this week

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Legal threat over £23m patient data deal

NHS England is facing a legal challenge against its decision to award a two year £23m contract in December to the US data mining firm Palantir Technologies.

The media platform openDemocracy, which is bringing the action, claims the contract with Palantir to build a software platform to handle patient data was awarded before a data protection impact assessment was carried out to ensure that health information was protected.

The case is the latest challenge to the handling of contracts involving millions of pounds of taxpayers' money during the pandemic. The High Court has already ruled that the Department of Health acted unlawfully in failing to publish details within the time required by law of dozens of contracts awarded without competition.

Last September Palantir, which specialises in analysing huge volumes of data to find insights, patterns, and connections, was criticised by Amnesty International for failing to conduct human rights due diligence on its contracts with US Immigration and Customs Enforcement.

The company received an emergency UK contract last March to develop a data platform to help deploy resources in response to the pandemic. "The government

claimed the initial 'datastore' deal was a short term, emergency response to the pandemic," editor in chief Mary Fitzgerald wrote on the openDemocracy website. "But December's new two year contract reaches far beyond covid to Brexit, general business planning, and much more."

The statement was also signed by Cori Crider, director of Foxglove, which describes itself as a "non-profit organisation that exists to make tech fair." It is bringing the legal challenge on openDemocracy's behalf. The two groups are crowdfunding the case.

"Striking quiet deals with firms like Palantir, especially with no real public dialogue, risks demolishing trust in the NHS among the very communities where the government now urgently seeks to shore up trust," wrote Fitzgerald and Crider. "It doesn't help that, under the new Palantir contract, we have no idea what is going into the long term datastore: for the first time, the government has completely redacted the list of health data sources fed into it."

A spokesperson for NHS England said that a data protection impact assessment had been done last April and that an "update will be published in due course."

Clare Dyer, *The BMJ*Cite this as: *BMJ* 2021;372:n587

Cori Crider (top), of non-profit group Foxglove, and Mary Fitzgerald, of openDemocracy, are leading the court action against NHS England's contract with Palantir

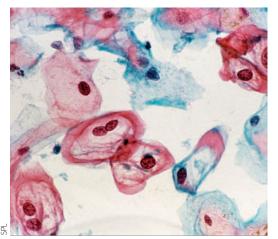
LATEST ONLINE

- Record drug deaths need radical response, says Scottish college
- Researcher broke embargo to leak *BMJ* paper to Trump administration
- GP academic can practise again after suspension for dishonesty is cut short

General Medical Council

SEVEN DAYS IN

Home HPV kits will be offered to women as part of screening trial



Women in areas of London where attendance at screening for cervical cancer is low will be offered HPV self-sampling kits they can use at home, as part of an NHS England trial.

The scheme will send a kit to more than 19000 women aged 25 to 64 and who are 15 months overdue for a cervical smear test, while 12000 women who visit a GP for another reason and are at least six months overdue will also be offered a kit. The rollout will start with 166 general practices in Barnet, Camden, Islington, Newham, and Tower Hamlets.

NHS England hopes that the trial will increase uptake of cervical screening, as research indicates that embarrassment and fear, as well as cultural barriers, are often reasons why appointments are not taken up.

Women who are sent the kits will be given access to a video explaining how to carry out the test and can post their swab to the NHS cervical screening programme's London laboratory. If human papillomavirus is detected, women will be invited to see their GP for a standard smear test follow-up. The London trial will run until December 2021.

Self-sampling HPV kits are recommended by the World Health Organization as a way to help reach the global target of 70% screening coverage by 2030.

Elisabeth Mahase, *The BMJ* Cite this as: *BMJ* 2021;372:n537

Covid-19

Call for review of England's ICU bed capacity

Chris Hopson, chief executive of NHS Providers, called for a review of critical care capacity in England, saving it was "neither safe nor sensible to rely on NHS hospital trusts being able to double or triple their capacity at the drop of a hat as they've had to over the last two months." The UK has 7.3 critical care beds per 100 000 people, whereas Germany has 33.8 and the US 34.3. The review must look at the distribution of beds, proximity to patients, and concentrating expertise, Hopson said.

One in seven people in England have antibodies

Almost 14% of people in England had antibodies from infection or vaccination between 26 January and 8 February, up from 4.4% between 27 October and 10 November, showed data from the React-2 study. The researchers also found that 91% of people who had received two doses of the Pfizer-BioNTech vaccine had antibodies, rising to 95.5% in people aged under 60. Among those who had a single dose of vaccine, antibodies were present in 95% of people under 30 but only 35% of those over 80.

One dose of Pfizer vaccine cuts transmission by 75%

A 75% reduction in asymptomatic cases of covid-19 was seen in healthcare workers at Cambridge University Hospitals NHS Foundation Trust who received one dose of the Pfizer-BioNTech vaccine in the second half of January, an analysis published as a preprint has found, adding to the evidence that the vaccine reduces transmission. A Lancet study previously found that the Oxford-AstraZeneca vaccine was 59% effective against asymptomatic transmission in some recipients.

WHO taskforce is set up to tackle oxygen shortages

A Covid-19 Oxygen Emergency Taskforce was launched by WHO's partners, including Unitaid and Wellcome, to increase the supply of oxygen to low and middle income countries, where it is estimated that more than half a million people with covid-19 need 1.1 million cylinders of oxygen a day. Most of these countries are in Africa, where supply problems have been worsened by surges in covid-19 cases.

The taskforce



says \$90m is needed to tackle immediate problems in up to 20 countries, including Malawi, Nigeria, and Afghanistan.

