

COVID-19 Bulletin

An RSB communication on the
bioscience behind the outbreak and
response

29 June 2020

The eight 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.

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, preserving the original title and summary line. 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

[RSB COVID-19 Survey](#)

The RSB will soon be closing [its short survey](#) on how the research community has been affected by the pandemic. If you haven't already, please do fill in the 5-10 minute survey to help inform how we support the research community now and in the period afterwards.

[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 June 26th.

[Scientists baffled by decision to stop a pioneering coronavirus testing project](#)

Nature news describes how researchers looking to make tests widely available worry as regulators freeze the team that first identified US community spread.

[NewScientist Covid-19 news: We still lack evidence on relaxing 2-metre rule](#)

Plan to relax 2-metre rule in England was announced just weeks after advisers said it should stay.

SARS-CoV-2 virus characteristics

[Mutating coronavirus: what it means for all of us](#)

The Conversation writes on how an important milestone in the fight against COVID-19 came in early January 2020, when the entire viral genome of the novel coronavirus that causes the disease was sequenced for the first time. Since then, the full coronavirus genome, taken from thousands of infected patients around the globe, has been sequenced.

COVID-19 pathophysiology

[Estimates suggest one in five people worldwide have an underlying health condition that could increase their risk of severe COVID-19 if infected](#)

An estimated 1.7 billion people, 22% of the world population, have at least one underlying health condition that could increase their risk of severe COVID-19 if infected, according to a modelling study that uses data from 188 countries, published in *The Lancet Global Health*.

[Mini organs reveal how the coronavirus ravages the body](#)

This *Nature* news article describes how the virus can damage lung, liver and kidney tissue grown in the lab, which might explain some severe COVID-19 complications in people.

[Mounting clues suggest the coronavirus might trigger diabetes](#)

Evidence from tissue studies and some people with COVID-19 shows that the virus damages insulin-producing cells, an article in *Nature* news.

[National Statistical: Ethnicity, Disability, Religion: Which groups are at most risk of death involving COVID-19?](#)

The ONS have previously found that those from some BAME backgrounds were at greater risk of coronavirus-related death than those from a White ethnic group. But with more data available, is that still the case? And what impact does religion and disability have on the risk of death involving COVID-19? Ben Humberstone, writing for National Statistical, explains more.

[How does age relate to COVID-19 rates and symptom severity?](#)

People under 20 years of age are approximately half as susceptible to COVID-19 compared to people 20 years of age and older, according to a modelling paper published in *Nature Medicine*.

Epidemiology and public health response

[UK modelling study finds case isolation and contact tracing vital to COVID-19 epidemic control](#)

In the absence of a vaccine or highly effective treatments for COVID-19, combining isolation and intensive contact tracing with physical distancing measures - such as limits on daily social or workplace contacts - might be the most effective and efficient way to achieve and maintain epidemic control, according to modelling research published in *The Lancet Infectious Diseases*.

[Keeping governments accountable: the COVID-19 Assessment Scorecard \(COVID-SCORE\)](#)

This comment piece published in *Nature Medicine* describes how many actors in the response to COVID-19 are holding out for a vaccine to be developed. But in the meantime, tried and tested public-health measures for controlling outbreaks can be implemented. A scorecard can be used to assess governments' responses to the outbreak.

[Why New Zealand decided to go for full elimination of the coronavirus](#)

Michael Baker, the doctor who devised New Zealand's aggressive coronavirus response, explains what inspired his successful strategy in the *NewScientist*.

[Europe sees rise in number of Covid-19 cases for first time in months, WHO warns](#)

Health systems will be "pushed to the brink" if new outbreaks are not controlled states this article in *The Telegraph*.

[How to set up government-led national hygiene communication campaigns to combat COVID-19: a strategic blueprint](#)

Whether it's hand hygiene, physical distancing, disinfecting surfaces, wearing masks or taking actions to protect the most vulnerable, behaviour change has a key role to play in tackling the COVID-19 (coronavirus) pandemic. That's why a new brief from the World Bank, London School of Hygiene & Tropical Medicine, Harvard Kennedy School and Project Clear provides guidelines and principles to help governments develop national behavior change communications strategies.

Coronavirus: What is a second wave and is one coming?

Coronavirus is far from over. Some countries are still dealing with large epidemics, but even those currently controlling the virus fear "the second wave", writes James Gallagher for the BBC.

