# this week

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#### NICE issues covid-19 critical care guideline

Decisions about whether to admit patients with covid-19 to critical care should consider the medical benefit, including the patient's likelihood of recovery, NICE has recommended. The advice is among many recommendations included in three rapid guidelines on caring for people with suspected or confirmed covid-19.

Published on 21 March, the guidelines cover critical care, delivery of systemic anticancer treatments, and dialysis service delivery. They are the swiftest NICE has published and were produced in collaboration with NHS England and NHS Improvement with support from specialist societies and royal colleges.

The critical care advice says "irrespective of covid-19 status" all patients on admission should continue to be assessed for frailty. For patients with confirmed covid-19, the guideline says the decision to admit to critical care should take into account "the likelihood that a person will recover . . . to an outcome that is acceptable to them."

The advice comes amid growing fears that escalating pressure on intensive bed capacity could lead to the situation faced by doctors in Italy, who have been forced to choose which patients to allocate beds to.

Last week, before the guidance was

published, Jeremy Hunt, chair of the health select committee, pressed NHS England's medical director Stephen Powis on what doctors should do if forced to make "impossible decisions" on the allocation of intensive care beds. Powis said the NHS was boosting capacity "to ensure we do everything we possibly can not to get into that circumstance." But he added, "nothing is certain in medicine and doctors have to make difficult decisions. If that becomes the case, we will support them."

Alison Pittard, dean of the Faculty of Intensive Care Medicine, said, "This guidance is not necessarily changing the decision on whether to admit, but it is changing where the decision occurs. It will free up critical care doctors to treat those who are critically ill which is welcome."

The rapid cancer guideline advises "balancing the risk of cancer not being treated optimally with the risk of the patient being immunosuppressed and becoming seriously ill from covid-19." The third guideline says patients under kidney dialysis with suspected covid-19 should be assessed to see if treatment should be delayed. More guidelines are expected soon.

Gareth lacobucci, *The BMJ*Cite this as: *BMJ* 2020;368:m1177

Alison Pittard (inset) welcomed the new NICE guidelines saying it would free up critical care doctors to treat patients

#### LATEST ONLINE

- Covid-19: give NHS staff rest spaces and free parking not thank yous, says doctor
- Trials of four potential treatments to generate "robust data" of what works
- WHO warns not to forget chronic lung and immune conditions during the pandemic

# SEVEN DAYS IN

#### Covid-19: pregnant doctors in final trimester should avoid direct patient contact



Doctors who are more than 28 weeks pregnant should avoid direct contact with patients—whether or not they could be infected with covid-19, says updated guidance. Those who are less than 28 weeks pregnant, however, can continue to work in patient facing roles provided they use the right personal protective equipment (PPE).

The advice comes from updated guidance from the Royal College of Obstetricians and Gynaecologists, the Royal College of Midwives, and the Royal College of Paediatrics and Child Health. It says that while it may not be possible for doctors before 28 weeks' gestation to completely avoid caring for patients with covid-19, risk assessments and the use of PPE will give them protection from infection.

"Some working environments, such as operating theatres, respiratory wards, and intensive care and high dependency units, carry a higher risk for pregnant women of exposure to the virus," the guidance says. "Where possible pregnant women are advised to avoid working in these areas with suspected or covid-19 patients."

Precautions after 28 weeks' gestation include working from home if possible, avoiding contact with anyone with covid-19 symptoms, and significantly cutting social contact.

Abi Rimmer, *The BMJ* Cite this as: *BMJ* 2020;368:m1173

#### Covid-19

#### Deal for private hospitals to boost NHS capacity

The NHS in England will benefit from an extra 8000 beds, almost 1200 more ventilators, and nearly 20000 extra healthcare staff from this week to aid the fight against coronavirus, after NHS England reached agreement with independent hospitals to use their staff and capacity. Under the agreement the private sector will reallocate almost all of its national hospital capacity at the same time to the NHS. The private sector would be reimbursed "at cost," meaning no profit would be made for doing so, said NHS England.

#### Government bans parallel export of "crucial" drugs

The Department of Health and Social Care banned the parallel export out of the UK of more than 80 drugs commonly used to treat patients in NHS intensive care units. The action, a standard measure to manage potential drug shortages, will cover medicines such as adrenaline, insulin, paracetamol, and morphine. The measure is designed to ensure an "uninterrupted supply" of drugs for NHS hospitals treating patients with covid-19 and to

prevent companies buying drugs meant for UK patients and selling them on for a higher price in another country.

#### Sunak pledges £2.9bn for care of the most vulnerable

The government pledged £2.9bn to protect and support the most vulnerable people in society and free up at least 15 000 hospital beds. The funding, announced by the chancellor, Rishi Sunak (below), in last week's budget, will see £1.6bn go to local authorities to help boost the adult social care workforce and aid services helping the most vulnerable people, including homeless people. The remaining £1.3bn will be allocated to help improve NHS discharge processes so patients who no longer need urgent treatment can return home safely and quickly.

#### Surgeons issue joint protection guidance

The British Association of Oral and Maxillofacial Surgeons and ENT UK issued joint guidance to protect dentists and doctors seeing patients who may have been infected with covid-19 but don't know it. The guidance highlighted

evidence from China, Italy, and the UK showing the risk to doctors and dentists who have to put their faces close to those of their patients to treat them. It calls on

members of both organisations to protect themselves with FFP3 masks.

#### UK launches whole genome sequence alliance

The UK government has provided £20m to help clinicians and scientists use whole genome sequencing to map how covid-19 spreads and behaves. A consortium made up of the NHS, public health agencies, the Wellcome Sanger Institute, and numerous academics will draw on the funding to look for breakthroughs that help the UK respond to this and future pandemics. Samples from patients with confirmed

cases of covid-19 will
be sent to a network of
sequencing centres
that currently includes
Belfast, Birmingham,

Cambridge, Cardiff, Edinburgh, Exeter, Glasgow, Liverpool, London, Norwich, Nottingham, Oxford, and Sheffield.

#### RCP urges supermarkets to help NHS staff buy food

The Royal College of Physicians urged supermarket chains to

put in place extra measures to ensure that NHS and social care staff can access essential supplies. Several supermarkets changed their normal

practice to ensure older and the most vulnerable people in society could access goods, amid wide scale panic buying. The college's president, Andrew Goddard, called for similar measures for NHS and care staff: "Staff have told us they are finding it challenging to buy food. We will really appreciate it if you are able to put in place extra measures."

