**STUDY TITLE:** Protecting population general & mental health during the coronavirus pandemic: A representative national weekly survey to understand changes

**FUNDING:** This study has been funded by the CSO as part of their COVID-19 rapid response call.

**BACKGROUND:** To interrupt the COVID-19 pandemic the Government asked and then required the public to adhere to a series of transmission reducing behaviours that are severely disruptive to normal life and are likely impacting on general and mental health. Initially the public was asked to work from home and then a series of more stringent restrictions on social and public life were put in place. Transmission reducing behaviours (TRBs), such as, frequent and thorough handwashing, washing hands every time one enters a building or returns home, avoidance of face touching, not leaving home other than for a very limited number of specified reasons, not having any physical contact with people with whom one does not share a home, and maintaining a distance of at least 2m from other people when out in public, and isolation for shielding are novel and complex behaviours. This study will investigate adherence to TRBs and their effects on people’s health,

Evidence from previous pandemics in other countries summarised in a recent expert statement, suggest that adherence varies by psychosocial factors including illness perceptions and self-efficacy (Bavel et al., 2020). However, whether these factors apply in the current pandemic and in a Scottish population is unknown. This study will examine the level of adherence to each TRB, changes in adherence over time and the factors that predict that change.

In addition, based on evidence from previous pandemics in other countries summarised in a recent expert statement, social distancing in general and the more extreme social isolation requested of people who are at high risk of poor outcome from COVID-19, are likely impacting on the mental health of the Scottish population (Holmes et al.). It is crucial therefore that we understand factors (e.g. health behaviours and COVID-19 events) that impact general and mental health during the pandemic. This study will also examine the current mental and physical health status of the people of Scotland, what factors predict mental and physical health and changes over time.

**OBJECTIVE:** to investigate adherence to coronavirus guidelines, and changes in mental & general health over time and to examine associated social and psychological factors and COVID-related events to inform both science and policy.

**RESEARCH QUESTIONS:** the following research questions will be asked:

1. What are the adherence rates for each TRB and what sociodemographic & psychological factors predict adherence?

2. What are the self-reported mental & general health status, health behaviours (e.g. physical activity) and social support behaviours (e.g. contacting family and friends) over the period of the pandemic?

3. What triggers changes in TRBs, health behaviours and mental & general health over time (e.g. new government directives, COVID deaths)?

**DESIGN:** a series of cross-sectional surveys delivered weekly over the telephone for 17 weeks. The sample size is 500 each week for 17 weeks. ***Date of Data Collection*:** Start date: before the end of May 2020.

**PARTICIPANTS:** Adult (16 years or over) members of the population of Scotland (total sample = 8500).

**MEASURES:** the survey consists of a core questionnaire containing measures to be delivered weekly. In addition to the core questionnaire, the survey will also contain an additional set of flexible questions (up to 15% of the survey). This flexible portion of the survey will support two types of additional questions, namely themed questions and event related questions. Themed questions will contain pre-planned questions to probe pre-planned domains (health behaviours and health care use) at monthly intervals. Event related questions will be designed in response to events, such as changes in government policy in relation to the pandemic and TRBs.

***Core Questionnaire (attached document)***: will assess 5 domains: 1) sociodemographic information, 2) adherence to TRBs, 3) Mental and General Health, 4) Social Support and 5) Cognitions and Worries. Domains 2-5 ask questions related to the past 7 days.

1) Sociodemographic and Health Information: full postcode; age, sex, ethnicity, number of people and children in household, access to outside space, employment, presence of limiting long-term health condition. Where available, we will use standard questions from the UK Census and other national surveys. Participants will be asked if they would like to take part in follow-up studies. Those expressing an interest will be asked to provide their contact information (name and telephone number/email address). This question will be asked at the end of the survey to ensure that data are anonymous up to the point at which participants are asked if they would be willing to consider taking part in future research.