Workforce

Planning is a "joke" without figures, says Hunt

The government's decision not to publish precise figures on what workforce numbers are needed for the NHS and social care in the next 10, 15, or 20 years has made planning a "joke," said England's former health secretary, Jeremy Hunt, during a session for the health committee's inquiry into workforce burnout and resilience. Care minister Helen Whately

(below) replied, "There is a huge amount of complexity, and workforce planning is not a simple thing to do. The other thing is the importance of joining up the plans for the workforce with service planning and also financial planning."

UK adopts WHO code for recruiting health staff

The UK updated its code of practice for the international recruitment of health and social care staff to align with WHO's guidance on how health and social care employers can recruit ethically from abroad. The code ensures that international recruits will be treated fairly and be provided with the appropriate support, provides safeguards against active recruitment from 47 countries on the WHO Health Workforce Support and Safeguards List, and sets out how the UK is supporting countries with the most pressing health and social care workforce challenges.

Medical defence

Clinical negligence system needs "urgent reform"

The Academy of Medical Royal Colleges, the Hospital Consultants and Specialists Association, and the Medical Defence Union wrote to the prime minister and the health secretary, seeking urgent change to the clinical negligence system in England, which has seen the estimated bill for outstanding claims rise to an "unsustainable" £84bn. The letter calls for reform to aid the recovery of the NHS from the pandemic.

MEDICIN

Vaccination

Canada approves Oxford-AstraZeneca vaccine

The Oxford-AstraZeneca covid vaccine has been approved by Canada's drug regulator for use in adults, although the National Advisory Committee on Immunization advised against using it in people aged over 65 because of a lack of evidence in this group. Early evidence from Scotland showed the vaccine reduced the risk of hospital admission by up to 94%, four weeks after the first dose. France reversed its original advice to say the vaccine could be used in adults up to 75, after initially restricting use to those under 65.

Charities join forces to boost vaccine uptake

Sixteen care charities, including the British Heart Foundation. Macmillan Cancer Support, and Mencap, formed a partnership to encourage people with long term health conditions and their carers to get a covid vaccine. They said they would use their networks to reassure people about the vaccines' safety and effectiveness.

Phase 2 of UK vaccine rollout should follow age

The Joint Committee on Vaccination and Immunisation said evidence indicated that an age based approach to vaccination remained the best way to reduce deaths and hospital admission. After priority groups 1-9 have been vaccinated, people aged 40 to 49 are at the highest risk of hospital admission and should be prioritised, followed by those aged 30 to 39, and then those aged 18 to 29. Targeting occupational groups would be complex to deliver and may slow down the vaccine programme, leaving some more vulnerable people unvaccinated for longer, said the committee.



Wellbeing

NHS England expands staff mental health support

NHS staff in England will be able to access evidence based mental health services from 40 hubs, NHS England said. Care will be provided free of charge, and the hubs will proactively contact those staff groups who are most at risk. The system is modelled on the Greater Manchester Resilience Hub, which was set up

to treat people affected by the 2017 terrorist attack. Claire Murdoch, NHS England's national mental health director, said that given the pressures of the

pandemic it was vital that NHS staff were given extra support.

PPF

Judge caps costs for campaigners' court action

Mrs Justice O'Farrell agreed campaigners taking the government to court over the award of huge contracts for personal protective equipment without competition will have to pay no more than £250 000 if they lose. The Good Law Project and EveryDoctor are challenging the contracts to Pestfix, a pest control company, Ayanda, a private fund, and Clandeboye, a confectionery wholesaler, in a case due to be heard in May. The campaigners asked for a cap after the government said its costs could reach £1m.

Cite this as: BMJ 2021;372:n588

vaccine

One in seven staff in English primary and secondary schools tested

positive for antibodies against SARS-CoV-2 between last November and December, nearly the same as in a random sample of the general population

[Schools Infection Survey, React-2]



FLU, IS THAT THING STILL AROUND?

Of course, although to be fair there isn't much about right now. Neither Public Health England nor the Royal College of General Practitioners Research and Surveillance Centre has detected a single case in England in 2021.

WHAT SORT OF WINTER IS THIS?

A very unusual one. Simon de Lusignan, director of the centre and professor of primary care and clinical informatics at Oxford University, told The BMJ the unseasonably low rate of flu was in large part down to measures introduced to halt transmission of covid-19, such as face masks, social distancing, and lockdown.

WOW. ALL BECAUSE WE STAYED HOME?

Not quite. While the whole population being stuck indoors on Zoom calls has undoubtedly helped, de Lusignan said that the decision to widen the cohort for flu vaccinations and the "very high level of flu vaccine uptake" in England this winter have also contributed to the lack of infections.

IS THIS A GLOBAL PHENOMENON?

Very much so. Countries in the southern hemisphere saw record low flu activity last year, and the whole of the US has identified fewer than 1500 positive flu cases since the end of September.

GREAT. SO NOW WE KNOW HOW TO BEAT THE FLU?

Enforced distancing and hygiene measures have clearly curbed infections, but given what the world has been through over the past 12 months it seems unlikely that governments will flock to enforce further bouts of social distancing, face coverings, handwashing, and restrictions on travel just to restrict flu.



SHOULD WE EXPECT MORE FLU NEXT WINTER, THEN?

De Lusignan said it was possible that measures in place for the current pandemic may influence flu infections in future seasons. But he said that vaccination "remains the best method for

prevention, especially in the coming season, where SARS-CoV-2 and influenza may co-circulate."

Gareth Iacobucci, The BMJ

Cite this as: BMJ 2021;372:n584

thebmj | 6 March 2021 339 Our response will be driven by the data and targeted at those who are most at risk Kemi Badenoch



Second wave hit Pakistanis and Bangladeshis in England harder

isparities in risk of infection and death worsened for Bangladeshis and Pakistanis in the second wave of covid-19 but improved in some other ethnic groups, a government progress report has found.

