

RAPID RESEARCH IN COVID-19 PROGRAMME

CHARIS: Covid Health and Adherence Research in Scotland

AIMS

The CHARIS project set out to investigate two issues of importance to the pandemic, namely, adherence to coronavirus guidelines and the mental and general health of the population. CHARIS was designed to identify who was adhering to the behaviours designed to reduce the transmission of coronavirus, i.e., physical distancing, wearing a face covering and hand washing, and to explain differences in adherence between groups. CHARIS also examined the mental and general health of the adult population of Scotland and how that changed as lockdown restrictions began to be eased.

KEY FINDINGS

- Adherence to transmission-reducing behaviours remains generally high, but adherence to physical distancing is declining
- Women and older people are more adherent
- Beliefs about the illness COVID-19, the risk and threat of coronavirus, and beliefs about the behaviours designed to reduce transmission may explain why adherence rates differ between groups of the population
- Self-efficacy (believing that you can do the behaviour) and intention (having the motivation to do the behaviour), the two most consistent predictors of adherence to behaviours to reduce transmission, predicted adherence to each behaviour throughout the period June to September 2020.

WHAT DID THE STUDY INVOLVE?

1. **Behavioural Science:** We used three theoretical models of behaviour to understand adherence to the behaviours designed to reduce the transmission of coronavirus. These models focus on what people believe about: 1) the risk and threat of coronavirus, 2) the illness COVID-19 and, 3) the behaviours designed to reduce transmission. We then examined how well these beliefs predicted adherence to each type of behaviour, namely, physical distancing, hand washing and wearing a face covering. We looked at adherence overall and in different groups, e.g. different rates of adherence in older and younger age groups.

2. **Interviewing the Scottish Public:** CHARIS was a telephone survey of a nationally representative sample of adults living in Scotland administered by Ipsos MORI. We asked people about their adherence to each of the behaviours, their beliefs about coronavirus, COVID-19 and the different behaviours; their mental and physical health and personal characteristics, e.g. their age, gender, living conditions etc. We interviewed 500 people every week/fortnight from the 3rd June until the 4th November (total sample = 6500 people). The Scottish Government has a 4-phase plan for release from full lockdown. We were able to interview people from when they had just been released from full lockdown (28th May) through to phase 3 (9th July).

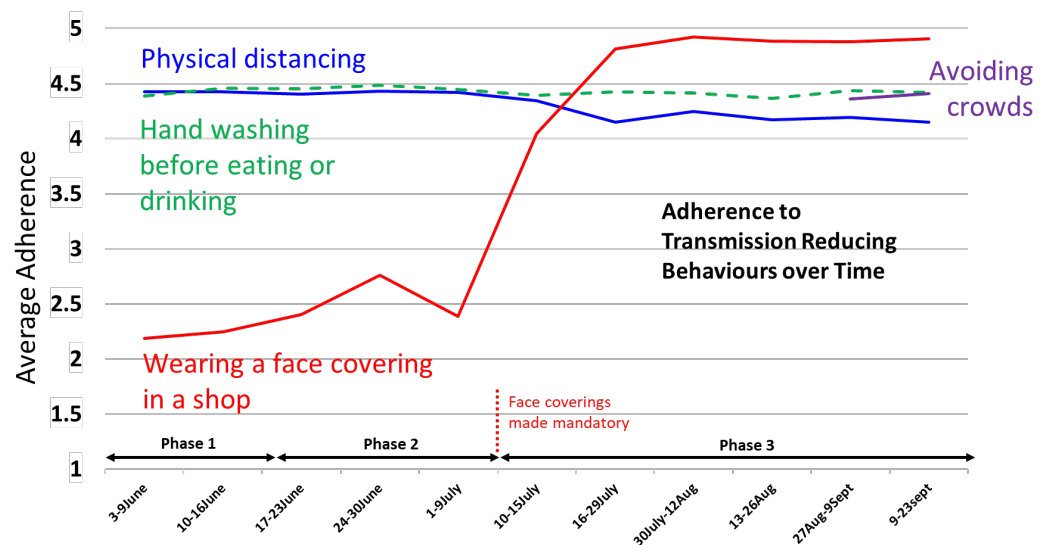
WHAT WERE THE RESULTS AND WHAT DO THEY MEAN?

Adherence

Rates of adherence to physical distancing and hand washing were both high initially but

adherence to physical distancing began to decline in early July. Rates of adherence to wearing a face covering were low to begin with but increased sharply when the Government made them mandatory and since then almost everyone reports always wearing a face covering when in a shop. In August, the

Government began to advise that people should avoid crowded places and you can see from the graph that the Scottish public took that advice seriously and reported that they were avoiding crowded places most or all of the time.



Who was adhering varied over time and between the different behaviours. In general, women and older people were more adherent. Women were more adherent than men, especially in relation to hand washing. Older people were more adherent than younger people, especially in relation to physical distancing.

