**Why your research is important in context of COVID-19?**

Following the emergence of Covid-19 and its pandemic spread, Ireland in common

with countries throughout the world has implemented unprecedented public health measures to contain the virus and mitigate its impact. There is now a critical need for data on the impact of these measures on the burden of Covid-19 infection in the general population. In particular, we need to estimate the level of infection in the community among those who are not presenting with symptoms for testing to their General Practitioner or to the hospital. We also need to obtain data from the general population on the impact of the Government’s public health measures on our physical, mental, psychological and social wellbeing.

**How you will go about it?**

This research is led by Prof Ivan Perry from the School of Public Health at University College Cork. It involves collaboration with HSE Public Health Medicine, the National Health Protection Surveillance Centre, and the Department of Applied Mathematics, UCC. The research questions are addressed in two inter-related work packages, both involving a series of telephone surveys of nationally representative sample of Irish adults aged 18 years and above, recruited using random digit dialling of mobile phones and landlines. These surveys will be carried out in collaboration with a market research company - Ipsos MRBI.

In the first instance, we will carry out four short telephone surveys with approximately 1000 participants in each survey, during the period May-June, 2020. The focus of these surveys will be on the prevalence and trends of self-reported sensitive symptoms of Covid-19 infection. Respondents will be asked whether they or other members of the household have had any symptoms that might suggest Covid-19 infection over the past two weeks. For those with symptoms suggestive of Covid-19 infection we will offer a follow-up call with an experienced health professional who will advise on self-care and isolation for those with symptoms, and quarantine for their household contacts. The health professional will also liaise with the relevant General Practitioner to organise Covid-19 testing for the individuals with symptoms and all of their close household contacts. With participants consent, we will follow-up on the Covid-19 test results in collaboration with the Health Protection Surveillance Centre.

In the second work package, we will conduct three longer telephone surveys involving 1,000 participants in each survey, over a 2-3 week period in May, July and September 2020. In these surveys the focus will be on compliance with and attitudes toward physical-distancing measures and on the impact of the physical distancing measures on physical, mental, psychological and social well-being, using standard internationally validated questionnaires.

**What you anticipate the outcome will be and who you hope it will benefit?**

Working with colleagues from Applied Mathematics in UCC, we will use the data from these surveys to develop a mathematical network model that will help inform decisions on the optimal levels and duration of physical-distancing and related public health measures, balancing a range of factors including the capacity of the health service, effects on population wellbeing and economic disruption.

Ultimately, it is hoped that this research will inform national and global response to the Covid-19 pandemic in the period ahead and address questions of direct relevance to the National Public Health Emergency Team.