The second quarterly report from the Race Disparity Unit found that, in a comparison of first and early second wave data, death rates from covid-19 in England fell by over 60% among black African men and women but rose by 124% and 97%, respectively, among men and women from Pakistani backgrounds.

"There remains an excess risk of mortality after adjustment for all factors in the early second wave data for Bangladeshis and Pakistanis—this is because of a higher risk of infection, not worse survival, and not because of genetics or ethnicity in itself—but the reasons are not yet clear," the report said. Interacting risk factors such as household composition, geography, and occupation may explain higher infection rates among the groups, the report suggested.

Bangladeshi and Pakistani people are more likely to live in multigenerational households and to live in urban areas, both of which carry a higher risk of infection, the report said. It also noted that 41% of employed people from Pakistani or Bangladeshi groups worked in higher risk areas such as sales and customer service; process, plant, and machine operation; or elementary occupations. This compared with 24% of workers of all ethnic groups.

The minister for equalities, Kemi Badenoch, said, "The latest data show that this is not a one-size-fits-all situation. Outcomes have improved for some ethnic minorities since the first wave, but some communities are still particularly vulnerable. Our response will continue to be driven by the latest evidence and data and targeted at those who are most at risk."

The unit said positive progress had been made on some key recommendations from the first report. For example, NHS trusts had made "significant progress" on protecting the most vulnerable staff and patients, and the list of shielded patients has been updated using a new predictive risk tool (published in *The BMJ*) that combines multiple risk factors, including age, ethnicity, body mass index, specific health conditions, and postcode to link to deprivation.

Vaccination reluctance

But it emphasised the importance of people taking up vaccines when offered. It highlighted research showing that some people from ethnic minorities were reluctant to have the vaccine, and the latest OpenSAFELY data showed that around 60% of black people over 70 have been vaccinated, compared with 75% of South Asians and 90% of white people.

The report said the government was tackling vaccine hesitancy through measures such as a media campaign in 13 different languages; new community champions; outreach to healthcare providers, faith leaders, and others; and the new government Counter Disinformation Unit.

Gareth lacobucci, *The BMJ*Cite this as: *BMJ* 2021;372:n572

DEATH RATES rose by 124% and 97%,

respectively, among men and women from Pakistani backgrounds

Judges rules mother in a coma should be allowed to die

A High Court judge has ruled that a 32 year old woman with covid-19, in a coma after giving birth to a son, should be allowed to die, against the wishes of her husband and sister, in "a tragedy of almost unbearable dimension."

The woman, referred to as NZ, contracted covid-19 but was reluctant to go to hospital, fearing she might not come out, her sister told the judge. She had been given a diagnosis

of Addison's disease and antithrombin-3 deficiency, which affects the blood's ability to clot.

Pneumonitis

Her condition deteriorated dramatically, and she was taken to hospital by ambulance on 20 January, where doctors diagnosed pneumonitis secondary to covid-19. She was 32 weeks pregnant, and a baby boy was delivered by emergency caesarean section. She was transferred to the intensive care unit and put on an extracorporeal membrane oxygenation (ECMO) machine in a pharmacologically induced coma. A scan showed that her pancreas had ceased to function, part of her left lung had died, and

NZ will have her family with her at the end. That is a right many have been denied in the past 12 months Mr Justice Hayden

the remaining lung tissue had become "densely consolidated or collapsed."

University Hospitals of Leicester Trust asked Mr Justice Hayden for a declaration that it would be in her best interests to come off the ECMO machine and have palliative care. But her husband and sister argued that, as a devout Muslim, she would not have condoned any act that would bring life to an end.

The director of ECMO told the

CCGs are set to receive extra £4.2m to tackle vaccine inequalities

Local NHS commissioners are to get extra financial help to boost uptake of the covid-19 vaccine in ethnic minorities and marginalised and deprived communities.

NHS England will distribute £4.2m to CCGs in areas of greatest need to help target groups that are hard to reach. The move was in response to evidence showing uptake was lower among ethnic minorities and deprived communities.

In a letter to local and regional commissioning bosses sent on 24 February, NHS England's medical director for primary care, Nikita Kanani, and director of primary care, Ed Waller, advised that the extra funding could be used to set up temporary vaccination clinics at community sites, such as places of worship. "It is critical nobody is left behind, and we are writing to make you aware of some further opportunities to reach out to communities with lower uptake levels by operating temporary vaccination clinics in community venues," they wrote.

Community vaccination sites

In a separate letter to heads of CCGs, NHS England said, "CCGs with low uptake in ethnic minority communities or low uptake in marginalised or deprived communities will be provided with data on vaccine uptake within their local primary care networks and at a postcode level to support a focused and granular response to local challenges."

Each of England's 42 sustainability and transformation partnerships will receive a notional £100 000 to be allocated across

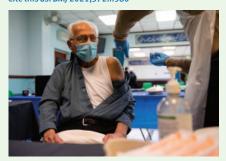
its constituent CCGs. NHS England said, "We would expect the shares to take account of the relative health inequalities and existing sources of funding."

NHS England said its approach would be guided by the three factors of vaccine hesitancy identified by WHO: confidence, convenience, and complacency. "CCGs will be asked to develop a plan in collaboration with the local community, agreed with the local director of public health, detailing how they intend to use the initial funding and outline any additional longer term strategic and systemic engagement required to tackle local needs."

The action followed an adjustment to the national covid-19 enhanced service on 22 February, which said that NHS England "may make additional discretionary payments available to GP practices" to boost vaccine uptake among people in hard-to-reach groups.

The government has also emphasised the importance of tackling vaccine hesitancy, after the second quarterly report from its race disparity unit (see story, left).

Gareth Iacobucci, The BMJ Cite this as: BMJ 2021;372:n580



judge that NZ had "zero" chance of recovery and that continuing connection to the machine put her at risk of a fatal bleed and a potentially distressing death.

