

Rapid research for the COVID-19 response

The role of the Emergency
Preparedness and Response HPRU



The Health Protection Research Unit in Emergency Preparedness & Response

About the Unit

The National Institute for Health Research Health Protection Research Unit (HPRU) in Emergency Preparedness and Response is a partnership between King's College London, Public Health England and the University of East Anglia. The Unit was set up on 1 April 2014 and, following two rounds of renewal, it is funded until 31 March 2025. To date, we have received core funding of over £8million from the NIHR.

Our mission statement is simple: We conduct research to minimise the impact of emergencies. Over the past decade, we have supported Public Health England and other Government agencies to respond to, and learn lessons from, incidents including the swine flu pandemic, the Fukushima meltdown, the Ebola outbreak, several episodes of major flooding, the novichok incident, heatwaves, the Zika outbreak, climate change, anthrax incidents, humanitarian crises, major terrorist attacks and of course COVID-19. In working on these issues, we focus particularly on our strengths in behavioural science, mental health, emergency preparedness exercises, syndromic surveillance and mass casualty decontamination.

The Unit regularly contributes experts to national and international panels, including:

- the Government Chief Science Advisor's Scientific Advisory Group for Emergencies ([SAGE](#));
- the Department of Health and Social Care's New and Emerging Respiratory Virus Technical Advisory Group ([NERVTAG](#));
- the [Home Office's Scientific Advisory Council](#);
- the Cabinet Office's Behavioural Science Expert Group for the National Risk Assessment and National Security Risk Assessment;
- the Prime Minister's Council for Science and Technology;
- Public Health England's Behavioural Science Advisory Group;
- The cross-Government Behavioural Insights Network;
- the Department of Health and Social Care's Covid-19 MH and Psychosocial Support Working Group;
- The Ministry of Defence Advisory Group on Military and Emergency Response Medicine;
- Defra's CBRN RSAG.

The Unit Director is [Professor Sir Simon Wessely](#), Regius Professor of Psychiatry at King's College London. Our PHE Lead is Professor John Simpson, PHE's Medical Director, Emergency Preparedness and Response. The University of East Anglia team is headed by [Professor Paul Hunter](#), Professor in Medicine. For more information and updates, follow us on twitter: [@EPR_HPRU](#).

Our COVID-19 response to date

Our HPRU is unique in that nearly all of our research can be repurposed at short notice to focus on a suddenly occurring major incident, and many of our staff have an emergency response role as part of their job descriptions. This allows us to react quickly to a crisis. The Unit is formally written into the UK Government's [coronavirus action plan](#). During the first six months of the COVID-19 outbreak, we have completed many rapid reviews and studies; assisted HM Government, Department of Health and Social Care, Public Health England and NHS England in implementing the findings; and initiated several major new studies.

Scientific Advisory Group for Emergencies (SAGE)

[SAGE](#) is the primary route through which the UK Government receives urgent scientific advice during a national emergency. It is chaired by the UK Government's Chief Scientific Advisor and, during the COVID-19 outbreak, the Chief Medical Officer. The first meeting of SAGE for COVID-19 took place on 23 January 2020 and was attended our our Assistant Director, Dr James Rubin, who subsequently stood-up and chaired [SPI-B](#) – the behavioural science subgroup to SAGE. Professor Brooke Rogers joined SAGE from 13 February, and is co-chair for SPI-B. Professor Richard Amlôt, Professor Nicola Fear and Dr Louise Smith from our Unit are also all members of SPI-B. The work of SAGE and its sub-groups has been highly influential and draws directly on research from our HPRU. Several of the underlying papers setting out the thinking of SPI-B have been published in the academic literature.