#### GMC warns doctors not to profit from people's fears

The GMC reminded doctors of their responsibility not to profit from people's fears, after the *Sunday Times* reported that a Harley Street doctor made a £1.7m profit selling £2.5m worth of covid-19 tests in less than a week. A spokesperson said, "We would be concerned to learn that doctors are exploiting patients' vulnerability or lack of medical knowledge, in order to profit from the fear and uncertainty."

## MEDICINE

#### Research news

#### Regular baths linked to lower risk of CVD death

Bathing regularly in a bathtub is associated with a lower risk of death from heart disease and stroke, indicates a long term study published in Heart. And a daily hot bath seemed more protective than bathing twice a week, the findings indicated. More than 61 000 people aged 45 to 59 years took part in the University of Osaka's population based tracking study.

#### Infections still responsible for a fifth of child deaths

An analysis published in the Archives of Disease in Childhood found that infections were still responsible for one in five deaths of children in England and Wales, with respiratory infections the most common known cause. The researchers used electronic death registrations between 2013 and 2015, covering children aged 28



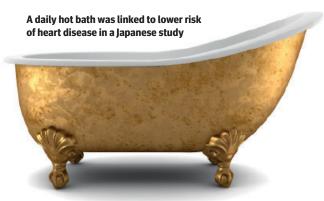
days up to 15 years. They noted sharp declines in overall

childhood death rates over the past decade, helped in part by new vaccination programmes.

#### GP indemnity

#### New scheme for historical clinical negligence claims

Laws to establish an Existing Liabilities Scheme for General Practice have been published as state backed GP indemnity draws closer. From 6 April clinical negligence cover will be provided for GP members of medical defence organisations that have reached agreement with the Department of Health, initially the Medical and Dental Defence Union of Scotland. It will apply to members of the Medical Protection Society from 1 April 2021. The Medical Defence Union has yet to reach an agreement.



#### Coroner inquests

#### Doctors fear criticism, survey indicates

A Medical Defence Union poll showed that doctors are concerned about the implications of attending a coroner's inquest. The survey of 253 doctors found that almost three quarters (73%) were worried about the possibility of being criticised at a coroner's or a procurator fiscal's investigation, while 61% were unsure whether to inform the GMC if they were criticised. Some 72% were apprehensive about media reporting on an inquest, while only 23% would feel prepared if called to an inquest.

#### Fitness to practise

#### **MPTS** adjourns hearings until July

The Medical Practitioners Tribunal Service has adjourned new fitness to practise hearings until July, to release the doctors who sit on the panels to help fight the covid-19 pandemic. The service will continue with review hearings on sanctions imposed earlier and will continue to impose interim restrictions where deemed necessary, pending a full hearing. Reviews and decisions on interim restrictions will be heard using online calls or will be considered on the papers by a legally qualified chair, without a hearing. A few of the service's 145 medical members will continue in decision making roles.

Cite this as: BMJ 2020;368:m1177

Of the first 196 patients admitted to intensive care units in the UK with covid-19. 1% were male and overweight or obese [ICNARC]





## **ANOSMIA**

#### I'VE HEARD OF THIS. WHAT'S THE LINK?

While a high temperature and a new. continuous cough are the most established symptoms of covid-19, the World Health Organization is now examining how common it might be for infected people to experience a loss of smell (anosmia) or taste (ageusia).

#### IS IT COMMON WITH THIS VIRUS TYPE?

Many respiratory viruses can cause problems with smell receptors. And there is evidence that other coronaviruses have been associated with post-viral smell loss. In a joint briefing paper, the British Rhinological Society and ENT UK said that previous coronaviruses are thought to account for 10-15% cases of anosmia.

#### WHAT ABOUT COVID-19?

There are emerging reports that people with covid-19 have experienced such symptoms. For those with a nose for stats, UK experts note that in South Korea, where testing for covid-19 has been extensive, 30% of positive patients have had anosmia as a major presenting symptom in otherwise mild cases.

#### WHAT IS WHO SAYING?

On 23 March WHO said it was looking at reported covid-19 cases to see if the symptoms are a common feature. But it has stressed that the evidence for a connection is not yet there.

#### WHAT NEEDS TO BE ESTABLISHED?

How common the link is, and at what stage of infection patients lose their sense of smell. Experts also need to sniff out whether the symptoms are an indication of covid-19 or of allergies, colds, or seasonal flu, which can all cause anosmia or ageusia.

#### IS THE LOSS TEMPORARY?

Smell loss in patients with covid-19 appears to be short lived. But we won't know how many cases lead to more longlasting problems.

#### DO THE SYMPTOMS MEAN YOU SHOULD SELF-ISOLATE?

WHO hasn't added anosmia to its covid-19 symptom list. But UK experts smell an opportunity. If adults with loss of smell but no other symptoms self-isolate for seven days alongside people with more established symptoms we "might be able to reduce the number of otherwise asymptomatic people who continue to act as vectors," they argue.

Gareth Iacobucci, The BMJ Cite this as: BMJ 2020;368:m1202

thebmj | 28 March 2020 473 NEW CLINICAL

BE PAUSED TO

TURN FOCUS

TO COVID-19

RESEARCH STUDIES WILL

# Trials suspended to prioritise covid-19 and release staff

New clinical trials are being suspended to prioritise covid-19 studies and enable the redeployment of clinical staff to frontline care, the National Institute for Health Research (NIHR) has said.

Louise Wood (below), co-lead for the NIHR, said setting up of new Clinical Research Network studies or new sites of ongoing studies would be "paused" so focus could turn to delivering research into covid-19.

Trials in the recruitment stage may also be halted, with NHS trusts and health boards

making decisions on a case
by case basis. One of the
trials halted at University
College London Hospital NHS
Foundation Trust is the ROSCO
breast cancer trial examining
two tests to guide chemotherapy
before surgery for invasive breast

An NIHR spokesperson said, "Local research and clinical teams will work with patients to minimise impact, especially for patients on interventional trials."

Studies will continue if halting them will have "significant detrimental effects" on participants' care—for example, when there is no other treatment.

So far eight urgent public health response studies into covid-19 are being set up. At the same time, the Medicines and Healthcare Products Regulatory Agency has published guidance on managing clinical trials during the pandemic, which includes permitting use of phone calls instead of face-to-face study visits.

Aisling Burnand (below), chief executive of the Association of Medical Research Charities, said the decision will have a serious effect on participants because trials are a "crucial lifeline." She said, "We ask that decisions on each trial are made with that impact on patients in mind. These decisions need to be proportionate and communicated transparently and sensitively."

She added it is right to focus on covid-19.

"We know this decision has not been taken lightly, and has been made with an appreciation of the significant impact it will inevitably have in all areas of research."

