

COVID-19 Bulletin

An RSB communication on the
bioscience behind the outbreak and
response

6 April 2020

The RSB COVID-19 bulletin draws together current bioscience research and knowledge to help facilitate community understanding and response. It includes links to published news articles, publications, webpages and other resources. The material presented is not intended to be comprehensive and is up to date as of the date of publication, giving just a glimpse of the huge efforts worldwide to understand SARS-CoV-2 and its effects.

Research outcomes and conclusions may evolve over time, and readers should take action on the basis of medical advice and the latest advice from government, rather than necessarily relying solely on specific pieces of early research.

Views or opinions presented are those of the original author(s) and do not necessarily represent the views of the Royal Society of Biology.

We would like to thank our community for the significant positive feedback and engagement we have received in response to the first edition of this bulletin series. We plan to produce further editions on a fortnightly basis, in the near term.

We can all contribute to the response to the COVID-19 pandemic, by engaging with the science and communicating it locally and beyond. Our aim for this bulletin is that it increases awareness of outputs at the leading edge of sound science, as we grapple with the challenges ahead.

Thank you for your ongoing support. For further information and to get in touch with research and news you would like to see featured, or to offer feedback, contact our policy team via:
policy@rsb.org.uk.

This bulletin is divided into six main sections:

- 1. RSB news:** including key current updates from the RSB.
- 2. Research updates:** collating relevant research news and outputs under topic headings.
- 3. How else can the bioscience community help?** Listing current calls for resource and expertise.
- 4. Positive community news:** some examples of community impact aiding response to the pandemic.
- 5. Other regularly updated information sources:** providing a collection of links to useful online information hubs.
- 6. A note on personal and community wellbeing:** linking to advice on maintaining good mental health through self-isolation and social distancing.

RSB news

[Main RSB webpage on COVID-19](#)

During the COVID-19 pandemic, the RSB is working to adapt and ensure our services are still delivered to the greatest extent possible whilst also taking into account Public Health England and Government advice. Please keep checking our new webpage for frequent updates with how the RSB is responding to the COVID-19 pandemic.

[Education during COVID-19](#)

Our education policy team is working with government, awarding bodies and policy partners to provide advice and support to teachers, parents and students. Our new education during Covid-19 pages will be regularly updated over the coming weeks and months.

[Advice for students and parents during COVID-19 pandemic](#)

Students should first take advice from their school on what to complete while at home. We have published further advice for students age 5 -19 that want to do more and parents looking for science activities to carry out at home, along with links to resources and how to access our online Gopher Science Lab training now free for parents to access for six months.

[UK government and awarding bodies announcements](#)

In the last two weeks there have been many announcements about school closures, exams and development of processes for awarding grades. We are regularly engaging with partners and policymakers and will update this education announcements during COVID-19 pandemic page to keep teachers, schools and Universities fully informed.

[The Biologist](#) is producing a series of Q&As with RSB members or Fellows who have shifted their research priorities or repurposed laboratories to help fight COVID-19. Contact tom.ireland@rsb.org.uk if you would like to be featured or have any information to contribute to this series.

For more current news, commentary and updates, visit the [RSB on Twitter](#), [The Biologist](#), and read our latest edition of the weekly [Science Policy Newsletter](#).

Research updates

SARS-CoV-2 is a virus in the zoonotic coronavirus family. This novel virus, discovered in 2019, was previously unidentified in humans and causes the disease COVID-19, which has reached pandemic proportions in the global human population.

[Scientific Advisory Group for Emergencies \(SAGE\): Coronavirus \(COVID-19\) response](#)

The Scientific Advisory Group for Emergencies (SAGE) provides scientific and technical advice to support government decision makers during emergencies. Here you can find a range of its statements and supporting evidence. The page is updated on a regular basis with the latest available evidence provided to SAGE.

[UK Parliament POST: Covid-19](#)

The Parliamentary Office of Science and Technology (POST) has produced a series of 'rapid response' articles on topics including potential COVID-19 vaccines and school closures.

COVID-19: 100 Questions of Peter Piot, LSHTM Director

Professor Peter Piot, director of the London School of Hygiene and Tropical Medicine, answers 100 questions - from the basics of virology to more complex issues arising during the COVID-19 pandemic.

SARS-CoV-2 virus characteristics

[Soluble angiotensin-converting enzyme 2: a potential approach for coronavirus infection therapy?](#)

A recent correspondence piece published in Clinical Science relates to ACE2. The ACE2 receptor is known to be critical for SARS-CoV entry into host cells. Read more about the rationale for soluble ACE2 as a potential therapy.