Michie S, West R, Rogers MB, Bonell C, Rubin GJ, Amlôt R. Reducing SARS-CoV-2 transmission in the UK: A behavioural science approach to identifying options for increasing adherence to social distancing and shielding vulnerable people. British Journal of Health Psychology 2020; doi: 10.1111/bjhp.12428

Bonell C, Michie S, Reicher S, West R, Bear L, Yardley L, Curtis V, Amlôt R, Rubin GJ. Harnessing behavioural science in public health campaigns to maintain 'social distancing' in response to the COVID-19 pandemic: key principles. Journal of Epidemiology and Community Health 2020; doi: 10.1136/jech-2020-214290

West R, Michie S, Rubin GJ, Amlôt R. Applying principles of behaviour change to reduce SARS-CoV-2 transmission. Nature Human Behaviour 2020 doi: 10.1038/s41562-020-0887-9

Developing polling methods to support the response

Our 'FluTEST' project is funded under NIHR's pandemic influenza portfolio, and was activated in February in support of the national response to COVID-19. The team are working with DHSC in developing survey questions to assess people's behavioural responses to the pandemic, using questions and principles [prepared and published](#) well in advance. To date, the team have submitted 23 data reports to DHSC and other Government departments, on issues ranging from what influences hand hygiene behaviour, to whether the test or trace programme is running efficiently. The work is cited in multiple SAGE papers, and [informed](#) the decision to place the UK into lockdown.

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The information in this report/brochure is correct at the time of printing.

Simpson CR, Thomas BD, Challen K, De Angelis D, Fragaszy E, Goodacre S, Hayward A, Lim WS, Rubin GJ, Semple MG, Knight M. *The UK hibernated pandemic influenza research portfolio: triggered for COVID-19. Lancet Infectious Diseases 2020; doi: 10.1016/S1473-3099(20)30398-4*

Supporting Test, Trace and Isolate

The early stages of the coronavirus disease outbreak saw many countries ask people who have potentially come into contact with the infection to isolate themselves at home or in a dedicated quarantine facility. In an early BMJ paper we raised concern about the psychological effects of the lockdown in Wuhan. In a subsequent Lancet paper, we reported a rapid evidence review of the psychological impact of quarantine. This identified 24 papers that had explored the impact of quarantine in previous incidents including swine flu, SARS, MERS and Ebola. Most studies reported negative psychological effects including post-traumatic stress symptoms, confusion, and anger. Stressors included longer quarantine duration, infection fears, frustration, boredom, inadequate supplies, inadequate information, financial loss, and stigma. Some studies also suggested long-lasting effects. A linked review examined factors associated with adherence to quarantine. In previous incidents this has ranged from as little as 0% up to 93%. The main factors which influenced adherence decisions were the knowledge people had about the disease and quarantine procedure, social norms, the perceived benefits of quarantine and the perceived risk of the disease, as well as practical issues such as running out of supplies or the financial consequences of being out of work. These results were used by Public Health England to develop guidance on how to support those entering supported- or self-isolation. The papers are cited in [SAGE materials](#) as key references. Our Lancet paper has been particularly influential, being cited in other academic papers 456 times to date.

Separately, a survey of 2,240 UK adults explored adherence to key aspects of lockdown and found alarmingly low rates of adherence to self-isolation when ill, with 75% of people who had symptoms in their household reporting leaving home in the past 24 hours, but that receiving help from people outside the home made adherence more likely. A further review paper has explored why people might delay requesting a test for COVID-19 when symptomatic.

Rubin GJ, Wessely S. *The psychological effects of quarantining a city. BMJ 2020; 368:m313*

Brooks SK, Webster RK, Smith LE, Woodland L, Wessely S, Greenberg N, Rubin GJ. *The psychological impact of quarantine and how to reduce it: Rapid review of the evidence. Lancet 2020; 395: 912-920.*

Webster RK, Brooks SK, Smith LE, Woodland L, Wessely S, Rubin GJ. *How to improve adherence with quarantine: Rapid review of the evidence. Public Health 2020; 182: 163-169 doi: 10.1016/j.puhe.2020.03.007*

Smith LE, Amlôt R, Lambert H, Oliver I, Robin C, Yardley L, Rubin GJ. *Factors associated with adherence to self-isolation and lockdown measures in the UK; A cross-sectional survey. Public Health (In press).*

Carter P, Megnin-Viggars O, Rubin GJ. *What factors influence symptom reporting during an emerging infectious disease outbreak? A rapid review of the evidence. Psychosomatic Medicine (submitted).*

