

COVID-19 Bulletin

An RSB communication on the
bioscience behind the outbreak and
response

27 July 2020

The tenth edition of the RSB COVID-19 bulletin highlights a selection of the bioscience research and news of the last fortnight. It cannot be comprehensive and gives just a glimpse of the huge worldwide effort to understand SARS-CoV-2 and its effects.

We can all contribute to the response to COVID-19 by engaging with sound science, countering misinformation and increasing awareness. We hope this bulletin is helpful in this.

Views or opinions presented are those of the original author(s) and do not necessarily represent the views of the Royal Society of Biology; medical and government advice should be consulted regarding personal wellbeing decisions.

We have taken the decision to publish this bulletin on a monthly basis from now on.

For further information and to get in touch, contact our policy team via: policy@rsb.org.uk.

To read previous editions and directly sign-up to future editions of this bulletin, please [visit this page](#).

This bulletin is divided into six main sections:

- 1. RSB news:** including key current updates from the RSB.
- 2. Research updates and expert opinion:** relevant research news and outputs under topic headings.
- 3. How else can the bioscience community help?** Resource and expertise calls.
- 4. Positive community news:** community impact aiding the pandemic response.
- 5. Other regularly updated information sources:** useful online information hubs.
- 6. Spotlight on personal and community wellbeing:** articles on mental health and wellbeing during self-isolation and social distancing.

This newsletter provides links to published news articles from a range of sources. Views or opinions presented are those of the original author(s) and do not necessarily represent the views of the Royal Society of Biology.

RSB news

[Policy Lates Online: Discovery research in the era of COVID-19](#)

12 August 2020 18:30 - 20:30 BST

This free online event, chaired by Professor Jackie Hunter CBE FBPharmacolS FRSB, will bring

together a panel of specialists involved in the funding, infrastructure, delivery and outcomes of discovery research. The panel will use examples from the pharmaceutical research sector to discuss how discovery research strategies and infrastructure have changed as a result of the COVID-19 pandemic, and what opportunities and challenges this brings for the future in this important area of research. Visit www.rsb.org.uk/DiscoveryResearch for full details and to book your place on this free online event. Direct queries to Harriet McAra at events@rsb.org.uk or on 020 3295 3445.

[Call for papers for journal special issue on Pandemics](#)

Emerging Topics in Life Science (ETLS), the journal co-owned by the Biochemical Society and the RSB, has opened a call for papers for a special issue on pandemics.

Aiming for publication in 2020, the issue will feature short reviews looking at coronaviruses & COVID-19, but also drivers of disease and emerging infections, emerging infectious disease preparedness and novel epidemiological concepts.

Submission deadline: September 2020

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

The RSB is working to adapt and ensure our services are delivered to the greatest extent possible whilst also taking into account Public Health England and Government advice during the pandemic. We regularly update this webpage with relevant information about our activities, initiatives and community support.

[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. These pages will be updated regularly over the coming weeks.

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

Research updates and expert opinion

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 since been characterized as a pandemic.

[Coronavirus \(COVID-19\): scientific evidence supporting the UK government response](#)

A collection of the evidence provided to the Government by the Scientific Advisory Group for Emergencies (SAGE) on COVID-19, updated July 24th.

[Coronavirus research updates: The power of China's virus-control campaign is seen in pattern of symptoms](#)

Nature wades through the literature on the new coronavirus - and summarizes key papers as they appear.

[Covid-19 news: England to offer more flu vaccines to ease NHS burden](#)

The latest coronavirus news updated every day including coronavirus cases, the latest news, features and interviews from *New Scientist* and essential information about the covid-19 pandemic.

[COVID-19 Live Q&A #4 with Peter Piot, John Nkengasong & Sarah Boseley](#)

Join LSHTM's fourth live Q&A to ask your questions about COVID-19 direct to world-leading experts Professor Peter Piot and Dr John Nkengasong, moderated by Sarah Boseley.

[Pioneering duplication detector trawls thousands of coronavirus preprints](#)

Automated software flags instances of image reuse - but many were false alarms, reports Nature News.