Jacqui Thornton, London
Cite this as: BMJ 2020;368:m1172

WE ASK THAT DECISIONS ARE MADE ON EACH TRIAL WITH THE IMPACT ON PATIENTS IN MIND

# Highest risk patients told to stay in for 12 weeks

million and a half people in England who are at very high risk of severe illness and admission to hospital because of covid-12 will receive a letter this week asking them to stay at home for at least 12 weeks.

Other people in the household will not have to remain inside but should adhere to Public Health England's advice to be at least 2 metres apart when interacting with other people.

People falling into this extremely vulnerable group include those who have undergone transplantation, are having certain cancer reatments, those with certain respiratory conditions, and pregnant women with significant heart disease (see box). They have been identified through GP records, clinical reference groups, hospital trusts, and medical royal colleges.

Robert Jenrick, secretary of state for housing, communities, and local government, who announced the measures at a briefing on 22 March, admitted that what people were being asked to do to "will be tough" but that it was necessary to protect the NHS and to save lives.

#### Shield themselves

He said a network of hubs would ensure vulnerable people who did not have family, friends, or neighbours to supply their needs would have parcels of food and medical supplies left on their doorsteps. "This will be an especially worrying time for those with serious underlying health conditions and that is why we are acting to ensure extremely vulnerable individuals are taking extra steps to shield themselves and that the essential items are supplied to them," said Jenrick.

## Hydroxychloroquine donated to US despite lack of evidence

The drug company
Teva has said it will
donate more than
six million doses of
hydroxychloroquine
sulfate tablets to
hospitals across the
US, to "meet the
urgent demand for
the medicine as an
investigational target to
treat covid-19."

The company said the drug—which is used to treat malaria and rheumatoid arthritis—had been requested by "US government officials to be made available for use immediately."

Discussing the drug at a press conference, president Donald Trump said it had shown "very, very encouraging early results" and incorrectly suggested that the Food and Drug Administration had already approved it for the treatment of covid-19. The FDA has since made clear this is not the case and that there are "no FDA-approved therapeutics or drugs to treat, cure, or prevent covid-19."

Speaking on 19 March, Trump said, "The nice thing is that it's been around for a long time, so we know that if things do not go as planned, it's not going to kill anybody." He said, "It's shown very, very encouraging early results, and we're going to be able to make that drug available almost immediately. And that is where the FDA has been so great, it's gone through the approval process, and it has been approved."

Hydroxychloroquine sulfate is approved by FDA for the treatment of malaria, lupus erythematosus, and rheumatoid arthritis.

Teva said it would ship six million tablets through wholesalers to hospitals by 31 March, and more than 10 million within a month.

Elisabeth Mahase, *The BMJ*Cite this as: *BMJ* 2020:368:m1166



England's deputy chief medical officer, Jenny Harries, said that these patients would receive care at home or in their usual clinics. She said anyone who did not receive a letter in the next week but who thought they fell into the very high risk category should contact their GP for advice.

Over the weekend NHS staff continued to complain about the lack of personal protective equipment, with some saying on social media that they were being treated like "lambs to the slaughter."

Speaking on BBC Radio 4's *Today* news programme on 23 March, England's health secretary, Matt Hancock, said, "It has got better over the weekend. We have enough of

it [equipment]. We got a shipment out to all the major hospitals and a new helpline, so if you are on the frontline and can't access the equipment you need you can phone in and we are using the army to distribute it. It is our responsibility to get them the equipment they need."

In terms of ventilators, Hancock said that "serious progress" had been made. He said the government had now "managed to get over 12 000 ventilators after starting with 5000."

He said, "We have been buying ventilators and also dealing with companies who are turning their production over to ventilators. We also need trained staff to run them, especially an invasive ventilator."

#### WHO SHOULD STAY AT HOME

Among the groups of vulnerable people the government is saying should stay at home for 12 weeks are:

- Recipients of solid organ transplants
- People with specific cancers
- People undergoing active chemotherapy or radical radiotherapy for lung cancer
- Those with cancers of the blood or bone marrow at any stage of treatment
- People having immunotherapy or other continuing antibody treatments for cancer
- People having other targeted cancer treatments that can affect the immune system, such as protein kinase inhibitors or PARP inhibitors
- People who have had bone marrow or stem cell transplantations in the past six months or who are still taking immunosuppression drugs
- People with severe respiratory conditions, including all those with cystic fibrosis, severe asthma, or severe chronic obstructive pulmonary disease
- People with rare diseases and inborn errors of metabolism that significantly increase the risk of infections (such as severe combined immunodeficiency)
- People on immunosuppression therapies sufficient to significantly increase the risk of infection, and
- Pregnant women who have significant heart disease, whether congenital or acquired.

On 24 March the UK had 6600 confirmed cases of covid-19, and at least 400 people had died from the disease in the UK.

Zosia Kmietowicz, *The BMJ*Cite this as: *BMJ* 2020;368:m1170



#### Doctors welcome critical care audit of covid-19 patients

Two thirds (132) of patients with covid-19 who required critical care in the UK had mechanical ventilation within 24 hours of admission, an audit of patients from England, Wales, and Northern Ireland has found.

The report from the Intensive Care National Audit and Research Centre summarised all confirmed cases in critical care (199 admissions for 196 patients) up to midnight on 19 March from participating critical care units. Of these, 29% (57) were female and 71% (139) were male; their median age was 64.

Of the 196 patients, 16 died, 17 patients were discharged alive from critical care, and 163 patients were last reported as still being in critical care. Most of these patients (106) were being managed by the three London Operational Delivery Networks.

The audit found that 155 patients were able to live without assistance before the onset of acute illness, 23 had previously required some assistance with daily activities, and none required total assistance with all daily activities (status of 18 patients was unknown).

In terms of medical background, 18 patients were recognised as having a severe comorbidity, such as cardiovascular symptoms at rest, or shortness of breath during routine activities, or were immunocompromised, although specific diagnoses were not detailed.

"The median length of stay in critical care was

The median length of stay in critical care was three days for both survivors and non-survivors Report three days for both survivors and non-survivors. Of patients with a critical care outcome reported (33), 11 (33.3%) received advanced respiratory support at any time during the critical care unit stay, 6 (18.2%) received advanced cardiovascular support, and 4 (12.1%) received renal support. The median duration of



advanced respiratory support among those that received it was five calendar days," the report said.

Responding to the report, a spokesperson for the Faculty of Intensive Care Medicine said, "[The Intensive Care National Audit and Research Centre] providing rapid turnaround of data to the profession is welcomed. We know covid-19 appears to be having different impacts on different populations across the world (Germany and Italy, for example) so having a UK specific dataset will be very helpful for delivering care."