Hayden accepted the conclusion that the treatment had reached the point where it was no longer preserving NZ's life but prolonging her death. The family were seeking a "miracle," he said. The clinical team hoped "it will be possible to die with her family around her, with her religious observances respected, and in as much

comfort as can be found for her," he added. "This is a young woman whose life and hopes have been extinguished by this insidious virus. It is a tragedy of almost unbearable dimension.

"NZ will have her husband and family with her at the end. That is a right that many have, of necessity, been denied in the past 12 months. Their loss has underscored the importance of this final contact for those for whom it can be achieved."

Clare Dyer, The BMJ Cite this as: BMJ 2021;372:n577 Hayden accepted the conclusion that ECMO treatment was no longer preserving NZ's life but prolonging her death

Pfizer vaccine cut Israeli cases by 94%, shows study

The Pfizer and BioNTech vaccine produces as good results in the "real world" as was documented in randomised trials.



has been peer reviewed and published in the New England Journal of Medicine, compared 596618 people who were newly vaccinated in Israel and matched them to unvaccinated controls. Two doses of the mRNA vaccine reduced symptomatic cases by 94%, hospital admissions by 87%, and severe covid-19 by 92%, show the data from the Clalit Institute for Research.

Researchers recorded the outcomes at three periods: days 14 to 20 after the first dose of vaccine, days 21 to 27 after the first dose, and day 7 after the second dose. In Israel, the second dose of vaccine is given on day 21, in line with the trials and the manufacturer's recommendation.

Results

During a mean follow-up of 15 days, 10561 infections were documented, of which 5996 cases were symptomatic, 369 required hospital admission, 229 were severe, and 41 resulted in death.

The estimated effectiveness in preventing death from covid was 72% in the two to three weeks after the first dose. There were insufficient data to produce an estimate on the reduction in mortality in people who received two doses.

The study, which took place from 20 December to 1 February, coincided with Israel's third and largest wave of infection and illness.

The study also indicates that the vaccine was effective against the B.1.1.7 variant, as an increasing share of isolates in Israel (up to 80%) had this variant.

Jacqui Wise, London Cite this as: BMJ 2021;372:n567

After one dose, during days 14 to 20 the vaccine effectiveness was 57% for symptomatic covid, 74% for hospital admission, and 62%

for severe disease

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NEWS ANALYSIS

Where are we on vaccines and variants?

Nearly a year after WHO declared the covid-19 pandemic, **Elisabeth Mahase** reports on the latest developments in vaccines, variants, and diplomacy

Have any new variants emerged?
We've heard a lot about B.1.1.7
(first detected in the UK), B.1.351
(South Africa), and P.1 (Manaus, Brazil), but other variants have also emerged, including one in New York.
Named B.1.526, this variant contains the same E484K mutation that has caused so much concern in B.1.351.
This mutation is thought to allow the virus to escape some of the body's immune response.

Vaccines developed against the original virus have also been found to be less effective against B.1.351 (see table). In a preprint released on 25 February, researchers said the variant was "surging, alarmingly, in our patient population over the past few weeks" and that patients with this

In Germany, two weeks after 1.45 m doses of the AstraZeneca vaccine were delivered, only 271 000 have been administered novel variant "were on average older and more frequently hospitalised."

They added that further analysis showed that the B.1.526 variant was "scattered in the northeast of the US, and its unique set of spike mutations may also pose an antigenic challenge for current interventions."

What about the variant found in Finland?

The Fin-796H variant, identified by researchers from Vita laboratories and the Institute of Biotechnology at the University of Helsinki, is reported to have mutations similar to those seen in B.1.1.7 and B.1.351. Additionally, it also has a mutation in one of the regions (N) recognised by PCR testing.

However, experts said this should not cause major problems, as most PCR testing relies on two or three different assays that detect different parts of the virus. A similar issue was seen with the B.1.1.7 variant, which escaped the assay that detects the S gene of the virus.

Are the vaccines being updated to target new variants?

Pfizer and Oxford-AstraZeneca are reported to be in discussions regarding updating their vaccines to target variants. Meanwhile, Moderna has said it is waiting on approval from regulators to start trialling a modified

version of its vaccine that will target the B.1.351 variant.

How is the rollout going in Israel? A published study assessing Israel's vaccination rollout between 20 December and 1 February showed that two doses of the Pfizer-BioNTech vaccine reduced symptomatic cases by 94%, hospital admissions by 87%, and severe covid-19 by 92%. The paper also suggested that the vaccine was effective against the B.1.1.7 variant. The lack of data on B.1.351 cases means there is no information on vaccine effectiveness against this variant.

What about Germany?
Despite having stock, Germany is having problems getting people to turn up to appointments, as many citizens and healthcare workers are rejecting the Oxford-AstraZeneca vaccine.
This hesitancy came after a German newspaper caused international upset when it insisted that the vaccine was ineffective in older people, on the basis of a single anonymised source and without evidence.