COVID-19: SARS-CoV-2 susceptibility in healthcare workers – cluster study at a German Teaching Hospital

A research article published by 4Open: a local health department (*in German*: Gesundheitsamt) ordered a shutdown of a teaching hospital due to a severe acute respiratory syndrome coronavirus (SARS-CoV-2) outbreak – one index patient and five infected healthcare workers – and put it under quarantine. For the first time, all patients plus all employees of one German hospital (healthcare providers, physicians, and nurses) were tested to detect silent or asymptomatic carriers.

Who hasn't heard of COVID-19 by now? More than you think

It is hard to imagine that anyone, anywhere has not heard of the coronavirus. But scores of migrants arriving in Somalia tell United Nations workers every day that they are unaware of COVID-19, explains this Medical press article.

Global total of confirmed coronavirus cases has passed 8 million

Covid-19 now appears to be with us all for good, says epidemiologist Azra Ghani at Imperial College London. "There's been fantastic successes in New Zealand and Australia, and South-East Asia. But given the global spread, I think we have to consider it endemic now."

Testing and ongoing surveillance

Why more coronavirus testing won't automatically help the hardest hit

This *Nature* news Q&A describes how Noha Aboelata, the head of a community health centre in Oakland, California, tailors testing to suit communities of colour.

I'm a viral immunologist. Here's what antibody tests for Covid-19 tell us, writes Zania Stamatakis for The Guardian.

From serology to T-cells, there's still a lot we don't know about how immunity to coronavirus works.

Winning by a nose: the dogs being trained to detect signs of Covid-19

In the battle against the virus, we have an unlikely ally. Already used to detect drugs and weapons, dogs are now being trained to sniff out when humans have the virus. Tim Lewis, writing for The Guardian, meets the trainers and their hounds.

Prophylaxis and treatment

Common drug can improve COVID-19 survival: Oxford University study

Drug achieved a one third reduction in mortality in patients on ventilators.

Effect of Dexamethasone in Hospitalized Patients with COVID-19: Preliminary Report (preprint)

The Randomised Evaluation of COVID-19 therapy (RECOVERY) trial is a randomized, controlled, open-label, adaptive, platform trial comparing a range of possible treatments with usual care in patients hospitalized with COVID-19. Here the authors report the preliminary results for the comparison of dexamethasone 6 mg given once daily for up to ten days vs. usual care alone.

Coronavirus: Dexamethasone proves first life-saving drug

A cheap and widely available drug can help save the lives of patients seriously ill with

coronavirus, explains the BBC.

Coronavirus: What is dexamethasone and how does it work?

An anti-inflammatory drug called dexamethasone has been hailed as a ground-breaking treatment for hospital patients seriously ill with Covid-19 explains the BBC.

This cow's antibodies could be the newest weapon against COVID-19

The Science Magazine describes how the latest recruits in the fight against COVID-19 are munching hay in a South Dakota barn. A biotech company has coaxed genetically modified cows to pump out human antibodies that subdue SARS-CoV-2, the pathogen causing the deadly disease, and it plans to start clinical trials of them this summer.

Researchers identify potent antibody cocktail to treat COVID-19

Publication highlights process for yielding array of human antibodies that target protein on virus.

Latin American scientists join the coronavirus vaccine race: 'No one's coming to rescue us'

This *Nature* news article describes how researchers fear that breakthroughs from abroad will be too slow or inequitably shared to benefit the global south.

COVID-19: Both WHO and Europe must learn from the current pandemic, say MEPs

European Parliament News explains how the EP Committee responsible for public health quizzed the Director-General of the WHO on its response to COVID-19, underlining the need for global cooperation.

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.

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.

The Biologist is publishing a series of Q&As with bioscientists who are helping to understand, track, and treat COVID-19. The series is looking at how science works in a crisis, how we know what we know about this virus so quickly, and the experiences of researchers and scientists that have shifted their focus towards the current emergency. Contact tom.ireland@rsb.org.uk if you would like to feature or have any information or ideas for the series.

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](#).

The science of COVID-19

The Science and Technology Committee (Lords) is investigating the scientific and technological aspects of the COVID-19 pandemic, including the nature of the SARS-CoV-2 virus, its transmission and spread, the development of vaccines and treatments, and how digital technologies can be used for tracking and modelling. The inquiry aims to help Government and

society learn from the pandemic and better prepare for future epidemics.