Elisabeth Mahase, *The BMJ*Cite this as: *BMJ* 2020;368:m1201

Of the 196 patients, 56 (32%) had a BMI of 25 to 30, 58 (33%) had a BMI of 30 to 40 and 13 (7%), had a BMI of 40 or higher. None were reported as pregnant at the time of admission

## **GPs can stop routine reviews and health checks**

GPs can stop or postpone some routine work to free them up to deal with covid-19, NHS England and NHS Improvement has said.

In a letter sent to GPs and commissioners Nikita Kanani, medical director for primary care, and Ed Waller, director of primary care One-off adjustments will be made for practices that earn less from QOF payments



strategy, set out a list of activities that GPs could stop doing or postpone. It included health checks for people over 75, which it said GPs could stop doing "if in their judgment that is not the right priority."

The letter also said that routine medical reviews could be deferred until October if necessary, "unless they can be viably conducted remotely and/or in exceptional cases in person or by home visit as per local clinical discretion." Key medicine reviews where a patient is being regularly monitored should continue, it advised.

The letter added that practices' Quality and Outcomes Framework (QOF) income in 2020-21 would be protected "as necessary to respond to covid-19" and that one-off adjustments would be made for practices that earned less from QOF payments in 2019-20 than in 2018-19 as a result of covid-19 activities.

However, practices would be asked to consider stopping any private work they were doing to help free up capacity, the letter said.

#### Reassurance on flexibilities

Responding to the letter, Ruth Rankine, primary care network development director at the NHS Confederation, and Julie Wood, chief executive of NHS Clinical Commissioners, said, "We welcome greater clarity for primary care networks (PCNs) and general practice. This guidance goes some

### Medical students to be employed by NHS

edical students could soon be employed in various roles in the NHS, depending on their skill set, to help with the response to covid-19, as part of schemes being developed by NHS trusts and medical schools.

The students would work in roles suited to their experience, from administration to physician assistants. Final year students who have passed their final exams and would like to help could even have their GMC registration brought forward, so that they could start as foundation year trainees earlier than usual. However, this option is still under consideration.

Speaking to *The BMJ*,

Kiran Patel, medical director of University Hospitals Coventry and Warwickshire NHS Trust, said that he was "almost brought to tears" by the number of medical students who had contacted him asking how they could help. He is now working with the University of Warwick to work out how medical students and graduates could take up roles in the NHS.

"It's uncharted territory, but it's about matching roles to skill sets," he said. "One of our junior doctors is even putting a list together of things they could do from home."

Patel said the trust was preparing for being in a "really challenging position" as the peak approached, which he thinks will be around 15 April. "Warwick has a graduate medical school, and they have just finished their finals. So we have 150 medical graduates who are not yet on the GMC register but are skilled enough to be junior

doctors, essentially. If the GMC can register them quickly, these doctors could start working and prescribing, and that will be really helpful." he told *The BMJ*.

"However, even if that does not happen, they can still essentially be physician assistants; who cannot prescribe, but can do everything else. We are working very quickly over the next 48 hours to develop these roles.

"We are splitting students who have not graduated into two groups: those who previously held roles such as paramedics, who we can redeploy, and others who we can upskill."

#### "Heart warming" response

Patel added, "It's really heartening, and I'm sure it's happening across the country. But what we need to do is work out what we can do about this, because we know we have a real

workforce crisis on the horizon." Public Health England has warned that of the five million people deemed vital because of their work—including a million NHS staff and 1.5 million social care staff—500000 could be off sick at any one time.

The BMJ understands that other medical schools are developing schemes, including King's College London and Cambridge University Hospitals NHS Foundation Trust.

The University of Nottingham's medical society created a group that connects students wanting to volunteer in trusts and in the community—it had 550 members within a day of being set up. John Atherton, pro-vice chancellor for the faculty of medicine and health sciences at the university, said that students were volunteering while continuing their training to ensure

Students are volunteering while continuing their training to ensure that there is no delay in providing the NHS with newly qualified professionals John Atherton, University of Nottingham

**This is uncharted territory, but it's about matching roles to skill sets. We are working very quickly** Kiran Patel, University Hospitals Coventry and Warwickshire NHS Trust

28 March 2020 (he**bm)** 

way to providing reassurance on the flexibilities that are available, although much of this is already happening.

"Clinical commissioning groups (CCGs) must now ensure they are supporting their PCNs and practices. The need is now even greater for direct connection and support between CCGs and primary care, in both communication and planning."

Other organisations have also made changes to lessen the burden on doctors. On 16 March the Care Quality Commission announced that it would stop routine inspections. And on 18 March the GMC announced that revalidation dates from 17 March to the end of September would be deferred for a year.

Abi Rimmer, *The BMJ*Cite this as: *BMJ* 2020;368:m1157

Public Health England has warned that of the  $\frac{5}{5}$  million people in the UK deemed vital because of their work—including  $\frac{1}{5}$  million NHS staff and  $\frac{1.5}{5}$  million social care staff— $\frac{500000}{500000}$  could be off sick at any one time

that there was "no delay in providing the NHS with newly qualified doctors, and other healthcare professionals over the coming years."

#### **GMC** support

Colin Melville, the GMC's director of education and standards, said, "We do not regulate medical students, but we are content to support them assisting the NHS, providing they do so within their competencies. For example, if approved they could clerk patients or take blood samples."

Melville said that fast tracking provisional registration was an option, but it "may not be the best solution," as it could create an "unanticipated pressure on the NHS" while it was processing a "substantial number" of returning doctors.

Elisabeth Mahase, *The BMJ*Cite this as: *BMJ* 2020;368:m1156

## Testing and isolating asymptomatic people "eliminated virus" in village

n Italian academic has claimed striking evidence that most people infected with covid-19 show no symptoms but are still able to infect others, which he says has huge implications for testing policy, particularly in hospitals.

Sergio Romagnani, a professor of clinical immunology at the University of Florence, has reported how blanket testing in a completely isolated village of roughly 3000 people in northern Italy saw the number of people with symptoms fall by over 90% within 10 days.

#### Quarantined

Vo'Euganeo, 50 km west of Venice, was closed off by authorities in mid-February and repeat RNA testing of the population began. All those with positive tests were quarantined. The number of people sick from covid-19 fell from 88 to seven in less than 10 days, Romagnani reported.

In an open letter to the authorities in the Tuscany region, Romagnani wrote that the great majority of infected people—50-75%—were asymptomatic, but represented "a formidable source" of contagion.

"The percentage of people infected, even if asymptomatic, in the population is very high and represents the majority of cases, particularly, but not only, among young people. Isolation of asymptomatics is essential for controlling the spread of the virus and the seriousness of the epidemic," he said.