Life under lockdown

Governments' responses to COVID-19 rely on influencing public behaviour in profound ways. This requires the public to have a clear understanding of both the relevant 'realities' and the advice. Motivation and action will be informed by how the public see likely outcomes, including economic and financial impacts. Varying levels of trust and confidence in government actions and communications will also inform behaviour. Understanding these interactions, and how they vary between sub-groups of the population, is crucial both for short-term action by government and long-term policy development and pandemic planning into the future. In partnership with Ipsos MORI, we developed two surveys of 2,250 adults aged 16-75 in the United Kingdom to connect these strands of attitudes, behaviour, perceptions and expectations. These highlighted strong support for the measures in the early stage of the pandemic and strong average understanding of the risks and actions required. But it also identified the groups struggling with 'life under lockdown' and a significant minority who are misjudging the scale of the threat or believe misinformation, and how these characteristics influence support for and adherence to the current measures. As measures started to be lifted, we also identified divisions starting to appear in society and a worrying influence of social media on the propagation of conspiracy theories. A separate survey also identified high rates of anxiety and depression in the general population, which are being exacerbated by conflicts about the pandemic within the community. The work was very widely reported in the media, including segments on BBC News at 6 and 10, and has been cited in [SAGE](#) papers.

Allington D, Duffy B, Wessely S, Dhavan N, Rubin J. *Health protective behaviour, social media usage, and conspiracy belief during the COVID-19 public health emergency*. *Psychological Medicine* 2020; doi: 10.1017/S003329172000224X

Duffy B, Allington D, Beaver K, Meyer C, Moxham-Hall V, Murkin G, Rubin J, Skinner G, Smith L, Strang L, Wessely S. *The trusting, the dissenting and the frustrated: how the UK is dividing as lockdown is eased*. 2020. London: King's College London

Duffy B, Allington D, Beaver K, Meyer C, Moxham-Hall V, Murkin G, Rubin J, Skinner G, Smith L, Strang L, Wessely S. *How the UK is sleeping under lockdown*. 2020. London: King's College London.

Duffy B, Allington D, Beaver K, Meyer C, Moxham-Hall V, Murkin G, Rubin J, Skinner G, Strang L, Wessely S. *Life under lockdown*. 2020. London: King's College London.

Duffy B, Allington D, Meyer C, Moxham-Hall V, Murkin G, Rubin J, Strang L, Wessely S. *The accepting, the suffering and the resisting: the different reactions to life under lockdown*. 2020. London: King's College London.

Duffy B, Allington D, Beaver K, Meyer C, Moxham-Hall V, Murkin G, Rubin J, Skinner G, Smith L, Strang L, Wessely S. *Covid conspiracies and confusions*. 2020. London: King's College London

Smith LE, Amlôt R, Lambert H, Oliver I, Robin C, Yardley L, Rubin GJ. *Factors associated with self-reported anxiety, depression, and general health during the UK lockdown; A cross-sectional survey*. *PLOS One* (under review).

Combatting misinformation during infectious disease outbreaks

The "infodemic" of COVID-19, and especially dangerous claims such as 'drinking diluted bleach can prevent disease,' has attracted international concern. We have

developed and published detailed models to describe how misinformation might spread during an outbreak, interacting with how diseases spread, and changing potential precautionary behaviour. Our work proposed several strategies to prevent bad quality information from dominating the information landscape and potentially lead to unsafe behaviour. Two of these strategies have been cited by the World Health Organisation as the basis of their future strategy to respond to and control misinformation during the coronavirus crisis. The work is nicely summarised in a [video](#) by Nature magazine.

Brainard J, Hunter PR. Misinformation making a disease outbreak worse: outcomes compared for influenza, monkeypox, and norovirus. Simulation. 2019 Nov 12:0037549719885021.

Brainard J, Hunter PR, Hall IR. An agent-based model about the effects of fake news on a norovirus outbreak. Revue d'Épidémiologie et de Santé Publique. 2020 Feb 6.