Closes: 30 June 2020

[Highlight topics ideas invited for environmental solutions to COVID-19](#)

NERC invites highlight topic ideas (strategic funding for research and innovation) to encourage environmental solutions that learn from the COVID-19 pandemic, and in doing so support the UK environment, economy and society to recover from COVID-19 legacy challenges.

Closes: 23 July 2020

[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

[Reducing UK emissions: 2020 Progress Report to Parliament](#)

Committee on Climate Change report to Parliament, assessing progress in reducing UK emissions over the past year. This year, the report includes new advice to the UK Government on securing a green and resilient recovery following the COVID-19 pandemic. It recommends that Ministers seize the opportunity to turn the COVID-19 crisis into a defining moment in the fight against climate change.

[Treatments will take the fear and helplessness out of coronavirus – here's how businesses can help find them](#)

An opinion article by Jeremy Farrar, Director of the Wellcome Trust. Jeremy writes: Science will show us the way out of the COVID-19 pandemic. And businesses and philanthropy can play a major role by stepping up to fund coronavirus treatments, as well as vaccines and tests, writes Jeremy Farrar Director Wellcome Trust.

[Five ways to ensure that models serve society: a manifesto](#)

A comment piece for *Nature*: pandemic politics highlight how predictions need to be transparent and humble to invite insight, not blame.

[Coronavirus misinformation, and how scientists can help to fight it](#)

Bogus remedies, myths and fake news about COVID-19 can cost lives. Nature Career Feature describes how some scientists are fighting back.

[Virtual Lab Tours for Recruitment and Outreach](#)

In the face of campus closures around the world, scientific laboratories are offering tours via video. The Scientist asked experts for their tips.

['We will see more outbreaks, it's inevitable': A warning from the world's most famous virus hunter](#)

In an exclusive interview for The Telegraph, 'Batman' Dr Peter Daszak warns the next outbreak might not look like this one, but there will be more.

[Pandemics result from destruction of nature, say UN and WHO](#)

Experts call for legislation and trade deals worldwide to encourage green recovery.

[I'm a physiotherapist. Seeing the impact of Covid on survivors will haunt me forever](#)

I've never seen anything like coronavirus before. Recovering will be a Herculean task for patients, but we are here to help, writes physiotherapist Cate Leighton for The Guardian.

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

Positive community news

[Dexamethasone and the Recovery Trial's High-Speed Science](#)

In just three months, one British research team identified the first life-saving drug of the pandemic (and helped cancel hydroxychloroquine), written by Wired Magazine.

[Imperial COVID-19 Lockdown Lessons](#)

Aimed at students aged 16-18, join Professor Sara Rankin FRSB for a webinar series where she'll be chatting with Imperial researchers to find out more about the work they're doing to combat COVID-19.

[Reframing the obesity narrative in the wake of COVID-19: placing people at the centre](#)

The next City University Centre for Food Policy 2020 Food Thinkers webinar will be given by Johanna Ralston, CEO of World Obesity Federation on **Wednesday 15 July, 5.15pm - 6.45pm**. It is also part of their Women Redesigning Food Systems series. Register to attend [here](#).

[UK citizens' assembly shows big support for green covid-19 recovery](#)

Around four-fifths of a citizens' assembly on climate change in the UK wants the government's coronavirus economic recovery measures to also help the country meet its target of slashing carbon emissions to net zero.

[Meet the Innovators Ensuring the COVID Plastic Boom Doesn't Last Forever](#)

An article by Sustainable Brands: with health concerns momentarily outweighing mindful consumption, global efforts to wean the world off of single-use plastics have ground to a halt - and suddenly, in the race to protect citizens, plastic is everywhere. Thankfully, lockdown has also triggered radical, sustainable innovation and ingenuity.

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

[Pandemic lockdown holding back female academics, data show](#)

Unequal childcare burden blamed for fall in share of published research by women since schools shut, but funding bodies look to alleviate career impact.

How to Succeed in Your Office Job When There Is No Office

The coronavirus has many of us trying to be productive at home. Here are some tips for all of us, including our bosses. An opinion article from the New York Times.

How has lockdown affected people of different ages?

Whilst the coronavirus (COVID-19) pandemic is affecting everyone, the ways in which our lives are impacted are different depending on our own health, and the family and communities we belong to. New analyses show the way in which different age groups are impacted by the virus. Liz McKeown, writing for National Statistical, talks through some of the key findings.



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Please note: This bulletin includes links to external articles or other resources. Views or opinions presented there are those of the original author(s) and do not necessarily represent the views of the Royal Society of Biology.

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