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Which beliefs explained adherence also varied over time and between the different behaviours. Beliefs about the behaviours were the most consistent predictors of adherence. These beliefs predicted physical distancing, wearing a face covering, hand washing and avoiding crowded places each and every week. Two beliefs predicted each behaviour, every week, namely, self-efficacy (believing that you can do the behaviour) and intention (having the motivation to do the behaviour). For example, people who were confident that they could keep 2m distance from others and had a high intention to do so were more likely to report keeping 2m distance than people who were not confident or who had lower intention to adhere to physical distancing. In addition, the belief that other people in your community were also keeping to the Government's guidelines predicted physical distancing most weeks.

Beliefs about the risk of coronavirus predicted physical distancing and hand washing most weeks. In particular, the belief that getting COVID-19 would be serious predicted higher adherence. Beliefs about risk did not consistently predict wearing a face covering.

Beliefs about the cause of the illness COVID-19 predicted physical distancing, wearing a face covering, hand washing and avoiding crowded places most weeks. Other beliefs about the illness COVID-19, such as beliefs about the consequences of the illness and how long the illness would last predicted adherence less frequently. However, the emotional consequences of the illness, i.e. how much time people spent worrying about having COVID-19, predicted physical distancing and wearing a face covering most weeks.

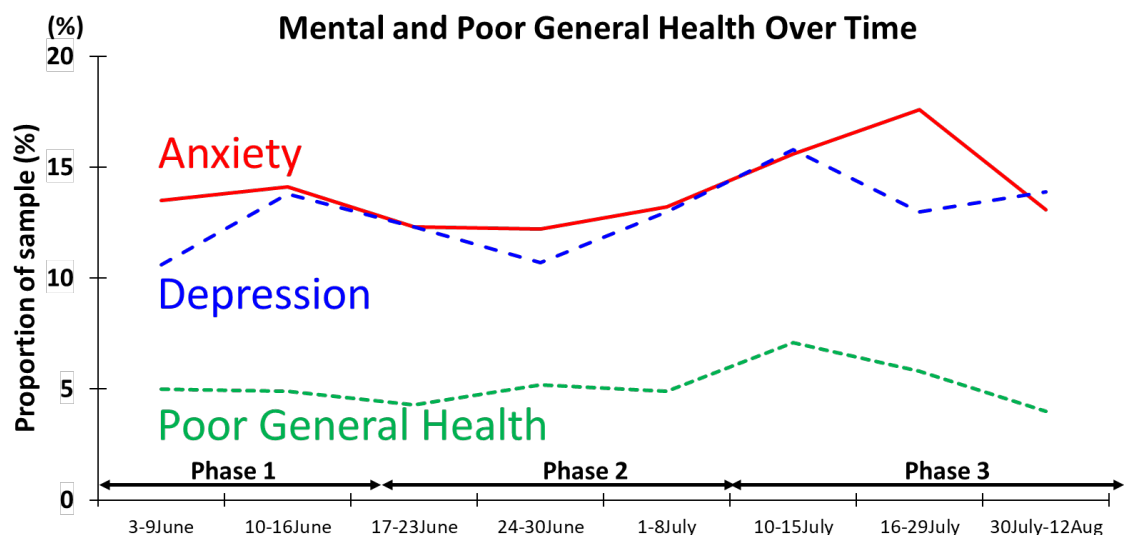
Mental and General Health

Mental and general health were measured for the first 6 weeks of the study. The proportion of the participants reporting poor general health averaged ~5% over the course of the 6 weeks. The proportion of participants at risk of anxiety and depression averaged ~13% over the 6 weeks.

The level of psychological distress varied between social groups. People

who rent their home, those shielded by the Government, young people and those living alone were especially vulnerable to worse mental health.

Psychological distress was not related to adherence to any of the transmission reducing behaviours.

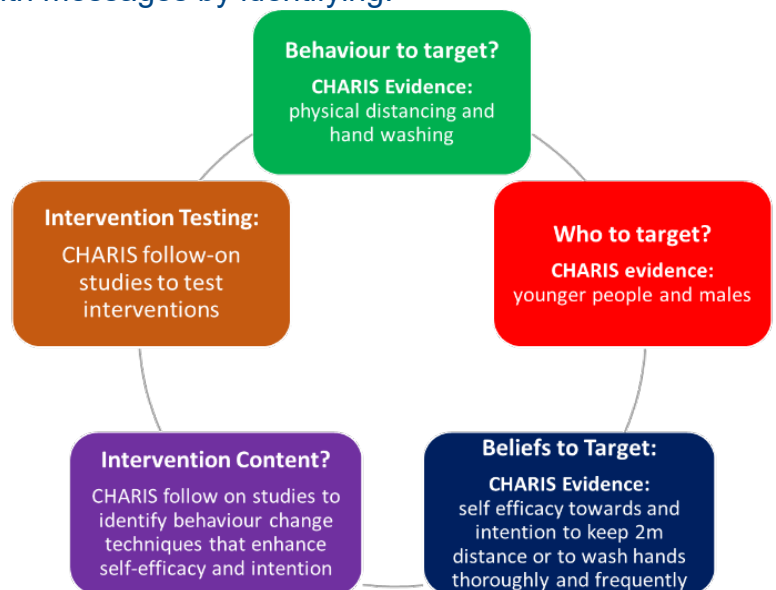


WHAT IMPACT COULD THE FINDINGS HAVE?