Evaluation of airport information

In collaboration with the HPRU in Behavioural Science and Evaluation of Interventions we evaluated the PHE information materials about Covid-19 provided to passengers at UK airports. This included a two-stage mixed-methods evaluation, including consultations with Chinese students at two UK universities, a survey and follow-up interviews with passengers arriving from China. A report based on our findings was provided to the Chief Medical Officer.

How do school closures affect children and families?

A dilemma in the early stages of the outbreak was whether to close schools. This is a challenging question: there are substantial costs to school closures and the benefits are uncertain. One factor that weighs into the decision is, where do the children go after schools are shut? If children continue to mix, or start to be cared for by vulnerable grandparents, this will reduce any benefit of a closure. In a collaboration between behavioural scientists and infectious disease modellers, we conducted a rapid evidence review of previous studies on school closure. This found that mixing between children remained common, but contacts were substantially reduced nonetheless. We also found that parental attitude towards the closure, and the child's age, were associated with greater mixing. This report was cited by the modelling subgroup of SAGE in their [considerations](#) around school closure. School closures have also placed substantial pressure on parents, who find themselves in charge of home schooling, worrying about the mental wellbeing of their children, ensuring their families adhere to official guidelines and making decisions about whether to allow their children to return to school. These concerns have been explored in a series of qualitative interviews with 30 parents and a cross-sectional survey of 2,000 parents conducted in the first week of school re-openings, and a series of recommendations generated for making school re-openings safer. The preliminary results of which have been shared with the Department for Education and submitted for publication.

Brooks SK, Smith LE, Webster RK, Weston D, Woodland L, Hall I, Rubin GJ. The impact of unplanned school closure on children's social contact: Rapid evidence review. Eurosurveillance 2020; 25:13

Bonell C, Melendez-Torres GK, Viner R, Rogers B, Rutter H, Whitworth M, Rubin J, Patton G. *An evidence-based theory of change for reducing SARS-CoV-2 transmission in reopened schools. Health and Place (In press)*

Does lockdown change contact patterns in the community?

From an epidemiological perspective, one of the key questions of the pandemic is ‘is the Reproduction Number (R0) above or below one?’ R0 is the number of people each person with COVID-19 will infect. If R0 is above one, the epidemic will grow. If it is below one, the epidemic will decline. In this collaboration with a modelling team from the London School of Hygiene and Tropical Medicine, we surveyed a random sample of 1,300 people to ask about the number of close contacts they had had with other people in a 24hr period. By comparing to a similar survey from before the lockdown, we demonstrated that contacts between people had fallen by 73%. That would be sufficient to reduce R0 from an estimated 2.6 before lockdown, to 0.6 during lockdown. This finding became a key consideration for infectious disease modellers within SAGE seeking to understand the success of measures taken to date.

Jarvis CI, Van Zandvoort K, Gimma A, Prem K, MHHID Covid-19 Working Group, Klepac P, Rubin GJ, Edmunds WJ. *Quantifying the impact of physical distance measures on the transmission of COVID-19 in the UK. BMC Medicine 2020; 18:124.*

How do people understand their antibody status?

In the absence of vaccine, one suggested route out of lockdown has been to issue people with “immunity passports” in the hope that this will allow people who have had COVID-19 reassurance that they can resume more normal activities. These are fraught with difficulty, however – there is no certainty that people who test positive for antibodies to COVID-19 cannot catch the illness again or pass it on to others. In an experiment testing different ways of describing an antibody test result, the phrase “antibody passport” was found to be the most likely to give this false impression of full immunity to participants. Of course, people may also feel they are immune even without a formal antibody test. In another survey of 6,149 people, 24% told us that they thought they had already had COVID-19. These people were less worried about the pandemic, less likely to adhere to distancing guidelines, and less likely to know what the symptoms of COVID-19 are. The misplaced optimism among many members of the public that “I have probably already had it” will need to be addressed.