[\[SMC\] Expert reaction to correspondence looking at air and surface stability of SARS-CoV-2](#)

COVID-19 pathophysiology

[SARS-CoV-2 Viral Load in Upper Respiratory Specimens of Infected Patients](#)

The viral load of asymptomatic patients appears similar to that of symptomatic patients, in concordance with reports that transmission may occur early in the course of infection.

[Clinical characteristics of refractory COVID-19 pneumonia in Wuhan, China](#)

[Characteristics and Outcomes of 21 Critically Ill Patients With COVID-19 in Washington State](#)

Epidemiology and public health response

[\[SMC\] expert reaction to a study about facemask effectiveness](#)

A study, published in Nature Medicine, reports on the effectiveness of facemasks.

[Estimating the number of infections and the impact of non-pharmaceutical interventions on COVID-19 in 11 European countries](#)

[Coronavirus latest: confirmed cases cross the one-million mark](#)

Updates on the respiratory illness that has infected hundreds of thousands of people and killed several thousand.

['We need to be alert': Scientists fear second coronavirus wave as China's lockdowns ease](#)

Other countries on lockdown will be watching for a resurgence of infections in Hubei province now that travel restrictions are lifting.

[Social Contacts and Mixing Patterns Relevant to the Spread of Infectious Diseases](#)

[Reproduction number of COVID-19 could be below one in UK lockdown](#)

Preliminary estimates provide motivation for us all to keep following UK government instructions.

[Surveillance to improve evidence for community control decisions during the COVID-19 pandemic – Opening the animal epidemic toolbox for Public Health](#)

[Interventions to mitigate early spread of SARS-CoV-2 in Singapore: a modelling study](#)

[What China's coronavirus response can teach the rest of the world](#)

Researchers are studying the effects of China's lockdowns to glean insights about controlling the viral pandemic.

[The British Society for Genetic Medicine \(BSGM\) General advice for patients with rare or undiagnosed genetic disorders re Covid-19](#)

[Updated PHE guidance for infection prevention and control in healthcare settings \(DHSC, PHW, PHA, HPS, PHE\)](#)

Testing and ongoing surveillance

[\[SMC\] expert reaction to the latest COVID-19 press conference](#)

The No 10 press conference, on Thursday 2nd April, featured Matt Hancock, Stephen Powis and John Newton. Testing for COVID-19 was one of the main topics covered

[\[SMC\] expert reaction to 1 million confirmed cases of COVID as reported by John Hopkins University](#)

The Coronavirus Resource Centre, put together by John Hopkins University, shows that global COVID-19 cases now exceed 1 million.

[European Centre for Disease Prevention and Control: Risk Assessments](#)

Rapid risk/outbreaks assessment aim at supporting the countries and the European Commission in their preparedness and response to a public health threat.

[The UK Clinical Virology Network Journal Watch: Supplementing PCR tests with antibody tests for SARS-CoV-2](#)

[Real estimates of mortality following COVID-19 infection](#)

[Dogs could join the fight against COVID-19](#)

A team at the London School of Hygiene and Tropical Medicine is looking at whether dogs could be trained to provide a rapid, non-invasive diagnosis of COVID-19.

[Leading Veterinary Diagnostic Company Sees No COVID-19 Cases in Pets](#)

Thousands of canine and feline specimens tested surfaced no positive results to date.

[Coronavirus can infect cats — dogs, not so much](#)

But scientists say it's unclear whether felines can spread the virus to people, so pet owners need not panic yet.

Prophylaxis and treatment

[NICE publishes first rapid COVID-19 guidelines](#)

New guidelines cover the management of patients in critical care, the management of patients who are having kidney dialysis and the management of patients who are receiving systemic anticancer treatments.

[Update on treatments and vaccines against COVID-19 under development](#)

[Coronavirus Information | IUPHAR/BPS Guide to Pharmacology](#)

Given the novelty of SARS-CoV-2 infection (COVID-19), and the lack of proven therapies, a wide variety of strategies are being employed to combat this worldwide epidemic.

[How blood from coronavirus survivors might save lives](#)

New York City researchers hope antibody-rich plasma can keep people out of intensive care.

How else can the bioscience community help?

How you can help with COVID-19

An RSB webpage collating routes through which individuals can offer their help to support the national effort to respond to the spread of COVID-19.

