This project aims to investigate the impact of cancer stage at diagnosis and genetic predisposition on cancer severity and survival outcomes from 2015 to 2024. Utilizing simple random sampling, we will analyse patient data drawn from a global dataset at consistent intervals.

Additionally, we will examine lifestyle and environmental factors during this period—such as smoking, alcohol use, and pollution—to identify any additional influencing variables. We will conduct two hypothesis tests: one for the difference in survival years based on genetic risk versus cancer stage, and another for differences in cancer stage distribution across genders.

Our null hypotheses state there is no difference between the influencing factors or gender distributions, while our alternative hypotheses suggest cancer stage has a stronger effect on survival and that gender plays a significant role in diagnosis patterns. By incorporating regression analysis and comparative analysis across countries, we aim to isolate the effects of genetic and environmental factors from broader healthcare and demographic trends, providing insights into the biological and societal determinants of cancer outcomes.