Smith L, Mottishaw AL, Egan M, Waller J, Marteau TM, Rubin GJ. *The impact of believing you have had COVID-19 on behaviour: Cross-sectional survey. PLOS One (submitted).*

Waller J, Rubin GJ, Mottishaw AL, Marteau TM. *Immunity passports for SARS-CoV2: an online experimental study of the impact of antibody test terminology on perceived risk and behaviour. BMJ Open (In press).*

Supporting local capacity planning

A partnership between our University of East Anglia team, public health officers at Norfolk county council and hospital trusts within Norfolk informed how to accurately forecast local demand for inpatient beds from COVID-19 patients, based on national

model expectations but adapted for the different age pyramid in Norfolk, late arrival of the virus to the county and smaller population size. The likely requirements for critical care, in the period March-May 2020 were estimated and have helped with resource planning. The information was placed into intelligence dashboards to be accessed by hospital strategists and local care planners. Our epidemiologists also helped the county planners to identify risk factors for care home outbreaks and have identified differences in care pathways in the UK compared to Chinese contexts (where most primary COVID-19 treatment data have been available).

The impact of epidemics on the mental health of pregnant women

On 16 March 2020, the UK Government announced that pregnant women were at increased risk from coronavirus. COVID-19-related restrictions on hospital visitation procedures have led to changes in pregnancy and birth experiences, with women required to attend all antenatal appointments alone and being allowed one birthing partner who can be present during active labour only. We carried out a rapid evidence review to explore the psychological impact of being pregnant during an infectious disease outbreak, drawing on 13 papers which had reported on the impact of previous outbreaks (SARS, H1N1 and Zika) on pregnant women. Most studies identified a considerable negative emotional impact of disease outbreaks on pregnant women, creating anxiety, distress, and fear. Stressors included uncertainty; concerns about infection and related health risks to the self and unborn babies; concerns about prophylaxis or treatment; disrupted routines; financial and occupational concerns; and disrupted expectations of birth and prenatal / postnatal care. The paper informed a decision by NERVTAG to request clarity on the risk status of pregnant women as a priority.

Brooks SK, Weston D, Greenberg N. Psychological impact of infectious disease outbreaks on pregnant women: Rapid evidence review. Social Science & Medicine (submitted).

Moral injury and mental health in NHS staff

The vital role played by healthcare staff during the current pandemic is clear. Whilst dealing with life and death is a challenge that clinical staff contend with regularly, they do not ordinarily do so with vast numbers of patients, intense media scrutiny and while at risk of harm themselves. These conditions place NHS staff at risk of experiencing traumatic stress and moral injuries as they try to deal with ethical challenges. Various papers from our group have explored these issues, and highlighted whether lessons can be drawn for the experience the military have in dealing with moral dilemmas. We have launched NHS CHECK, which is a prospective study of the entire NHS workforce at a number of NHS trusts across England and we have permission to run the survey at the Nightingale Hospitals if they are used. As well as the mental health challenges for healthcare staff, those who become infected (which is likely to be at a higher rate than the general population) may also experience an increase in fatigue syndromes and neuropsychiatric outcomes. This points to a major legacy issue over the short, medium and long term. As with other major events there will be positive effects as well. We anticipate that many staff will experience an increase in resilience and a positive change in attitudes (sometimes termed post traumatic growth) rather than

illness. NHS CHECK aims to address all these issues and will provide data on the range, uptake and effectiveness of the large range of staff support mechanisms that are either pre existing, or have been created in haste to try and mitigate all the above.

Greenberg N, Doherty M, Gnanapragasm S, Wessely S. Managing mental health challenges faced by healthcare workers during COVID-19 pandemic. BMJ 2020;368: m1211

Williamson V, Murphy D, Greenberg N. COVID-19 and experiences of moral injury in front-line key workers. Occup Med (Lond). 2020 Apr 2.

Greenberg, N. Mental health of health-care workers in the COVID-19 era. Nat Rev Nephrol (2020).