He concluded that employing large scale testing to find and isolate asymptomatic cases, particularly among health workers who might unwittingly pass the virus to colleagues or patients, was a vital strategy.

He told *La Repubblica* newspaper, "We're deciding not to test doctors and nurses if they're not developing symptoms. But in the light of the results, this decision could be dangerous; hospitals risk becoming zones with high infections rates in which infected people are not isolated."

Tom Jefferson, a doctor and epidemiologist



at the Nordic Cochrane Centre based in the Veneto region, said the Vo'Eugeano study results would have major implications for testing policy, if they were representative of covid-19 elsewhere.

He noted that Romagnani's findings appeared to contradict a WHO report based on covid-19 in China. This suggested that "the proportion of truly asymptomatic infections is unclear but appears to be relatively rare and does not appear to be a major driver of transmission."

Other reports suggested that testing on the *Diamond Princess* cruise ship that was quarantined earlier this month off the Japanese city of Yokoham did find a significant number of symptomless cases.

#### **Mandatory testing**

Jefferson told *The BMJ*, "There are clearly some contradictions here." Nonetheless, he said blanket testing should be mandatory.

Jonathan Ball, professor of molecular virology at the University of Nottingham, said that the "prevalence of asymptomatic or mild disease and its role in virus transmission and the potential role of children in driving this pandemic" are among the "key matters that need to be resolved."

Two doctors died from covid-19 in Como on 19 March, according to the federation of Italian doctors' guilds. They were respiratory specialist Giuseppe Lanati and family doctor Luigi Frusciante, both of whom had come out of retirement to work during the crisis. There have now been 13 deaths among Italian doctors, the federation said.

Michael Day, London Cite this as: BMJ 2020;368:m1165



ROMAGNANI wrote that the great majority of people infected with covid-19 — 50-75%—were asymptomatic, but represented "a formidable source" of contagion

#### THE BIG PICTURE

#### Where there's life . . .

A nurse in a protective suit attends to a baby in an isolation ward at Wuhan Children's Hospital.

China has announced that it will lift the lockdown on Wuhan, the city at the centre of the covid-19 pandemic, on 8 April, nearly 11 weeks since it was imposed. Similar lockdown measures are being lifted across Hubei province, which has seen the majority of the country's infections and deaths.

As of Tuesday 24 March, Hubei has seen 67801 cases and 3160 deaths. Doctors and nurses in Hubei province are now beginning to scale back efforts and return to their homes.

Rebecca Coombes, head of news and views, *The BMJ* 

Cite this as: BMJ 2020;368:m1200





#### **EDITORIAL**

#### Fractured European response to the pandemic

Countries must work together in the common interest

espite high level political commitment from the EU, the ongoing spread of covid-19 exposes important obstacles to developing a comprehensive European response to infectious disease outbreaks. Member states have long guarded their national responsibility for health services.3 There are provisions within European treaties for acting together on public health issues, but they are limited. While existing arrangements allow action on "serious cross border health threats,"4 the EU must respect member states' autonomy in operating their own health systems.

Self interest

Governments also continue to prioritise their own interests even if this undermines solidarity with other countries. For example, France, Germany, and the Czech Republic have introduced limits on exports of protective medical equipment such as face masks, despite severe shortages elsewhere.<sup>5</sup> This recalls a similar self-interest evident during the H1N1 influenza pandemic in 2009, when several member states stockpiled vaccines and antivirals, declining to share them with other countries.6 That experience led to the creation of a European legislative framework for joint procurement of equipment and medicines when faced with cross border threats to health.6

Existing coordination mechanisms such as the Health Security Committee or the European Centre for Disease Prevention and Control (ECDC) are not truly European. Although the ECDC cooperates with the World Health Organization and with neighbouring

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A pan-European response will require the UK government to abandon its ideological hostility to the EU countries, <sup>7</sup> it has a limited remit beyond the borders of the European Economic Area (EEA). As pathogens do not respect national frontiers, this is a potential weakness.

The ECDC also hosts the early warning and response system, an online portal that connects public health agencies in Europe. This allows member states to share information on covid-19 cases in as close to real time as possible. However, again, countries beyond the European Economic Area, including Switzerland, do not have access, and the UK has already withdrawn, against the advice of the Department of Health and Social Care because Downing Street believed that participation would weaken the UK government's bargaining position in the next stage of Brexit negotiations.8

While there is no political appetite to revise treaties, a more cohesive response to covid-19 is possible under existing treaties, including better coordination of efforts to acquire and distribute personal protective equipment, medicines, and vaccines to countries most in need; encouraging wealthier countries with strong health systems to support those that are struggling—to limit spread across their own borders and to show European

solidarity; and proactive engagement with countries outside the European Union. This will require providing access to forums such as the Health Security Committee, the early warning and response system, and scientific advice from the ECDC.

Legal obstacles, especially concerning transfer of data, will have to be overcome, and a pan-European response to covid-19 will also require the UK government to abandon its ideological hostility to the EU. Furthermore, the capacity of the ECDC is limited, with under 300 staff and an annual budget of around €60m (£55m; \$66m). If non-member states are to access these services, they must contribute funding and staff.

The EU must also release more funds for research and development.

The current €140m across 17 projects² is a fraction of the €25bn the EU has committed to mitigate the economic impact of covid-19 on health systems, small and medium sized enterprises, and labour markets. 10

Covid-19 will not be the last pandemic. It is important that the EU learns from it and takes action to improve preparedness planning for all infectious disease outbreaks.

#### Smart technology

There is scope for smarter use of technology-robotics have already been used to minimise risks to healthcare workers treating patients with covid-19,<sup>11</sup> and artificial intelligence has played a role in diagnosis and modelling the spread of new cases. 12 The remit and capacity of the ECDC should be expanded. Working closely with WHO, the ECDC should be given a greater mandate for surveillance, preparedness planning, scientific advice, and responses to infectious disease outbreaks across all countries in Europe. Accompanied by a substantial increase in funding.



Find the full version with references at http://dx.doi.org/10.1136/bmj.m1075



#### **EDITORIAL**

#### Challenges for NHS hospitals during covid-19

Healthcare workers need comprehensive support as every aspect of care is reorganised

elivery of every aspect of care by all clinical and non-clinical departments in the UK's NHS is being reassessed and fundamentally reorganised in the expectation of an imminent surge of patients with covid-19.1 Modelling of the outbreak assumes an infection fatality ratio of 0.9% and a hospital admission rate of 4.4%, with 30% of those admitted requiring critical care or extracorporeal membrane oxygenation.<sup>23</sup> The increased demand on healthcare services will be compounded by the apparent increased risk of infection among healthcare workers,4 and staff absences because of illness or selfisolation may be as high as 20%.11

#### Workforce

Over the next four weeks thousands of medical students are likely to be allowed to begin work as junior doctors. Doctors who have retired within the last three years are being asked to consider returning to work. Those working in education, research, or inspection are encouraged to return to clinical duties. Within hospitals, clinical staff may be redeployed from specialties to the areas of greatest need.