Urgent funding gaps in the global response to coronavirus (COVID-19)

At least \$8 billion of new funding is needed for the global response to coronavirus (COVID-19), according to the Wellcome Trust.

Research and Innovation ideas to address COVID-19

MRC is funding new research projects as part of the UK Research and Innovation response to the current COVID-19 pandemic through the DHSC/UKRI COVID-19 Rapid Response Initiative. MRC expects all applications which will deliver public health impact within the next twelve months to be submitted to the joint DHSC/UKRI COVID-19 Rapid Response Initiative NIHR single portal site.

New briefing: Responding to the COVID-19 pandemic - ethical considerations

The Nuffield Council on Bioethics has published a new policy briefing setting out the key ethical considerations relevant to public health measures being introduced to manage the COVID-19 pandemic in the UK.

Ethics in the research response to COVID-19 - a Nuffield Council on Bioethics webinar

A global code of conduct to counter ethics dumping

An EU-funded project is leading far-reaching efforts to improve adherence to high ethical standards in scientific research around the world. It is implementing a global code of conduct that aims to ensure communities, research participants and local resources in scientific studies are treated with fairness, respect, care and honesty.

UN Governance Lab Call for Action: COVID-19 living repository for Data Collaboratives

This website provides a space for the global statistical community to share guidance, actions, tools and best practices during the global COVID-19 crisis.

Use of Open Government Data to address COVID-19 Outbreak

Call for evidence: The OECD Secretariat, through the Digital Government and Data Unit, is calling for evidence on the release and use of Open Government Data (OGD) in response to the COVID-19 outbreak. We would like to hear from you about what data are being released and how different actors (such as entrepreneurs, media, researchers, CSOs, and the public sector) are innovating with them to support countries' policies and actions.

Inquiry: UK Science, Research and Technology Capability and Influence in Global Disease Outbreaks

The UK's Science and Technology Committee has announced it will inquire formally into the place of UK research, science and technology in the national and global response, and what lessons should be learned for the future.

[The Physiological Society] Coronavirus resources

The Society has a wealth of experts working in areas related to coronavirus (COVID-19). Our

communications team is working on delivering reliable, evidenced scientific insight on this disease through social media, video and our media work. This page hosts all of our coronavirus related content, and will be regularly updated as the situation develops.

[Emerging Topics in Life Sciences](#), the journal co-owned by the Biochemical Society and the Royal Society of Biology will be having an issue devoted to emerging pandemics/viral epidemiology. If anyone would like to contribute a short review article or perspectives piece for consideration in the issue, please contact the Managing Editor of the journal via email (editorial@portlandpress.com) by the 30 April.

[British Society of Immunology \(BSI\) Connect on Coronavirus: a list of funding opportunities that have been specifically launched to assist efforts to combat the SARS-CoV-2 virus](#)

Contact RSB to discuss bioscience community issues or actions via policy@rsb.org.uk

Positive community news

[Francis Crick Institute and UCLH develop COVID-19 testing service for patients and NHS staff](#)

[Wellcome joins the UK government, industry and universities in a step-change to COVID-19 testing](#)

[COVID-19 vaccine & therapy research boosted by six new projects in rapid response](#)

Six new studies into the novel coronavirus have been funded by the UK government, including testing a vaccine, developing therapies and improving understanding of how to treat COVID-19.

[Biochemical Society and Portland Press sign joint statement on sharing research data relating to the novel coronavirus \(nCoV\) outbreak](#)

The Biochemical Society/Portland Press (along with a number of other societies and publishers) are making all content related to the coronavirus pandemic free-to-read/open access. The collection of content is updated on a regular basis as new articles are being published across the portfolio.

[University fast-tracks innovation to battle Covid-19](#)

Edinburgh researchers are joining forces with commercial companies to quickly develop new technologies to help tackle the Covid-19 pandemic.

[Global MediXchange for Combating COVID-19 \(GMCC\)](#)

[Tens of thousands of scientists are redeploying to fight coronavirus](#)

As labs shut down around the world, researchers are finding creative ways to donate their time, supplies and expertise.

[The COVID-19 Therapeutics Accelerator is funding clinical trials that will answer whether the anti-malarial drugs hydroxychloroquine and chloroquine can be used to prevent the spread of COVID-19.](#)

[LSHTM teams up with UK Government and Unilever to reach a billion people in global handwashing campaign](#)

New £100 million campaign will help stop the spread of coronavirus.