Williams V, Greenberg N, Bowden G, Rothernfluh D, Nnadi C and Reynolds J. The mental health impact of providing spine care during COVID-19. The spine journal. June 2020 1-4

Greenberg N, Brooks S, Wessely S & Tracy D. How might the NHS protect the mental health of health-care workers after the COVID-19 crisis? Lancet Psychiatry. May 28, 2020

Tracy D, Tarn M, Eldridge R, Cooke J, Calder JDF and Greenberg N. What should be done to support the mental health of healthcare staff treating COVID-19 patients? British Journal of Psychiatry, 19 May 2020.

Greenberg N, Tracy D. What healthcare leaders need to do to protect the psychological well-being of frontline staff in the COVID-19 pandemic BMJ Leader Published Online First: 18 May 2020.

Maximising the use of personal protective equipment (PPE).

Reducing the transmission of COVID-19 in hospitals and carehomes requires a range of policies to be in place, including testing of patients, visitors and staff, appropriate cleaning, and provision of adequate PPE to staff. One component is also helping staff to adhere to rapidly changing guidelines around PPE and physical distancing in hospital. At the request of SAGE, our group conducted a rapid review of all previous studies on factors associated with adherence, identifying a need for co-production of future guidance material to ensure staff concerns and experiences are taken into account. Following this, we have also been asked by the Chief Medical Officer to conduct a rapid survey of healthcare workers to explore further issues specific to the COVID-19 outbreak in the UK, demonstrating that fatalism about catching COVID-19 is deterring full adherence to PPE guidelines. The importance of adhering to PPE guidelines was emphasised by our analysis of data from 248 care homes in Norfolk, demonstrating that, after a home recorded one case of COVID-19, higher staff levels and more severe PPE shortages were linked to higher case counts.

Among the general public, PPE use is restricted to recommendations around face coverings. Part of the reticence on whether to recommend their use centered on concerns that they give false reassurance and reduce other behaviours such as hand washing or social distancing. Our analysis of the evidence on this “risk compensation” theory has shown that these concerns are misplaced and should not be a barrier to policy decisions in this area.

Brooks SK, Greenberg N, Wessely S, Rubin GJ. *Factors affecting healthcare workers' compliance with social and behavioural infection control measures during emerging infectious disease outbreaks: Rapid evidence review. BMC Infectious Diseases (submitted).*

Smith LE, Serfioti D, Weston D, Greenberg N, Rubin GJ. *Adherence to protective measures among health care workers in the UK; a cross-sectional study. Health Services Management Research (submitted).*

Brainard JS, Rushton S, Winters T, Hunter PR. *Introduction to and spread of COVID-19 in care homes in Norfolk, UK.*

Mantzari E, Rubin GJ, Marteau TM. *Unfounded fears of risk compensation: A threat to public health in the era of COVID-19. BMJ 2020; 370.*

Guarding against poor quality research

The coronavirus pandemic has unleashed a flood of papers (175 peer-reviewed papers published per day since January) and surveys. These are difficult for researchers to navigate, but most troubling is the possibility that particular populations are being repeatedly targeted to take part in small, poor quality and ultimately uninformative studies. We have written commentaries on the joint issues of research fatigue and poor quality articles. To help researchers and policymakers identify the best of the COVID-19 literature, our behavioural science team at PHE have also set up a weekly curated list of behavioural science 'hot picks.' This now has many subscribers across academia, the SAGE subgroups, and Government departments.

Patel SS, Webster RK, Greenberg N, Weston D, Brooks SK. *Research fatigue in COVID-19 pandemic and post-disaster research: Causes, consequences and recommendations. Disaster Prevention and Management (in press).*

Pierce M, McManus S, Jessop C, John A, Hotopf M, Ford T, Hatch S, Wessely S, Abel KM. *Says who? The significance of sampling in mental health surveys during COVID-19. Lancet Psychiatry 2020;7:567-8.*

Interoperability during COVID-19 response

We are collaborating with researchers from Keele University to understand the ongoing challenges faced by responders as part of the Civil Contingency Response to COVID-19, particularly as these relate to interoperability. This involves carrying out short interviews with strategic and tactical leads to provide rapid analysis of the current response. Findings are being used to produce briefing papers to support the development of good working practice in response to COVID-19.