The country's regulator then approved the vaccine only for adults under 65. Two weeks after 1.45 million doses of the vaccine were delivered, only 271 000 have been administered. Chancellor Angela Merkel has since

MAIN VACCINES THAT HAVE BEEN APPROVED OR ROLLED OUT IN SOME CAPACITY (SUCH AS FOR EMERGENCY USE)

		nufacturers ccine name)	Technology used	Doses	Efficacy against symptomatic disease*	Safety profile (from phase III trials)
					cines' efficacy cannot be directly con ecause of differing clinical trial desig	
a	Pfizer ONTECH	Pfizer and BioNTech (Comirnaty)	mRNA	2	95%	Of the covid-19 vaccine group, 27% of participants reported any adverse event, compared with 12% taking a placebo. This was mainly due to transient reactogenicity events, such as injection site pain. Few people in either group had severe or serious adverse events.
Astr	raZeneca 🕏	Oxford and AstraZeneca (AZD1222)	Viral vector	2	82.4% (12 weeks between doses)	Serious adverse events occurred in 168 participants: 79 in the vaccine group and 89 in the controls. Two cases of transverse myelitis were originally reported as potentially related to the vaccine but later determined to be unlikely to be related.
mo	oderna resenger feropeutics	Moderna and NIH (mRNA-1273)	mRNA	2	94.5%	Solicited adverse events at the injection site occurred much more often in the vaccine than in the placebo group. Serious adverse events were rare, with incidence similar in the two groups.
Sp	outnik V	Gamaleya (Sputnik V)	Viral vector	2	91.6%	Forty five of 16427 participants in the vaccine group and 23 of 5435 in the placebo group had serious adverse events, but none were considered associated with vaccination.
6	康希诺生物 CanSinoBIO	CanSinoBio (Convidecia)	Viral vector	1	65.7%	Unknown
NO	VAVAX	Novavax (NVX-CoV2373)	Protein	2	95.6%	A review showed that severe, serious, and medically attended adverse events occurred at low levels in both vaccine and placebo groups.
John	uon-Johnson	Johnson & Johnson (Ad26.COV2.S)	Viral vector	1	72%	More serious adverse events were reported in participants who received placebo than in the vaccine group.

stated she will not have the Oxford-AstraZeneca vaccine as it is not recommended for her age group.

This was despite the European Medicines Agency, and many other countries, approving the vaccine for the over 65s, including, most recently, Canada. Its drug regulator said the vaccine's efficacy in this age group was supported by factors outside clinical trials. This came after early evidence from the rollout to healthcare workers and elderly people in Scotland showed that the vaccine reduced the risk of admission to hospital by up to 94%, four weeks after the first dose was administered.

These findings may have prompted a change to the recommendations in France, where the vaccine is now approved for adults up to 75, after originally being restricted to those under 65.

When will the Johnson & Johnson vaccine be rolled out?

The single dose vaccine made by Janssen, the pharmaceutical arm of Johnson & Johnson, was given emergency use authorisation by the US Food and Drug Administration on 27 February. The FDA said its analysis of data from 39 321 adults with no previous signs of infection reported the efficacy as 66.1% (95% confidence interval 55% to 74.8%) for preventing



moderate to severe or critical covid-19, 28 days after vaccination. Johnson & Johnson previously reported that the vaccine provided 72% protection against moderate to severe covid-19 infection in the US, but the proportion fell to 66% in Latin America and 57% in South Africa, 28 days after vaccination.

The US is expected to begin delivering the first three to four million of its 100 million dose order this week. In the UK the MHRA is reviewing the vaccine under its rolling review system. The UK has ordered 30 million doses.

The vaccine could also soon be made available to low income countries through the Covax programme, which has an agreement with Johnson & Johnson for up to 500 million doses. Covax is a collaboration among organisations such as Gavi, WHO, the Coalition for Epidemic Preparedness Innovations, Portugal has announced it will send 5% (1.75 m doses) of its vaccines to a group of Portuguese speaking African countries and East Timor in the second half of the year Unicef, and the World Bank, focused on ensuring that lower income countries can get covid-19 vaccines.

Are countries getting better at sharing vaccine stock?

Equitable access has been a major concern during the pandemic, with many healthcare leaders warning that vaccine nationalism would allow the virus to continue thriving and lead to even more worrying variants.

There have been some small but positive developments in this area. Portugal has announced it will send 5% (1.75 million doses) of its vaccines to a group of Portuguese speaking African countries and East Timor in the second half of the year. These countries, including Angola (population 32 million) and Mozambique (30 million), are former colonies of Portugal. Portugal has a population of just over 10 million but is entitled to 35 million vaccine doses as part of the EU scheme.

Meanwhile, shipments of the Oxford-AstraZeneca vaccine supplied through Covax have been delivered to Ghana (600 000 doses) and Ivory Coast (504 000). These first deliveries were part of an effort to deliver at least two billion doses of covid-19 vaccines by the end of 2021.

Israel has also reportedly begun sending excess vaccine stock to countries with which it hopes to improve diplomatic relations, including Czech Republic, Honduras, and Guatemala. However, at the same time the country has been criticised for not sharing vaccine supplies with occupied Palestinian territories, where current stock levels are insufficient even to cover all healthcare workers.

Elisabeth Mahase, *The BMJ*Cite this as: *BMJ* 2021;372:n597

Efficacy aga	inst variants*	Are versions being made to target variants?	Reported effectiveness from mass rollout	
B.1.1.7. (first detected in UK)	B.1.351 (first detected in South Africa)			
Unknown	Unknown	Yes	Reduced symptomatic cases by 94%, hospital admissions by 87%, and severe covid-19 by 92%	
74.6%	TBC (unconfirmed reports as low as 10%)	Yes	In Scotland, risk of hospita admission for covid-19 fell by up to 94% four weeks after first doses	
Unknown (but reports of decrease in neutralising antibodies)	Unknown	Yes	TBC	
Unknown	Unknown	Unknown	TBC	
Unknown	Unknown	Unknown	TBC	
85.6%	60%	Yes	TBC	
Unknown	57%	Unknown	TBC	







THE BIG PICTURE

Portraits of the people who made vaccines possible

A year ago when the pandemic took hold of the world Fran Monks, a British portrait photographer, began to use Zoom to take pictures of people in lockdown all over the world.

Then in December she began a series of portraits of people who had participated in vaccine trials.

"They are ordinary people, driven by a desire to do their bit to help save lives and bring an end to repeated lockdowns," Monks says of her sitters on her website. "I have spoken to people in a wide range of situations. The old and young, the high risk and low risk, those with and without family support.

