

HIPS/21/31 – Evaluating Public Health Interventions Using Non-Randomised Study Designs: Thrombectomy Service And Police Carriage Of Naloxone.

In this research, we will evaluate two important public health interventions, recently undertaken in Scotland, using non-randomised study designs. The first intervention is a national thrombectomy service for stroke patients. We will evaluate whether thrombectomy is effective in increasing the length of time spent in own home after a stroke. This will be for all stroke patients and for those who are under-represented in randomised studies (the gold standard) such as older patients and those with frailty. The second intervention is a pilot project of police carrying and administering naloxone at drug overdose events. We will evaluate whether this intervention reduces drug-related deaths in the pilot areas. Effective interventions are desperately needed as Scotland has a higher drug-related death rate than any country in the European Union.

As mentioned above, although randomised studies are the gold standard for evaluating public health interventions, they are not always possible, or desirable, to conduct. In such circumstances, non-randomised studies (such as those in this research) are an alternative approach which, although more prone to bias, have the advantage of taking place in 'real-life' settings and including participants who are less likely to be part of randomised studies. To learn more about how best to analyse non-randomised studies, we will also carry out a simulation study to compare the performance of different statistical methods and models when measuring effectiveness of interventions using non-randomised study designs. This is important as these study designs are increasingly being used to evaluate whether public health interventions are effective.