Davidson, L., Carter, H., Drury, J., Amlôt, R., Haslam, A., & Stott, C. (2020). *Recommendations to promote an effective multi-agency response. Crisis Response, 16th June.*

Davidson, L., Carter, H., Drury, J., Amlôt, R., Haslam, A., & Stott, C. (2020). *Covid-19: Recommendations to improve effective multi-agency response, Part I. Crisis Response, 17th June.*

Davidson, L., Carter, H., Drury, J., Amlôt, R., Haslam, A., & Stott, C. (2020). *Covid-19: What works in an effective multi-agency response, Part II. Crisis Response, 20th July.*

Promoting new ideas

The Unit has been keen to promote discussion around COVID-19, publishing think pieces, debating in public and engaging with the media. The BMJ Opinion blogs have been an effective forum for discussing new ideas around behavioural science. These pieces have been influential. One day after we circulated a piece arguing that not shaking hands “may convey the message that attention to hand hygiene is socially responsible,” the Prime Minister [announced](#) that he would stop shaking hands because “the behavioural psychologists say that if you don’t shake somebody’s hand then that sends an important message to them about the importance of washing your hands.” More generally, the Unit has tried to champion openness within science, while recognising that not everything can be immediately shared during a crisis, a point emphasised to the House of Commons Science and Technology Select Committee in [evidence](#) given by our Assistant Director. Our team have given numerous media interviews about their research; Professor Hunter alone has been cited in nearly 2,000 media articles on coronavirus. The Unit also led on the behavioural science aspects of UKRI’s website ‘[Coronavirus: the science explained](#)’ and has written commentaries for the Guardian, Telegraph, Financial Times, Prospect, New Statesman and Conversation on [testing](#), [panic](#), [self-isolation](#), [public understanding](#), [exit strategies](#) and [face-masks](#).

West R, Michie S, Amlôt R, Rubin GJ. [Don’t touch the T-zone – how to block a key pathway to infection with SARS-CoV-2](#). BMJ Opinion 3 April 2020

Yardley L, Amlôt R, Rice C, Robin C, Michie S. [How can we involve communities in managing the covid-19 pandemic?](#) BMJ Opinion, March 17 2020.

Michie S, West R, Amlôt R, Rubin GJ. [Slowing down the covid-19 outbreak: changing behaviour by understanding it](#). BMJ Opinion 11 March 2020

Smith LE, Yardley L, Michie S, Rubin J. [Should we wave goodbye to the handshake?](#) BMJ Opinion 10 March 2020

Michie S, West R, Amlôt R [Behavioural strategies for reducing covid-19 transmission in the general population](#). BMJ Opinion 3 March 2020

Michie S, Rubin J, Amlôt R [Behavioural science must be at the heart of the public health response to covid-19](#). BMJ Opinion 28 February 2020

Work in progress

The pandemic is far from over. Until it is, the Unit will continue to focus its efforts on understanding and helping to mitigate the consequences of COVID-19. At present, our ongoing work focuses on the following projects.

Attitudes towards a COVID-19 vaccine

With additional funding from King’s College London, we are working with colleagues from Keele University to understand the UK population’s attitude towards a potential vaccination against COVID-19. The first wave of our survey on this is due to launch in mid to late July 2020.

Social identity, social support and social distancing

We will employ a longitudinal survey to examine: the impact of social identity and social support on mental and physical health outcomes during social distancing; and whether the content of social identities changes as a result of social distancing. Our findings will be used to enhance mental and physical wellbeing during the current response, and optimise the way in which such responses are managed in the future.

Supporting pro-social behaviours

We will use a literature review and survey to understand current prosocial behaviours and responses to Government calls for volunteers in order to explore (i) the factors driving these behaviours, (ii) obstacles and enablers of pro-social behaviour, and (iii) whether these behaviours are sustainable. This will provide a more nuanced understanding of the social impacts of interventions for COVID-19.

Adherence to, and impact of, self- and supported-isolation

As part of a £400,000 project [funded by UKRI](#) led by Public Health England and in collaboration with the Behavioural Science and Evaluation of Interventions HPRU, our team will assess factors associated with adherence to guidelines to self-isolate when ill, and to stay at home when well. We are also following up a cohort of British nationals who were asked to enter supported isolation when they flew back the Britain at the start of the pandemic.