COVID-19 pathophysiology

[OpenSAFELY: factors associated with COVID-19 death in 17 million patients](#)

Academics at the London School of Hygiene & Tropical Medicine (LSHTM) and the University of Oxford, working on behalf of NHS England and in partnership with NHSX, have analysed the pseudonymised health data of over 17.4 million UK adults to discover the key factors associated with death from COVID-19.

[Viral load of SARS-CoV-2 across patients and compared to other respiratory viruses](#)

The authors of this MedRxiv **preprint** (not yet peer reviewed) monitored SARS-CoV-2 viral loads over time and across different patient populations. This preprint discusses the results and the importance of viral load to predict contagiousness and clinical prognosis.

Epidemiology and public health response

[Tanzania study shows critical need to address infection control in health facilities](#)

It has become increasingly apparent that the spread of COVID-19 infection within healthcare settings has played a large role in some of the worst affected countries, reports The Conversation.

[Prepare now for a winter COVID-19 peak, warns Academy of Medical Sciences](#)

The UK must prepare now for a potential new wave of coronavirus infections this winter that could be more serious than the first, says a new report from the Academy of Medical Sciences.

[Coronavirus: From a second wave to the hunt for a vaccine - what the future may hold for COVID-19](#)

Sky News speaks to an infectious disease expert about the best and worst case scenarios for the months and years ahead.

[Ebola prepared these countries for coronavirus - but now even they are floundering](#)

In Liberia, Sierra Leone and Guinea, the hard-won lessons of a deadly pandemic cannot entirely compensate for poverty and weak health systems, reports Nature News.

Testing and ongoing surveillance

[The explosion of new coronavirus tests that could help to end the pandemic](#)

Nature News reports on how researchers are scrambling to find other ways to diagnose the coronavirus and churn out millions of tests a week - a key step in returning to normality.

Prophylaxis and treatment

[Protein treatment trial 'a breakthrough'](#)

The BBC reports on the preliminary results of a clinical trial which suggest a new treatment for Covid-19 reduces the number of patients needing intensive care, according to the UK company that developed it.

COVID-19: immunopathogenesis and Immunotherapeutics

In this review article, published in *Nature Signal Transduction and Targeted Therapy*, the authors discuss the immunopathology of COVID-19, its potential mechanisms, and clinical implications to aid the development of new therapeutic strategies against COVID-19.

Discovery of SARS-CoV-2 antiviral drugs through large-scale compound repurposing

This accelerated article preview accepted for publication in *Nature* reports profiling of a library of known drugs encompassing approximately 12,000 clinical-stage or FDA-approved small molecules. The authors report the identification of 100 molecules that inhibit viral replication, and they suggest that, since most of the molecules identified in this study have already advanced into the clinic, the known pharmacological and human safety profiles of these compounds will enable accelerated preclinical and clinical evaluation of these drugs for the treatment of COVID-19.

Potent neutralizing antibodies directed to multiple epitopes on SARS-CoV-2 spike

This accelerated article preview accepted for publication in *Nature* reports the isolation of 61 SARS-CoV-2-neutralizing monoclonal antibodies from 5 infected patients hospitalized with severe disease. The discovery and development of virus-neutralizing monoclonal antibodies could be one approach to treat or prevent infection by this novel coronavirus.

Oxford trial funded by UKRI offers new hope for a COVID vaccine

Early stage human trials of a COVID-19 vaccine have found it produces strong immune response and shows no early safety concerns, according to results published today in *The Lancet*.

Three Coronavirus Vaccine Developers Report Promising Initial Results

Early trials showed a good immune response in vaccinated subjects, but one researcher sounded a note of caution: "There is still a long way to go." Reports the *New York Times*.

Coronavirus vaccines leap through safety trials - but which will work is anybody's guess

Scientists caution against comparing immune responses shown in early-stage trials, and say there might be more than one path to an effective vaccine, *Nature* reports.

How else can the bioscience community help?

Working safely during coronavirus (COVID-19)

Government guidance for people who work in or run offices, contact centres and similar indoor environments. Part of support for businesses and self-employed people during coronavirus.