2) Adherence: we will use a modified version of the Medical Adherence Response Scale(Cohen et al., 2009; Horne & Weinman, 2002) which is designed to enable respondents to feel able to indicate that they have not been adhering to a regimen as prescribed. Respondents will be asked to indicate the extent to which they have adhered to the following TRBs:

1. In the past week, I only went outside for food, exercise or essential work.

2. In the past week, If I went out, I stayed 2 metres (6 feet) away from other people at all times.

3. In the past week I only had face to face contact with people who live in my house

4. In the past week, I washed my hands as soon as I got home.

5. In the past week, when I washed my hands I use soap and water

6. In the past week, when I washed my hands I did this for at least 20 seconds

7. In the past week, I wore a face covering when I was shopping

8. In the past week, I wore a face covering when I used public transport

Participants will also indicate if they have or have not been in isolation because of shielding.

3) Mental and Physical Health: The PHQ4 will measure anxiety and depression (Kroenke, Spitzer, Williams, & Lowe, 2009). General health will be measured by the standard single self-report item (how would you rate your overall health?) and by asking whether the respondent current has or has had COVID-19. An abbreviated 8-item version of the UWIST Mood Adjective Checklist (Matthews, Jones, & Chamberlain, 1990) will measure positive and negative affect.

4) Social Support: the 7-item ENRICHD Social Support Instrument (ESSI) will assess perceived social support ("Enhancing recovery in coronary heart disease patients (ENRICHD): study design and methods. The ENRICHD investigators," 2000). In addition, a commonly used and validated three-item instrument will assess loneliness (abbreviated UCLA loneliness scale) and one item drawn from the Ipsos Mori/KCL Fund survey (<https://www.kcl.ac.uk/policy-institute/assets/coronavirus-in-the-uk.pdf>) will enable participants to indicate whether they have volunteered to support others during the pandemic.

5) Cognitions and Worries: The brief illness perception questionnaire (Broadbent, Petrie, Main, & Weinman, 2006) adapted for COVID-19 will assess beliefs about COVID-19. Self-efficacy towards avoiding COVID-19 and towards each TRB will be assessed using Bandura’s recommended method of self-efficacy assessment (Bandura, 2001). Risk perceptions in relation to COVID-19 will also be assessed. We will also assess unrealistic optimism in relation to COVID-19 using a standard single item measure.

***Flexible Questions***:

1) Theme Questions: we plan to ask about health behaviours and response to Covid-19 symptoms up to three times during the 17-week data collection period. Health Behaviours: Participants will be asked to indicate the extent to which their primary health behaviours (physical activity, sedentary behaviour, diet, alcohol, smoking) have changed since the beginning of the period of lock-down, e.g. *since lock-down began have your been drinking (a lot more, more, about the same, less, a lot less) alcohol*. Response to Symptoms: participants will be asked to indicate if they have experienced symptoms that have worried them in the previous 7 days. How they responded to those symptoms, e.g. did nothing, called their GP, called NHS 24 etc.

2) Event Related Questions: these questions will be designed to assess the impact of events on adherence and mental and physical health. For example, a decision to allow year 7 children back to primary school. Such a decision would possibly lead us to add a question to determine whether respondents had primary school aged children and what respondents thought (positive or negative) about the relaxing of the social distancing rules.

**PROCEDURE:**

***Survey:***

The survey will be delivered by a commercial polling company (Ipsos MORI). Ipsos are a company with expertise in public survey and have the appropriate research and ethical processes to conduct the survey and are regularly commissioned by government and research councils to conduct research (e.g. ESRC and Dept for Business, Innovation and Skills to conduct the Public Attitudes to Science survey 2014). Ipsos do not use a participant panel; rather they use a random digit dial approach for landlines and a similar/appropriate approaches to reach mobile numbers. Ipsos will continue the recruitment process until a nationally representative sample of n=500 has been obtained. The telephone call will last no longer than 15minutes. The 15 minutes will accommodate the verbal delivery of the participant information and the collection of verbal consent as well as the survey questions. The complete dataset will be electronically transferred to the University of Aberdeen secure servers each week. Data files will only be accessible by named staff at the University of Aberdeen. All analyses will take place in situ.

**Ethics:** There are three main ethical issues.

**1. Consent**

(i) *Is given by a person with capacity.* We are not including people with incapacity to give informed consent. Nonetheless, Ipsos provide education and training of staff conducting telephone surveys so that they are competent in ascertaining if an individual has capacity to give informed consent. The interviewer quickly assesses capacity by the ability of the person to respond to questions.