"Without their participation in the trials, frontline healthcare workers and the most vulnerable members of the population would not be being vaccinated already, less than a year after the first case of covid-19 was reported in the UK. I feel very grateful to them."

For more portraits visit franmonks.com

Alison Shepherd, The BMJ

Cite this as: BMJ 2021;372:n595

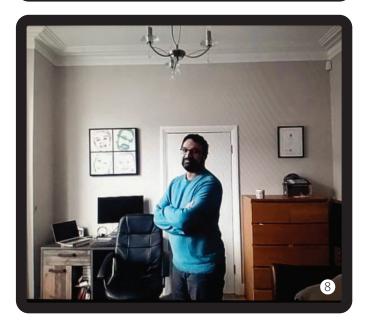
- Maureen (from Atlanta, a pharmaceutical salesperson, on the Novavax trial) wanted to give back after surviving meningitis as a child.
- 2. Neil (London, radiographer, Pfizer) hoped to protect his immunosuppressed husband.
- Amber (Los Angeles, science journalist, Pfizer) wanted to be part of the story.
- 4. Connie (California, retired, Pfizer) said she was doing it for her family.
- Lance (chemistry professor, Georgia, US, Novavax) wanted to show other African Americans vaccines are safe.
- Laura (Los Angeles, headhunter, Pfizer) wanted to do something after being so close to so many deaths.
- Guillaume (Oxford, academic researcher, Novavax) says his family is proud of him.
- 8. Sumit (London, civil servant, Ensemble 2 Janssen) thought as a British Asian that volunteering was important.
- Lesley (Kidlington, Oxfordshire, retired, Oxford-AstraZeneca) wanted to be helpful after a career in medical environments.













EDITORIAL

Benefits of low traffic neighbourhoods

Evidence shows powerful local improvements to communities' health and wellbeing

ar use harms health, the environment, and society in many ways. In 2019, 1752 people were killed by vehicle collisions in Great Britain, with another 25 945 seriously injured. ¹

Motor traffic is also a major contributor to air pollution, which is estimated to cause 28 000-36000 deaths in the UK annually.2 Traffic noise pollution is an underrecognised health harm, associated with increased risk of stroke and premature death.³ Car travel increases sedentary time and is a major opportunity cost in terms of the physical and mental health gains that could have been achieved by walking or cycling instead. This is before we consider the urgent need to decarbonise our transport system to mitigate climate crisis.

Reallocating road space

The covid-19 pandemic and associated lockdowns have substantially disrupted travel patterns. With public transport capacity considerably reduced, and seeking to avoid a car based recovery, the UK government last May announced £250m in emergency active travel funding and encouraged local authorities to reallocate road space from cars to walking and cycling. While a wide range of changes are needed, low traffic neighbourhoods are among the most promising.

To reduce motor traffic, we need to make driving less attractive and alternatives better— that is, mixing "sticks" and "carrots." Low traffic neighbourhoods do this by using bollards, planters, and cameras to remove through traffic from neighbourhoods while retaining motor vehicle access to all homes.

The carrot is safer, more pleasant walking and cycling (thanks to reduced motor traffic), with the stick being slightly less convenient car journeys. Such measures suit minor



Avoiding the damage of a car based recovery will require bravery and a commitment to evidence based decision making

urban streets, where most people live (91% of people in London—a proportion similar across demographic and socioeconomic groups). Low traffic neighbourhoods sit within a suite of measures to reduce car use or mitigate its consequences. These include protected cycle tracks and bus priority lanes, clean air zones, and 20 mph (30 kph) speed limits.

Low traffic neighbourhoods are now being trialled at pace in some cities, particularly London, with 4% of Londoners living in low traffic neighbourhoods implemented between last March and September. This is likely to extend to more cities as the Department for Transport announced a second tranche of emergency funding (£175m) in November to fund more schemes and related measures. Similar schemes are being introduced in cities worldwide, including New York, Barcelona, and Berlin.

National and international evidence

Evidence from existing low traffic neighbourhoods is encouraging. The London Borough of Waltham Forest has implemented growing numbers of these neighbourhoods since 2015.

A longitudinal survey found that after implementation, residents increased their walking and cycling relative to people living elsewhere in Outer London (by 115 minutes for walking and 20 minutes for cycling after three years). Analyses of

vehicle ownership data found that, relative to a control group, levels of car or van ownership decreased by 7% after three years. These effects were several times larger than in areas that only received interventions such as cycle tracks.

Additional research found no increase in emergency service response times, an 18% reduction in street crime after three years, and a 75% reduction in the risk of being injured in a road traffic collision inside low traffic neighbourhoods. 91011

International evidence bears this out-the widespread adoption of low traffic neighbourhood principles in Dutch urban design has contributed to high levels of cycling and low risks of road injury. 12 Low traffic neighbourhoods can also make residential streets safer for play, socialising, and exercise. This is particularly important in areas with overcrowded housing and without private green space. Notably, deprived areas in London have been considerably more likely than affluent neighbourhoods to receive new low traffic neighbourhoods.6

The evidence should be strengthened by further quasi-experiments as well as research to identify the necessary conditions for success.

Despite potential benefits and evidence of public support, a vocal minority has generated loud opposition, as often happens when car use is restricted. ¹³¹⁴ Some local authorities have responded by scrapping schemes within weeks, neglecting opportunities for proper evaluation. Avoiding the damage of a car based recovery will require bravery and a commitment to evidence based decision making from policy makers, supported by strong advocacy from civil society groups.