COVID-19 resources from the community

An RSB webpage with links to COVID-19 initiatives and resources available from other bioscience organisations and the wider community. This page is being updated regularly and if you would like to suggest additional content please [send us an email](#).

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

The Science and Technology Committee will inquire formally into the place of UK research, science and technology in the national and global response to the COVID-19 pandemic, and what lessons should be learned for the future. If you plan to submit evidence, please let us know by emailing consultation@rsb.org.uk.

Closes: 31 July 2020

Funding opportunity: Global Effort on COVID-19 (GECO) Health Research

Global Effort on COVID-19 Health Research is a new cross UK government funding call aiming to

support applied health research that will address COVID-19 knowledge gaps. The focus is on understanding the pandemic and mitigating its health impacts in LMIC contexts. The call is supported by NIHR and UKRI and prioritises epidemiology, clinical management, infection control and health system responses.

Closes: 10 August 2020

Helping MRC grant holders through a crisis

MRC Head of Operations, Sarah Collinge, shares some of her experiences about how funders are developing new ways to try and help researchers, like the UKRI COVID-19 Grant Extension Allocation.

How the covid-19 pandemic is making malaria and HIV more deadly

The coronavirus pandemic's effects on healthcare for tuberculosis (TB), malaria and HIV could lead to deaths of an order of magnitude similar to those from covid-19 itself in some parts of the world, a new analysis finds.

Modelling study predicts additional cancer deaths in England due to delayed diagnoses during COVID-19 pandemic

Disruption to cancer diagnosis services (referrals and routine screening) and people avoiding healthcare because of the COVID-19 pandemic, could result in around 3,500 potentially avoidable deaths from the four main cancers in England by 2025, according to new modelling research published by Lancet Oncology.

During Coronavirus Lockdowns, Some Doctors Wondered: Where Are the Preemies?

Hospitals in several countries saw dips in premature births, which could be a starting point for future research, reports the New York Times.

Invitation from the Valuing Nature Network to participate in a study on the impacts of COVID-19 on human wellbeing and interactions with coastal nature

If you live in or near coastal areas Valuing Nature Network invites you to participate in a research study exploring the impacts of COVID-19 on people's wellbeing and interactions with coastal nature, by completing an anonymous survey and forwarding it to others living in or near coastal areas.

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

Positive community news

BIA Guest Blog - In2scienceUK Covid-19 response

The BIA is a supporter of the award winning charity In2scienceUK. This year In2scienceUK has launched an ambitious Covid-19 response allowing young people across the country to gain essential skills, role models and knowledge on STEM Skills and careers. In this blog, their Development Officer Luke McKelvey tells us about the programme and how BIA members can get involved.

Coronavirus vaccines get a biotech boost

This Nature Technology Feature describes how advances in technology are accelerating the search for drugs to arm the immune system against SARS-CoV-2.

Other regularly updated information sources

[Additional COVID-19 resources](#)

An RSB webpage collating other regularly updated resources on COVID-19.

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

WHO COVID-19 situation dashboard.

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

COVID-19 case dashboard.

Spotlight on personal and community wellbeing

[Unequal effects of the COVID-19 pandemic on scientists](#)

COVID-19 has not affected all scientists equally. A survey of principal investigators, published in Nature Human Behaviour, indicates that female scientists, those in the 'bench sciences' and, especially, scientists with young children experienced a substantial decline in time devoted to research.

[How to support staff wellbeing during coronavirus](#)

During the coronavirus pandemic, leaders and managers of voluntary organisations have had to think about how they support staff and volunteer wellbeing. To better understand how leaders and managers have risen to the challenge, NCVO's mental health and wellbeing working group and practical support team have spoken to charities across the sector about how they've approached this. In this blog they share some practical tips and signpost to some useful resources.

[Four ways to build your network without attending a conference](#)

AuthorAID, LinkedIn and WeChat can help to plug the connections gap when events get cancelled, says Edmond Sanganyado, writing for Nature Career Column.



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