(ii) *Voluntarily given, with no undue influence:* No incentives for participation in the survey are being used. It will be emphasised by the Ipsos interviewer to the participant that participation is entirely voluntary. Participants will receive the usual information about the opportunity to withdraw at any time prior to the interview. We will supplement this by restating this throughout the survey and always prior to those questions that provide personally identifiable information.

(iii) *Given by someone who has been adequately informed:* Typically, we would provide study information in written form. In this study, the information will be given verbally by the Ipsos interviewer. All key information recommended by HRA for inclusion in a Participant Information Sheet will be given verbally e.g., aim of the study, why they have been contacted, voluntary nature of participation, confidentiality. The Ipsos interviewer has been provided with education and training to aid understanding by encouraging a potential participant to ask questions. We have provided the PIS as attachment to this application.

(iv) *A fair choice:* Typically, we would allow the participants ample time (e.g. 24 hours) to consider their choices. However, as HRA states, there are no fixed guidelines for an appropriate amount of time to consider fully the likely implications of the research before making a decision. Due to the unprecedented urgency for robust evidence to inform COVID-related policy, the non-invasive and low risk nature of the study and the experience and expertise that Ipsos have for conducting telephone surveys, we believe that it is reasonable and fair to obtain informed consent immediately.

As HRA specify, consent has to be indicated in some way but does not have been be in writing. In this study, consent will be given orally. The completion of the telephone survey will be used as evidence that they have given informed consent to participate in the study

**2. Psychological risk**

The psychological risk is low. We do not ask participants to discuss difficult or challenging experiences about their health. Nonetheless, the participant is asked brief questions about their general and mental health and about their adherence to guidance and regulations to minimise the transmission of infection. Hence, some participants may experience some worry following the interview. To address this, as part of the debrief the interviewer will direct participants to their GP if their participation has raised any concerns with them about their health. The debrief text is provided on the PIS document attached to this application.

**3. Confidentiality**

All participants will be informed that all of the information that they provide to Ipsos will remain confidential and will only be accessible to the research team based in Aberdeen. Only personal information that is deemed vital for running this study will be obtained. Participants will be given a unique study identifier so that their name will be filtered out of any quantitative datasets used for analysis.

We have minimised the collection of identifiable data. Some participants will provide us with their contact details and all participants will be asked to provide their full postcode. Although this is area level data, if Ipsos only interview one person in that postcode area it is technically possible to identify that person. Thus, the full dataset will be treated as non-anonymous data. The full postcode will be used to assign an SIMD code to each participant. Once the SIMD code has been assigned the postcode data will be removed from the dataset. This process will be done weekly. In addition, each participant will be assigned a unique code. The contact details of participants will be removed from the survey dataset and stored separately with the unique identifier. Again, this process will be done weekly.

Details regarding handling of data are provided in the following section.

**Data Management and Data Protection:** We will adhere to GDPR throughout.

Lawful basis: For the purposes of this study, the lawful basis for holding ‘personal data’, including health information, is that this research (task) is in the ‘public interest’ and is in support of ‘scientific and historical research.’

Fairness and transparency: GDPR requires fairness and transparency about the personal data being held and used. To meet this requirement, the PIS that is given verbally includes information about what personal data will be obtained and why and how the researchers will manage these data to ensure confidentiality. In addition, all participants will be given the website address for the University’s data protection regulations should they wish to find out more information about University of Aberdeen data protection procedures.

Data Handing and Processing: Data will be transferred weekly from Ipsos Mori to the secure network project folder provided for this study by central IT services at the University of Aberdeen. Diane Dixon is the owner of the project folder and will control who has access and at what level. Ipsos will only be able to upload to that folder. Only named staff from the University of Aberdeen will have access to the project folder.

Data will be analysed in situ by named researchers at the University of Aberdeen. Upon transfer from Ipsos, postcode information in the dataset will be replaced with the SIMD code. Each participant will be assigned a unique code. This code will be stored in a separate file with the personal contact information, which will then be removed from the dataset. The file with the participant code and contact information will be stored separately from the dataset in a folder with its own secure access. The dataset will then be anonymous. All subsequent analyses will be from this anonymised dataset.

The final anonymised dataset will be retained indefinitely because it may be of major social importance. At the end of the study in accordance with Research Council Guidance we will make the dataset accessible for other researchers.

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