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Anthony A Laverty, lecturer, Imperial College London a.laverty@ imperial.ac.uk Anna Goodman, assistant professor, London School of Hygiene and Tropical Medicine Rachel Aldred, professor, University of Westminster,

London

EDITORIAL

Covid-19: Keeping schools as safe as possible

A growing menu of effective measures can and should be deployed to reopen classrooms

year into the pandemic, and confronted with continued resurgence in transmission, more than 800 million schoolchildren, more than half the world's student population, still face substantial disruptions to their education. These range from full school closures in 31 countries to reduced or part time academic schedules in another 48 countries.1 Some countries, such as Norway and France, chose largely to keep their schools open (only 7 and 10 weeks of school closure, respectively), whereas countries such as Germany and the UK have relied more often on school closure for epidemic control (19 and 21 weeks, respectively).1

Outbreaks in schools have been described throughout 2020—for example, in Israel⁴ and Chile⁵; however, these outbreaks tend to be limited, ⁶ partly because children are 30-50% less susceptible to infection than adults⁷ and have no or mild symptoms when infected.²⁹ Transmission has been described between pupils, between teachers and pupils, and among teaching and non-teaching staff.¹⁰

The biggest risk associated with schools lies in transmission of the virus from children to parents and grandparents vulnerable to developing severe forms of covid-19. Infected children, particularly those younger than 10, are probably less contagious than infected adults. Nonetheless, schools may contribute to community transmission, and some, but not all, models consider school closures an important component of epidemic control. The emerging consensus is that schools do not seem to be amplifiers of transmission, and



The emerging consensus is that schools do not seem to be amplifiers of transmission

that cases in schools simply reflect prevalence within the community.²

Minimising harm

A decision to maintain in-person learning goes beyond strict epidemic control, however. Children and adolescents are suffering from the effect of lockdowns and disruptions to schooling, 13 14 as shown by the latest updates of the Mental Health of Children and Young People Survey and the YoungMinds survey in the UK, 1516 and by increases in anxiety disorders and suicide attempts. 17 18 Closing schools risks detrimental effects on children's attainment and their social and mental development. For many, schools are also a source of food or security from domestic violence.

The economic implications of closing schools must also be considered, including loss of parental income linked to childcare or supervision of online learning, particularly for younger children. These economic effects fall disproportionately on women. School closures augment existing social inequities, compounded by the fact that areas of social deprivation, often associated with multigenerational housing and public facing occupations, tend to be areas of greater transmission. ¹⁹

The decision to reopen schools or keep them open despite community transmission must be accompanied by effective risk mitigation measures.²⁰

Most importantly, children and staff with symptoms must be kept out of school, although this alone cannot stop transmission by those who are asymptomatic or presymptomatic. ² This needs to be accompanied by contact tracing and quarantine of close contacts. Compliance with quarantine can be particularly challenging for children with parents who cannot work from home, so supporting parents or guardians to care for isolating or sick children may prove beneficial.

Most European countries have introduced measures^{2 20} to reduce transmission such as cohorting of pupils, physical distancing, improving ventilation, moving physical activities outdoors, regular surface cleaning, and improving hand hygiene and respiratory etiquette. These measures also need to apply beyond the classroom, particularly school transport, during pick-up and dropoff for both children and adults, and during school meal times.

The use of masks, particularly in primary schools, ²⁰ and blended learning (a mix of online and in-person) in secondary schools are more contested, but may help to keep schools open in the presence of more transmissible variants. Saliva or lateral flow testing for surveillance in schools and prioritisation of teachers for immunisation should also be considered.

Reopening of schools should be phased, at a time when community transmission of the virus is controlled, and with primary school aged children prioritised to minimise both transmission within schools and the disruption caused by closures. Although the roll-out of vaccines has begun, controlling transmission is even more important to keeping children in the classroom as viral variants with increased transmissibility gain hold in many countries around the world.

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Arnaud Fontanet, professor arnaud.fontanet@pasteur.fr

Rebecca Grant, PhD candidate, Institut Pasteur, Paris

Margrethe Greve-Isdahl, senior physician, Norwegian Institute of Public Health, Oslo

Devi Sridhar, professor, University of Edinburgh

DATA BRIEFING

NHS sickness absence during the pandemic

Provisional data from the first wave of covid-19 in England show that doctors were particularly hard hit, as **John Appleby** explains





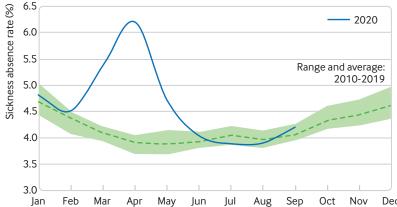


Fig 1 | Sickness absence rates (number of days off sick as a percentage of total workforce days contracted) among English NHS staff, 2010 to September 2020

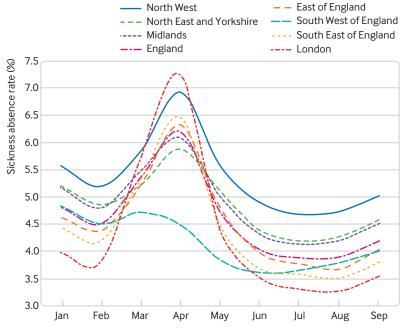


Fig 2 | NHS staff sickness absence rates (number of days off sick as a percentage of total workforce days contracted) by region, January to September 2020



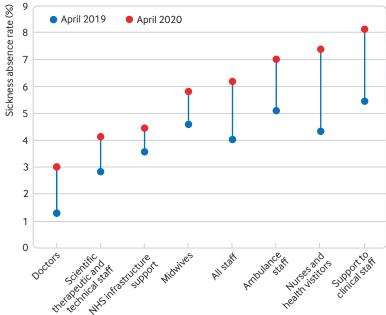
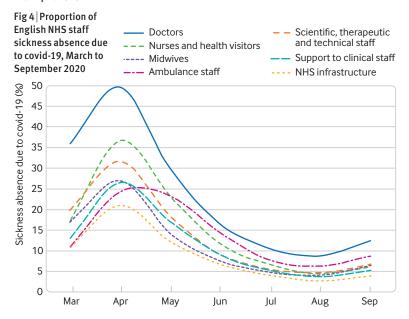


Fig 3 \mid English NHS staff sickness absence by staff group: April 2019 compared with April 2020



ow have NHS staff coped faced with thousands of patients with a novel and highly infectious virus, and massive upheavals in their working environment? Over the preceding decade, rates of sickness absence among staff directly employed by the NHS in England have been fairly stable. Sickness absence rates averaged about 4% of the workforce each month (about 1.5 million days out of about 38 million total days contracted), with usual seasonal trends—equivalent to about 50 000 full time equivalent staff being off each month.

