**Heart failure dataset – Attributes explanation**

#### Anemia

The anemia itself can worsen cardiac function, both because it causes cardiac stress through tachycardia and increased stroke volume, and because it can cause a reduced renal blood flow and fluid retention, adding further stress to the heart.

#### High blood pressure

High blood pressure can damage your arteries by making them less elastic, which decreases the flow of blood and oxygen to your heart and leads to heart disease. In addition, decreased blood flow to the heart can cause: Chest pain, also called angina.

#### Creatine phosphokinase

Creatine kinase or creatine phosphokinase is an enzyme chiefly found in the brain, skeletal muscles, and heart. An elevated level of creatine kinase is seen in heart attacks, when the heart muscle is damaged, or in conditions that produce damage to the skeletal muscles or brain.

#### Diabetes

Over time, high blood sugar can damage blood vessels and the nerves that control your heart. People with diabetes are also more likely to have other conditions that raise the risk for heart disease: High blood pressure increases the force of blood through your arteries and can damage artery walls.

#### Ejection fraction:

It is the percentage of blood leaving the heart at each contraction. A normal ejection fraction is more than 55%. This means that 55% of the total blood in the left ventricle is pumped out with each heartbeat. Heart failure with reduced ejection fraction happens when the muscle of the left ventricle is not pumping as well as normal wherein the ejection fraction is 40% or less.

#### serum creatinine

Elevated serum creatinine has been associated with increased mortality in hypertensive persons, the elderly, and patients with heart failure or stroke in whom cardiovascular disease is the major cause of death.

#### serum sodium

Hyponatremia or low serum sodium level is typically defined as a serum sodium concentration of <135 mEq/L and is one of the most common biochemical disorders featured in heart failure patients, with a prevalence close to 25% [2–4].