In responding to unprecedented hospital demand, clinicians will find it necessary to deviate from the established standards for the management of most conditions. Some patients will be harmed—for example, because of undetected deterioration of a longstanding health condition or cancellation of planned surgery. Many doctors may also be asked to



Those in charge must be mindful of the emotional and physical risks involved in responding to an unprecedented crisis

practise outside their defined areas of expertise or to exceed their contracted hours. Some groups of doctors may lack confidence in their clinical skills because they have moved into a very different clinical role, graduated early, or retired and not worked for some years.

Support from healthcare authorities, regulators, and the government for doctors making difficult clinical decisions is vital, as is the understanding that they will be supported in the event of adverse outcomes. The statement from the General Medical Council, the NHS, and the Academy of the Medical Royal Colleges on 12 March supporting doctors in decision making within the context of a covid-19 epidemic is welcome. §

Medical beds and critical care capacity require substantial expansion, and this is already being enabled by cancelling elective work, repurposing operating theatres, and commissioning use of private facilities. <sup>1</sup> Increased support for discharge of existing patients to the community is also under way. Routine outpatient work will be scaled down to reduce the burden on the hospital

and the infection risk to the patients from contact with more people. When possible, appointments are being moved to telephone or video calls to avoid unnecessary visits.

Patients who are immunosuppressed and those with cancer are likely to be at particular risk of severe complications of covid-19. Temporary delays or reductions in chemotherapy intensity may protect those patients and reduce the likelihood of their admission. Individual decisions should be taken regarding the benefits and risks of continuing non-lifesaving chemotherapy. The service of the servi

Administrative and managerial tasks must not take healthcare workers away from direct clinical duties. To ease these burdens and to support the clinical activities, hospitals should consider bringing in teams of highly trained professionals, such as project managers, from outside the NHS to work alongside current managers and administrators. They would have the expertise to deliver logistics solutions to hospitals responding to the epidemic, enabling more efficient healthcare delivery.

#### **War footing**

The UK government says that the country is now on a war footing. Much of Europe is in lockdown, and major public events have been cancelled. It is impossible to know what the next weeks and months may bring. In this new normal, it is important for those in charge to be mindful of the strain that every healthcare worker will be under and the mental, emotional, and physical risks involved in responding to an unprecedented crisis. NHS staff are its most valuable asset and will react with energy and flexibility, but urgent consideration must also be given to supporting their health and wellbeing-for the benefit of all.

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#### INVESTIGATION

# The tobacco cash that is behind cannabis research in Oxford

A collaboration that includes the university is taking funding from cigarette manufacturers to study the drug's medicinal properties. **Jonathan Gornall** continues his investigation into the links between big business and the push to widen cannabis access for patients

he BMJ has uncovered links between companies, campaign groups and individuals lobbying for wider patient access to cannabis for medical use and a parallel campaign to create a lucrative recreational market for the drug in the UK. The first article last week focused on the links between commercial organisations that are seeking new markets for recreational cannabis and patient groups and researchers.

Here, we look at the involvement of the tobacco industry in funding research into medicinal cannabis, and the complex web of connections linked to both medicinal and recreational use of cannabis.

Gavin Sathianathan is typical of the new breed of cannabis entrepreneur.

The 41 year old is founder and main shareholder of Alta Flora, a private limited company based in London. Incorporated in May 2018, Alta Flora specialises in "wellness products from natural sources." He is also a trustee of the United Patients Alliance (UPA), a patient led medical cannabis support group founded in 2014 to "safeguard the patients' voice in advancing legal access to cannabis therapeutics."

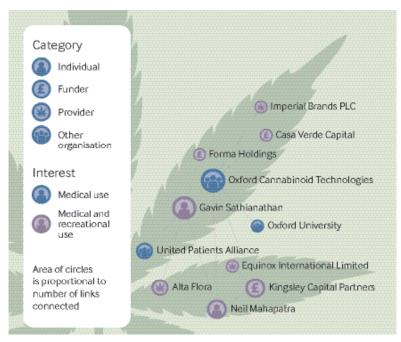
The alliance is also supporting Project Twenty21, which aims to recruit and prescribe cannabis to 20 000 patients to create "the largest body of evidence for the effectiveness and tolerability of medical cannabis ... to demonstrate to policymakers that medical cannabis should be as widely available, and affordable, as other approved medicines."



Tobacco
company
Imperial
Brands being
an investor
will ring alarm
bells in the
public health
community

Another of Sathianathan's recent roles was as chief executive of Forma Holdings, a cannabis investment fund launched in 2016 with offices in London and Los Angeles. Together with Neil Mahapatra, a contact from his student days at Harvard, who is a managing partner at London based private equity and venture capital firm Kingsley Capital Partners, Sathianathan is also a co-founder and director of Oxford Cannabinoid Technologies.

In 2017 Kingsley announced that it was founding Oxford Cannabinoid Technologies and, in collaboration with Oxford University, investing up to £10m in a "ground breaking cannabinoid biomedicine research programme ... to investigate the role of cannabinoids in biology and medicine" and develop "safe and effective







Gavin Sathianathan (left) and Snoop Dogg are founders of companies that have contributed to the Oxford-based research



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Why big business is backing the medicinal cannabis lobby

prescription medicines to treat serious and life-threatening human diseases and conditions," including cancer, pain, neurological conditions, and autoimmune and autoinflammatory diseases.

But in June 2018 Oxford Cannabinoid Technologies announced it had attracted additional funding of about \$10m from two potentially controversial sources with investment interests that are not limited to the medicinal cannabis market.

One was Casa Verde Capital, a US venture capital firm co-founded in 2015 by Snoop Dogg, the US rap artist and high profile exponent of recreational cannabis use. Casa Verde is focused exclusively on cannabis which, it believes, "will be among the most compelling investment themes of our generation."

The identity of the other investor—tobacco company Imperial Brands (formerly Imperial Tobacco)—will ring alarm bells in the public health community. In a press release in July 2018 announcing it was taking an equity stake in Oxford Cannabinoid Technologies, Imperial's chief development officer, Matthew Phillips, said cannabinoid products had "significant potential and our investment enables Imperial to support OCT's important research while building a deeper understanding of the medical cannabis market."