Other regularly updated information sources

[\[NHS\] Overview - Coronavirus \(COVID-19\)](#)

[Coronavirus \(COVID-19\): UK government response](#)

[Public Health England \(PHE\) Coronavirus \(COVID-19\) advice](#)

[\[BBC\] Live updates of the coronavirus pandemic](#)

[\[BBC\] Coronavirus: A visual guide to the pandemic](#)

[WHO information page](#)

[WHO Coronavirus disease \(COVID-2019\) situation reports](#)

[Coronavirus disease \(COVID-19\) Situation Dashboard](#)

[Coronavirus disease \(COVID-19\) advice for the public: Myth busters](#)

[OECD Country policy tracker](#)

What are countries doing to contain the spread of the coronavirus? How are countries helping people, small businesses and the economy to weather the crisis and beyond? This Country Policy Tracker helps you to navigate the global response.

[United Nations Department of Economic and Social Affairs Statistics • COVID-19 response](#)

This website provides a space for the global statistical community to share guidance, actions, tools and best practices to ensure the operational continuity of data programmes by National Statistical Offices, and to address issues of open and timely access to critical data needed by governments and all sectors of society to respond to the global COVID-19 crisis.

[European Centre for Disease Prevention and Control \(ECDC\) Q & A on COVID-19](#)

[Coronavirus COVID-19 Global Cases by Johns Hopkins CSSE](#)

[US Institute for Health Metrics and Evaluation COVID-19 projections](#)

[MRC Centre for Global Infectious Disease Analysis](#)

[UKRI Coronavirus: the science explained](#)

[The Lancet COVID-19 resource centre](#)

[Science Media Centre Covid -19 output page](#)

[London School of Hygiene and Tropical Medicine COVID-19 information page](#)

[LSHTM Viral Podcast](#)

[COVID-19 activity across Edinburgh Infectious Diseases group](#)

News stories and other information about the efforts in Edinburgh to tackle the COVID-19

pandemic.

[Usher Institute COVID-19 webinars](#)

[University of Glasgow CVR Research Response to COVID-19](#)

[COVID-19 research at UCL](#)

[The UK Clinical Virology Network: Journal Watch](#)

[British Society for Immunology \(BSI\) Connect on coronavirus](#)

[Infection Prevention Society COVID-19 Advice and Guidance](#)

[The Microbiology Society collection of free to access research on Coronaviruses](#)

[British Society for Haematology COVID-19 updates](#)

[FEMS Expert update on the SARS-CoV2 coronavirus causing the COVID-19 outbreak](#)

[British Infection Association COVID-19 updates](#)

[The Academy of Medical Sciences Coronavirus information hub](#)

[\[Royal Society\] Sharing research data and findings relevant to the novel coronavirus \(nCoV\) outbreak](#)

Updated collection of research papers curated by the Royal Society.

[LitCovid](#)

Keep up with the latest coronavirus research. LitCovid is a curated literature hub for tracking up-to-date scientific information about the 2019 novel Coronavirus.

[Oxford COVID-19 Government Response Tracker](#)

Governments are taking a wide range of measures in response to the COVID-19 outbreak. The Oxford COVID-19 Government Response Tracker (OxCGRT) aims to track and compare government responses to the coronavirus outbreak worldwide rigorously and consistently.

[\[NEJM\] Coronavirus \(Covid-19\)](#)

A collection of articles and other resources on the Coronavirus (Covid-19) outbreak, including clinical reports, management guidelines, and commentary.

[\[JAMA\] Coronavirus Disease 2019 \(COVID-19\)](#)

Check back here for updates on COVID-19 diagnosis and treatment

[IDSA COVID-19 resource centre](#)

[\[Nature\] Coronavirus latest: confirmed cases cross the one-million mark](#)

Updates on the respiratory illness that has infected tens of thousands of people and killed several thousand.

[\[AAAS Science Magazine\] Coronavirus: Research, Commentary, and News](#)

Full Fact: Facts on Coronavirus

Get the facts you need straight to your inbox.

COVID-19 #CoronaVirus Infographic Datapack: Infographics describing different aspects of the pandemic.

A note on personal and community wellbeing

How to avoid burnout amid a pandemic

Juggling remote work, childcare and more has morphed burnout in the time of coronavirus, and preachy calls to pick up a new hobby might make it worse. Here's how to manage the stress.

How to Talk About the Coronavirus

Four ways to help those around you be better informed about the pandemic.



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Royal Society of Biology
Science Policy Team
1 Naoroji Street
London
WC1X 0GB
policy@rsb.org.uk

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