Problem Statement :
Visualising and Predicting Heart Disease with Interactive Dashboard

Management of heart failure can be very complex and is often unique to each patient; however, there are general guidelines that should be followed. Prevention of acute exacerbations can slow the progression of heart failure as well as increases the safety and overall well being of the patient. When a patient who has acute congestive heart failure is readmitted, the cost and burden to the patient as well as the facility increase.

1. Coronary artery disease, It develops when the arteries that supply blood to the heart become clogged with plaque. This causes them to harden and narrow. Plaque contains cholesterol and other substances. As a result, the blood supply reduces, and the heart receives less oxygen and fewer nutrients.

2. Congenital heart disease can involve major structural issues, such as the absence of a ventricle or problems with unusual connections between the main arteries that leave the heart. Many congenital heart defects do not cause any noticeable symptoms and only become apparent during a routine medical check.

3. Arrhythmia refers to an irregular heartbeat. It occurs when the electrical impulses that coordinate the heartbeat do not work correctly. As a result, the heart may beat too quickly, too slowly, or erratic.

4. In dilated cardiomyopathy, the heart chambers become dilated, meaning that the heart muscle stretches and becomes thinner. The most common causes of dilated cardiomyopathy are past heart attacks, arrhythmias, and toxins, but genetics can also play a role. As a result, the heart becomes weaker and cannot pump blood properly. It can result in arrhythmia, blood clots in the heart, and heart failure.

5. Myocardial infarction involves an interruption of the blood flow to the heart. This can damage or destroy part of the heart muscle. The most common cause of heart attack is plaque, a blood clot, or both

in a coronary artery. It can also occur if an artery suddenly narrows or spasms.

6. Heart failure can result from untreated coronary artery disease, high blood pressure, arrhythmias, and other conditions. These conditions can affect the heart's ability to pump or relax properly

7. Heart diseases can affect anyone but according to surveys, people above the age of 60 are more prone to have conditions that increase their risk for cardiovascular diseases.

8. Healthcare services are not readily attainable in all places of the country. The diagnosis and treatment process are highly challenging due to inadequacy of physicians and diagnostic apparatus that affect the treatment of heart patients. Early diagnosis of heart disease is significant to minimise the heart related issues and to protect it from serious risks . The invasive techniques are implemented to diagnose heart diseases based on medical history, symptoms, analysis report by experts, and physical laboratory report. Moreover, it causes delay and imprecise diagnosis due to human intervention. It is time consuming, computationally intensive and expensive at the time of assessment.

QUESTION	DESCRIPTION
Who does the problem affect?	CVD is most common in people over 50 and the risk of developing it increases as one gets older. Men are more likely to develop CVD at an earlier age than women. An unhealthy diet can lead to high cholesterol and high blood pressure. Apart from these common parameters, CVD can affect anyone.
What are the boundaries of the problem?	The limitations that people mostly face are poor healthcare services, little to no awareness of balanced diet, insane cost for lab tests and hospital fee, etc.,
What is the issue?	The issue is that people have to keep track of their heart health on a daily basis to prevent heart failure or other major heart related issues that might lead to the necessity of a heart transplantation or even death.
When does the issue occur?	The issue occurs mostly at old age but can happen at any time depending on one's hygiene and food habits.
Where is the issue occurring?	The issue can occur anywhere.
Why is it important that we fix the problem?	Early prediction of heart disease can prevent the heart condition from worsening which might have lead to the necessity of a transplantation or worse, death.