Rapid reviews of mental health and psychosocial support

We are supporting Public Health England's COVID-19 response by conducting rapid evidence reviews relating to mental health and psychosocial support. Findings will inform Public Health England's ongoing response.

The experiences of young adults during and after lockdown

Young adults are less likely than other members of the UK population to adhere to social distancing. We have developed an app to collect data on young adults' experience of lockdown, focusing on exercise, mental health, risk taking and adherence to advice. Data will be analysed by age, gender and key worker status to determine if there are groups that require targeted messaging to ensure adherence. The app has been launched and is actively collecting data.

The Wellbeing of Women during and after pregnancy

The [WoW study](#) was established to look at the impact of being in a relationship with someone from the UK Armed Forces on the mental health of women during and post-pregnancy. Data collection was underway when the pandemic hit and we have adapted our data collection instruments accordingly. Data are being collected throughout the perinatal period from women in a relationship with someone from the UK Armed Forces and a comparable group of women in the general population. Data collection which includes questions on the impact of COVID-19 is underway.

Mental health screening for NHS staff

Our team is working with NHSE/I to develop an online mental health screening tool which can be used by frontline NHS staff. This will collect anonymous information from up to 1.5M staff and provide them with feedback about their mental health and where they can seek appropriate help. The tool is based on previous research conducted by the Unit and will enable our team to assess the psychological impact of the pandemic on healthcare staff and the NHS to plan services to meet their needs. We have also been advising CEO, Chief People Office and National Clinical Director for Mental Health all at NHS-E on the mental health response.

COVID-19 Psychological First Aid training

Through our involvement in the PHE Mental Health and Social Support cell, we have contributed to the development of a COVID-19 Psychological First Aid training course, hosted by FutureLearn. As part of this involvement, we have designed and implemented a bespoke evaluation process to help understand the effectiveness of the training for influencing knowledge and skills. Findings will be used to inform future training courses and will also be submitted for publication.

COVID-19 on microblogging sites

We are currently collecting and analysing data from Twitter to explore the potential of microblogging sites as data sources for disease surveillance. Mining of tweets using semi-supervised classifications will be used to categorize tweets. Findings from the research will be used to evaluate whether microblogging sites such as twitter can be used to map mental and physical wellbeing.

Advisory roles

Many members of the Unit are directly supporting the Covid-19 response by acting as advisors on national and international panels. These include:

- Participants for the UK's Scientific Advisory Group for Emergencies (SAGE);
- Co-chair and members of SAGE's behavioural science subgroup (SPI-B);
- Membership of the WHO Health Emergencies Program (WHE) Experts Advisory Panel for Infection Prevention and Control (IPC) Preparedness, Readiness and Response to COVID-19;
- Membership of the OECD-led COVID-19 behavioural insights network;
- Membership of the cross-Government behavioural insights network which is now focussing on COVID-19;
- Public health advisor to the Royal Household and Houses of Parliament.
- Membership of the NHS England and NHS improvement Health and Wellbeing response TASK FORCE for COVID-19 for staff response;
- Lead for London NHS Nightingale mental health staff support operations;
- Chair of PHE's COVID-19 Behavioural Science Reference Cell;
- Membership of PHE's COVID-19 Mental Health and Psychosocial Support Reference Cell;
- Membership of the Department of Health and Social Care Covid;
- Membership of the Prime Minister's Council for Science and Technology;

- Membership of the Royal College of Psychiatrist COVID-19 response group;
- Peer review for Wellcome Trust, UKRI and international bodies;
- Membership of the NHS People's Recovery Commission;
- Membership of the Department of Health and Social Care Mental Health Recovery Working Group;
- Membership of the ESRC and NIHR MRC Covid Panels;
- Chair of the Royal Foundation Mental Health Working Group.

For more information, please contact gideon.rubin@kcl.ac.uk

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The information in this report is correct at the time of printing.