# Project Overview

Gender-affirming hormone therapy is integral to the care of transgender individuals. This project is about a retrospective observational study of transgender individuals over the age of 18 years undergoing masculinizing therapy with exogenous testosterone.

***Our goal in this project*** is to assess the exact prevalence of erythrocytosis(erythrocytosis is increased production of red blood cells) in patients receiving exogenous testosterone for gender transition and the optimal management of this condition.The blood count metrics, hemoglobin, and hematocrit was used to look at the erythrocytosis in patients.

Data:

The blood count metrics (hemoglobin and hematocrit) a total of 234 individuals was collected.

The collected data is average pre-testosterone hemoglobin and hematocrit, formulation of testosterone and route of administration, peak hemoglobin, and hematocrit values after hormonal therapy of transgender individuals over the age of 18 years.

Method:

Descriptive statistics were employed to determine the prevalence of erythrocytosis using the reference ranges for cisgender males and to quantify the average increase in hemoglobin and hematocrit levels from pre-therapy levels. Seaborn and Matplotlib libraries in Python were used for data visualization and pandas library in Python was used for statistical analysis.

Summary of Result:

Our analysis of transgender individuals undergoing masculinizing therapy with testosterone revealed an average increase in hemoglobin of 2.2 g/dL and in hematocrit of 6.9% after the onset of endocrine therapy. In total, 23.5% of patients met the threshold for secondary erythrocytosis using the hematocrit reference range for cisgender men after initiation of testosterone while only 8.5% met the hemoglobin threshold of 17.5 g/dL.