and improving healthcare outcomes.