Cardiometabolic Health & Mental Illness in the Transgender Population

Central Research Questions:
What is the relationship between gender affirming hormone therapy, mental health and cardiometabolic health in the transgender population?
Do any of these have a causal relationship?
What are the biochemical mechanisms behind this relationship?

Transgender people are people that identify as a gender different from the sex that they were assigned at birth. Therefore, hormone therapy, is often a crucial aspect to their transition to their desired identity. For example, if a person assigned was assigned as male as birth, but identifies as a woman, then, they may choose to be treated by hormone therapy to develop certain secondary sexual characteristics of the female body. Beyond the transgender population, hormone therapy is also used to treat common symptoms in menopausal women and even some cancers.
Social stigma and transphobic environments are among few of the many reasons why transgender people suffer from mental health issues and disorders. Mental health can have a significant bearing on the development of metabolic syndrome (MetS) and cardiovascular diseases (CVD).

Studies have shown a correlation between CVD and hormone therapy among the transgender population. Since CVD is the most significant disease - specific cause of death in the transgender population, it is worth researching whether and how gender affirming hormone therapy (which has long term side effects that we lack knowledge about) could perhaps have a causal relationship with CVD and explore how these two factors may intersect with mental illnesses. However, it is unclear as to whether other uses of hormone therapy have adverse cardiovascular effects.

The purpose of my study will be to consolidate the relationship or at least further the study of mental health, hormone therapy and their cardiovascular effects. Moreover, I would like explore whether these relationships are direct or causal. Could mental health be the reason why adverse cardiovascular events are more common among the transgender population as opposed to other populations that are also treated with hormone therapy?

Preliminary reading will be focused on understanding hormone therapy and reviewing existing literature. If data is available from databases in the UK, this data can be analyzed to evaluate any correlations between the different factors in question. If time allows – data can be collected from patients and then analyzed using programs such as R. Due to the expected limitation of a lack of data, a cohort study or even case studies can be done instead of a large-scale population study. The findings of this study will then be followed up by an exploration of biomedical mechanisms between CVD, hormone therapy and mental illnesses.

Timeline:
Week 1: preliminary reading and approval for data collection
Week 2 – 4: data collection and analysis
Week 5&6: understanding biomedical mechanisms and drafting findings