#### Recreational market

Asked by *The BMJ* whether it had any plans to invest in any future recreational cannabis market in the UK, a spokesperson for Imperial

dismissed this as "a hypothetical question." He added: "Recreational cannabis is not legal in the UK and we have no plans. Any potential for changes to its legal status is a matter for the government, and we don't have a view on this."

A spokesperson for Oxford Cannabinoid Technologies told *The BMJ* that the company "would not look to enter the recreational market" should restrictions in the UK be eased. But he added: "It is worth noting that while neither Neil [Mahapatra] nor OCT advocate in support of recreational cannabis ... Kingsley Capital Partners has founded other businesses that are active in the cannabinoid market."

These businesses include Equinox International, and "in the event that the UK were to decide to promote recreational cannabis legislation, it is likely that Equinox would look to take advantage of this commercial opportunity."

Asked whether Mahapatra considered Imperial an appropriate partner for a company operating in the healthcare market, the spokesperson said "this is a question best asked of Imperial [which] took a small stake in OCT in order better to understand the molecular mechanisms of cannabinoids." Imperial's investment, he added, was "modest and represents a small percentage of the total value of OCT."

However, in an interview in the *Times* newspaper in 2018 Mahapatra dismissed criticism of a healthcare company accepting money from a tobacco firm. "From my perspective,"



It is always dangerous to forget history. We are seeing the sort of connections we have seen before Marta Di Forti, Kings College

London

he was quoted as saying, "any money that's not going into developing cigarettes and is going into good things, such as research that could help people, is great." The medical arguments for cannabis, he added, were "overwhelming or, at least, have the potential to be overwhelming." He added he was "50/50" on whether cannabis should be legalised for recreational use.

A spokesperson for Oxford University confirmed its collaboration with Kingsley Capital Partners and Oxford Cannabinoid Technologies but declined to comment on whether it considered Casa Verde Capital and Imperial Tobacco to be appropriate partners in a research programme investigating the role of cannabinoids in medicine.

Marta Di Forti, a psychiatrist at the Institute of Psychiatry, Psychology and Neuroscience at King's College London, who last year published research on the relation between cannabis use and psychotic disorder, called for more independent funding for cannabis research.

"It is always very dangerous to forget history and we are now seeing the sort of connections that we have seen happening before," she said—and the involvement of tobacco company Imperial was "dreadful and shocking."

"We are lacking in funding for cannabis research from independent organisations such as the Wellcome Trust or the Medical Research Council. The result will be that more and more you are going to see even prestigious and reputable academic institutions accepting money from some of these companies."

Jonathan Gornall, investigative journalist, Suffolk jgornall@mac.com Cite this as: BMJ 2020;368:m1044

#### **FEATURE**

# Covid-19 and long term conditions: what if you have cancer, diabetes, or chronic kidney disease?

For patients who need ongoing, continuous treatment, the fear created by the pandemic is much wider than the virus itself. **Andy Extance** reports



Chronic kidney disease

When the UK prime minister, live on national TV with the chief medical officer Chris Whitty, advised vulnerable patients—including those with chronic kidney disease—to minimise their social contact, it should have been a welcome surprise for Tess Harris, chief executive of the Polycystic Kidney Disease (PKD) charity. But recognition of this often unseen group provided no pleasure. Instead, it led to confusion.

Chronic kidney disease covers people with a wide range of symptom severity. Those at stage one usually have no obvious symptoms, or possibly blood in their urine. Those with stage five disease, like Harris, have lost nearly all kidney function. Yet Whitty's comments had people at stage one unnecessarily worried that they'd have to go into self-isolation, Harris told *The BMJ*. They were asking whether they should go to work, or let their children go to school, she explains. "That's been a big challenge—trying to interpret for patients."

Harris receives peritoneal dialysis at home. "It's life saving that I get my home dialysis fluids delivered along with everything else I need to stay safe," she explained. Because she has a tube protruding from her stomach, it's important for her to avoid infection, including maintaining good hand hygiene. Her deliveries come every two weeks, with her most recent arriving two days after Whitty's announcement. "Luckily, there was hand gel," she says. "In two weeks' time, however, I don't know." She had a routine appointment coming up but was unsure if that would going ahead.

The big challenge has been how to interpret government messages for patients

Tess Harris, PKD

PKD is an inherited condition, meaning that several family members can have it, adding extra complications for self-isolation. As the disease advances, dialysis or a kidney transplantation becomes necessary. Harris notes that some living transplantations are being cancelled because of covid-19, in part because they would take up intensive care beds that will now be needed for patients with the virus. Her brother is currently waiting for a transplant. "If they delay that for several months, he may well have to start emergency dialysis. That will require hospitalisation and surgery. It's bringing a lot of stress."

Meanwhile, Harris's younger sister received a transplant six years ago, and now lives alone. She takes immunosuppressant drugs and had been practising social distancing to lower infection risk. "One PKD patient with a transplant told us they'd had a letter telling them to self-isolate. We're checking with others," she said. "I'm hoping that my sister gets support."

Overall, Harris sees communication as the most important factor for patients with chronic kidney disease. She noted that the international nephrology community is doing well at providing clinicians with the best guidance. "Getting it to filter down to the patients in their own language, however, is the hardest thing. It's challenging to explain the guidance to people who are scared, stressed, worried about work, worried about whether they're going to get paid, and if their children with PKD will be affected."

#### Diabetes

On 17 March, Sarah Blake, who is doing a doctorate in digital health technology for vulnerable patient groups at the University of Bristol, took her four year old out of school. Blake has type 1 diabetes and is an at-risk patient who has been told to self-isolate for 12 weeks. She also devised an infographic, shared on Twitter, based on what she does know about how to manage diabetes while ill. Her advice covers points like the need to monitor and manage blood glucose levels, even if a person isn't eating, and never to stop taking diabetes drugs.

Yet Blake still has many worries. Not least, she is not sure how the virus impacts diabetes, how sick she needs to be to call a paramedic, what she should do if the emergency services are overwhelmed, or about access to food and medication now that she is isolated. "People living alone may be at increased risk, especially if extra demand means no access to online shopping," she said. "Free priority online groceries would be good for high risk groups."

Emma Cartwright, *The BMJ*'s patient editor, also has type 1 diabetes and is now self-isolating. She said that the need for food and medication is especially great because diabetics treat low blood sugar with sweets or sugary juice. "I have heard of people who are struggling to get the supplies they might need or are being restricted to how much they can buy which causes large amounts of worry within the community," Cartwright said. Diabetics are advised not to stockpile, while deliveries of insulin pump supplies are delayed and ordering a month in advance is now advised.

Prior to this week's announcement of new quarantine rules, patients were also confused about whether they should be self-isolating, social distancing, or whether they should be at work. A lack of clarity over whether hospital appointments are happening is also "a huge concern."