Much of the communication around the Government's guidelines has focussed on motivating adherence to the transmission reducing behaviours to mitigate the risk of COVID-19, by emphasising the seriousness of the condition and its consequences. The evidence from CHARIS suggests an additional strategy, going beyond motivation to enable people to have the confidence to actually adhere to the recommended behaviours. Beliefs about the seriousness of the illness COVID-19 are only predictive of some behaviours, some of the time. In contrast, beliefs about the behaviours themselves predict adherence to all the behaviours all of the time. These beliefs should, therefore, be considered as targets for interventions to promote adherence. Self-efficacy towards and intention to perform the behaviours predicted each behaviour, every week. Behavioural science provides evidenced behaviour change techniques to increase self-efficacy that could be included in messages to promote adherence (such as proposing easier ways of performing the behaviours). These techniques could be included in interventions, including public health messages, to help support people's efforts to adhere to the Government's guidelines.

CHARIS has identified the beliefs that consistently predict adherence to all transmission reducing behaviours and has shown that beliefs can contribute to understanding differences in adherence between different sociodemographic groups of the population in Scotland. This understanding can be used to inform evidence-based public health messages by identifying:

- **Behaviours to Target:** which behaviours are showing reduced rates of adherence?
- **Who to Target:** who are the groups that need support to help them adhere to particular behaviours?
- **Beliefs to Target:** which beliefs promote adherence to the desired behaviours in the general population and within particular groups
- **Intervention Content:** what behaviour change techniques are effective at improving the targeted beliefs
- **Intervention Testing:** are the interventions successful in changing beliefs and improving adherence



HOW WILL THE OUTCOMES BE DISSEMINATED?

To date, CHARIS has published 23 rapid and regular bulletins that describe the key findings from each week or fortnight of data. CHARIS has also published a full report of the first 6 weeks of data and delivered this to CSO and the Government. These bulletins and the report can be found on the CHARIS website (<https://www.abdn.ac.uk/iahs/research/health-psychology/charis.php>). A detailed analysis of the data collected fortnightly from July the 15th until the 4th November is being prepared and will be published on the study website and delivered to CSO and Government as usual.

RAPID RESEARCH IN COVID-19 PROGRAMME

Scientific dissemination to date includes the preprint publication of the protocol, a rapid response to Islam et al (*BMJ 2020;370:m2743*) and presentations have been made at the European Health Psychology Society Conference, BPS Division of Health Psychology Conference and locally at UHI and NHS Highlands and Islands. A further 3 papers will be published this year and 7 abstracts submitted to national and international conferences.

Additional smaller embedded projects will lead to publications on: measuring adherence to COVID-19 protective behaviours, how these behaviours develop into habits, how COVID-19 restrictions have impacted on cognitive functioning and on the use of outdoor spaces.

The core CHARIS research team is seeking funding to develop and test interventions to promote adherence. Data from the CHARIS study are being used to inform the content of the interventions and the groups to be targeted by those interventions.

CONCLUSION

The people of Scotland have largely been successful in their efforts to adhere to the Scottish Government's guidelines. However, there is evidence that rates of adherence to physical distancing are in decline. There is a need, therefore, to find ways to help support the general public in their efforts to help prevent the spread of coronavirus. CHARIS has shown that personal beliefs can explain differences in rates of adherence. Behavioural science methods could be implemented to enhance messages targeting these beliefs to promote both motivation and ability to be adherent.

RESEARCH TEAM & CONTACT

Core team members:

University of Aberdeen: Professor Diane Dixon, Professor Marie Johnston, Dr Chantal Den Daas. University of Highlands and Islands: Professor Gill Hubbard

Other Co-Investigators:

University of Aberdeen: Professor Peter Murchie, Dr Julia Allan. University of Stirling: Ms Martine Stead, Professor Ronan O'Carroll, Dr Barbara Farquharson, Dr Wendy Maltinsky. University of Edinburgh: Professor Stewart Mercer. University of Strathclyde: Dr Leanne Fleming. And a Scotland-wide consortium of 33 behavioural scientists and a PPI Group

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ADDITIONAL INFORMATION

Data collection will continue until the 4th November 2020

CHARIS was awarded £325,458 in funding from the Chief Scientist Office.