

## **EPD/22/17 - Using Digital Phenotyping To Explore The Association Between Environment And Pregnancy Health: A Novel Scottish Digital Birth Cohort.**

What happens to us in the womb affects us and our families for the rest of our lives. Recently, we have seen that stillbirth rates are starting to increase and that babies from more disadvantaged backgrounds are more likely to be born early or born small. This is a particular problem in Scotland, and the Government has said that addressing health inequality and improving outcomes for the whole population are a key priority.

We know that the environment a pregnant person lives and moves in affects their health and their babies health but we don't have a good understanding of how things like pollution, sunlight and temperature affect different individuals and how exposure to these things varies with a person's social background or personal economic circumstances.

The fact that most of us carry smartphones with us wherever we go offers a unique opportunity to collect the information those phones already hold about where we have been and how active we are and link it to what we know about local levels of pollution, temperature and sunlight. This has never been done before in this way, but technology that has previously been used to measure activity, sleep and speech in people living with brain disorders could be adapted to help answer important questions about environment and pregnancy health.

I am going to work with members of the public and experts to design and test a new app that will securely collect this information. I will link our findings to the information collected in the new Born in Scotland birth cohort study in order to try and understand how the environment affects health in pregnancy. This might lead to new treatments to keep babies healthy in the womb or help the government to set new priorities in environmental and health policy.