"People don't want to burden the NHS with routine check-ups but also don't know when they might next be able to see someone if they don't attend," Cartwright says. The ideal solution, she says, would be to access health professionals through teleconferencing or phone calls.



People don't want to burden the NHS with routine check-ups but also don't know when they might next be able to see someone if they don't attend Emma Cartwright



#### Cancer

Currently, a quarter of calls to the support line run by UK cancer charity Macmillan Cancer Support are about covid-19, according to its chief medical officer Rosie Loftus. People living with cancer are more anxious than ever before, she told *The BMJ*.

While cancer services will continue despite the pandemic, in the NHS, less urgent activities may be curtailed, according to guidelines released on 17 March. It offers advice on how to prioritise treatment for patients with cancer. The guidelines are sensible, Karol Sikora, former clinical director for cancer services at Hammersmith Hospital in London, now chief medical officer at private oncology provider Rutherford Health, told The BMJ. But he warned that the provisions it offers amount to rationing. "If you've got cancer, you're worried your treatment will stop," Sikora said, "We've not faced that in Britain before."

Loftus expressed a similar concern. "We recognise that these are exceptional circumstances for the NHS, but there must be a clear plan for continuing essential chemotherapy and radiotherapy treatment so that we don't see people with cancer missing out," she said.

Several classes of cancer treatment, including chemotherapy and immunotherapy, can suppress immune systems and make patients more susceptible to covid-19 infection. The UK government introduced stringent shielding guidelines for such "extremely vulnerable" people on 22 March. It has sent letters to those affected, including certain types of cancer patients, advising them more strongly than

previous guidance to stay at home at all times and avoid any face to-face contact for a period of at least 12 weeks.

Sikora noted practical challenges, however. "Can we have a chemo suite just for coronavirus patients? The most serious challenge is getting patients to move around the system. Even if you can do a lot by telephone, many cancer centres are in big cities. If they shut down the cities, that would be a disaster for many patients with cancer."

Rationing of cancer care "is a reflection of the NHS being at full capacity," Sikora suggested. Covid-19 is now adding an extra burden, with a surge of patients and a reduced workforce as staff and their families are affected by the virus. Consequently, Rutherford Health is offering its spare capacity to take on some of the cancer treatment burden. Sikora stressed that between his company and others there are around 20 private day care centres available. Rutherford Health's capacity would be available at the same prices and under the same contracts it has already agreed for NHS patients in Northumbria.

"If we thought imaginatively, we could alleviate the potential for interruption of cancer treatment," Sikora said. "Patients with cancer have to live with uncertainty as the disease unfolds. This is just another uncertainty—whether to have treatment, whether to delay, whether to stop, whether to reduce the dose. All these possibilities are very frightening for people."

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#### MEDICINE AND THE MEDIA

## Covid-19: how to be careful with trust and expertise on social media

At times of crisis we turn to experts—but news outlets and social media must be careful about the information they share, particularly informally, writes **Sue Llewellyn** 

hree times in one day I received the same warning from different groups of friends, through various channels. It came through email, Facebook, and WhatsApp, and I also saw it circulating widely on Twitter. I replied thanking them, saying that I knew they wanted to help (we all do) but that, actually, the warning wasn't true and could even be dangerous. I felt almost unkind by pointing out that holding your breath wasn't a test for covid-19. And that drinking lots of water wouldn't help it go away.

These viral warnings always start the same way. A doctor/nurse/specialist health or government worker—often, apparently, a friend or relative—shares a warning or advice of some kind. This often sounds credible and sometimes may even have a kernel of truth, but it almost always provokes some emotional response in the reader. Fear and outrage are the most contagious.

The desire to protect loved ones means that it's difficult not to share these messages—we want to be helpful—but it's crucial that we stop and think before doing so. Like the coronavirus itself, we should be thinking about contact tracing: who sent the message, what's the original source, and how do I know it to be true?

I'm a former BBC journalist who, after 15 years working in the newsroom, became a social media consultant and trainer in 2008. After introducing Twitter to the BBC newsroom I've since trained more than 6000 people in how to use social media effectively and safely, including thousands of journalists, government officials, GPs, sportspeople, nongovernmental organisations, and businesses around the world. I always emphasise that it's vital to understand the psychology of social media if we're to conquer the spread of disinformation. Especially in a crisis such as this one.

#### Stories and rumours

This issue of a medic or health professional in authority tweeting advice was again brought into focus last week, when France's health minister, Olivier Véran, tweeted about



#### We're living through an info-demic (or disinfo-demic), and we all have a responsibility to each other, whether we're medics or not

ibuprofen. Stories and rumours about this went viral, and the topic became one of the most searched and shared, as people understandably became concerned. The BBC's Reality Check team explained the confusion and warned about other false stories doing the rounds.

We're all looking for answers we don't have right now, but it's crucial to be clear on what we do or don't know. We're living through an info-demic (or disinfo-demic), and we all have a responsibility to each other, whether we're medics or not.

It's important to remember that the media, as well as the public, are constantly all over the social media channels, looking for new angles and experts to share their insight and opinion. They don't know if someone's stepped outside their area of expertise or if a piece of research has been peer reviewed. They may not know that researchers and doctors don't always agree. They don't know whose opinion to trust.

But, in times of crisis, trust is the most important thing to consider if you want

to communicate health advice. Claire Wardle, a leading specialist in the spread of disinformation and founder of the First Draft News project, says, "The best way to fight misinformation is to swamp the landscape with accurate information that is easy to digest, engaging, and easy to share on mobile. It should also answer people's questions and, ultimately, fears. It's the vacuums that are creating space for rumours to run wild."

We should fill that vacuum by amplifying official, trustworthy sources. We need to be reiterating clear, jargon-free, practical messages that give people tangible steps they can take, such as handwashing, to help them feel more in control.

A Twitter thread by Heidi Tworek, assistant professor at the University of British Columbia in Canada, makes the point that "communications in a public health crisis are as crucial as medical intervention... in fact, communications policies *are* a medical intervention." She goes on to offer a helpful list of practical steps we should all be taking. These include:

- Don't overload people with information short, shareable bullet points are far more effective
- Pairing visuals with text helps us to remember, such as using photos with text, or videos with audio and subtitles
- Include infographics such as flowcharts, timelines, and Venn diagrams, which all need to work on mobile
- Use fun videos—ask your kids to show you the handwashing dances on TikTok, the video sharing service. These are a great way to reach younger audiences and good for older generations too: Gloria Gaynor washing her hands to "I Will Survive" is exactly the sort of viral information we need to be spreading.

Lastly, give people hope: we learn best by laughing, and this is exactly the medicine we all need right now.

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