But last year was far from ordinary. Provisional statistics from NHS Digital show that, although sickness rates in January and February 2020 were similar to the average for the previous decade, in March they began to rise above the 10 year average, peaking in April at 6.2% of the workforce absent each month (fig 1). This is equivalent to about 79 000 full time staff absent each month—enough for 10 large hospitals.

The "excess" sickness absence between March and June is likely to include not only staff with confirmed covid-19 but also staff isolating with potential or suspected infection. But total days lost for infectious disease reached almost one million in April last year. The monthly average over the previous five years was just 25 000.

NHS staff sickness absences varied geographically, reflecting the sweep of the pandemic across England. In London, absence rates rose faster, slightly earlier, and to a higher peak than in other regions (fig 2).

Compared with April 2019, total sickness rates were substantially higher for all staff in April 2020 (fig 3). Doctors' sickness rates—traditionally lower than those for other groups—rose the most, from 1.3% to 3% absent each month.

Staff groups were also affected differently by covid related absences, with doctors hit particularly hard (fig 4). In April, half of all doctors' absences were due to covid-19. For foundation year 1 doctors, this figure was 67%, with 4552 days lost because of covid-19 out of a total of 6817 sick days.

In total, for all NHS staff, 1.7 million days' work were lost because of absences related to covid-19 between March and September alone—an average of more than 240 000 a month. And tragically many hundreds of NHS staff have died with covid-19, including at least 35 doctors.

The latest NHS Digital data show a rise in absences in all regions and staff groups and in infectious disease as the reason. Figures covering the second wave of the pandemic, when the health service and its staff were under even more pressure than in the first wave, won't be available for another two months. But other data collected by NHS England related to covid-19—unfortunately, not directly comparable with the NHS Digital data—indicate that sickness absences rose again in the second wave of the pandemic. However, by 6 January 2021 they had not reached the levels recorded last April.

It may be that lessons from the first wave, more access to effective personal protective equipment, and better infection control have helped keep staff safer.

 $\label{lem:condom} \begin{tabular}{ll} John Appleby, director of research and chief economist, Nuffield Trust, London \verb|john.appleby@nuffieldtrust.org.uk| \\ \end{tabular}$

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COVID-19

Covid-19, trust, and Wellcome: how charity's pharma investments overlap with its research efforts

The major funder of health research stands to gain financially from the pandemic, raising questions about transparency and accountability. **Tim Schwab** reports

n increasingly clear feature of the pandemic is that the public health response is being driven not only by governments and multilateral institutions, such as the World Health Organization, but also by a welter of public-private partnerships involving drug companies and private foundations.

One leading voice to emerge is the Wellcome Trust, one of the world's top funders of health research, whose sprawling charitable activities in the pandemic include co-leading a WHO programme to support new covid-19 therapeutics. The Access to Covid-19 Tools (ACT) Accelerator project hopes to raise billions of dollars and deliver hundreds of millions of treatment courses in the year ahead, including dexamethasone and a number of monoclonal antibodies.

At the same time, *The BMJ* finds, Wellcome itself holds investments in companies

producing these treatments. Financial disclosures from late 2020 show that Wellcome has a £275m stake in Novartis, which manufactures dexamethasone and is researching other therapeutics. And Roche, in which Wellcome holds a £252m stake, is helping to manufacture monoclonal antibodies with Regeneron. Both Roche and Novartis report having had conversations with WHO's ACT Accelerator about their therapeutic drugs.

Wellcome's financial interests have been published on the trust's website and through financial regulatory filings but do not seem to have been disclosed as financial conflicts of interest in the context of Wellcome's work on covid-19, even as they show that the trust is positioned to potentially gain from the pandemic financially.

Revelations of the Wellcome Trust's financial conflicts of interest follow news reports that another charity, the Gates Foundation, is also positioned to potentially benefit financially from its leading role in the pandemic response. An investigation by the *Nation* revealed that Gates had more than \$250m (£179m) invested in companies working on covid-19 and cited civil society groups expressing alarm with the outsize influence the billionaire charity wields in the pandemic response, which they see as elevating the role of the drug industry.

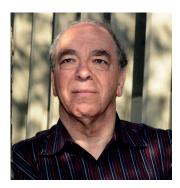
Yet charities such as Gates and Wellcome—and even drug companies—have generally been praised in the news media during the pandemic for their efforts to solve the public health crisis, with relatively little attention paid to their financial interests and with few checks and balances put on their work.

"What the pandemic is doing is buffing the reputation of organisations like Gates and Wellcome and the drug companies, when I don't think they really deserve that buffing up," says Joel Lexchin, professor emeritus of York University's school of health policy and management in Toronto. "I think they're acting the way they always have, which is, from the drug companies' point of view, looking after their own financial interests, and from the point of view of the foundations is pursuing their own privately developed objectives without being responsible to anybody but their own boards of directors."

Conflict of interest?

Mohga Kamal-Yanni, a policy adviser to UNAIDS who recently co-wrote a paper citing problems with the Gates Foundation's influence in the pandemic, says that Wellcome's investments raise critical questions around transparency and accountability.

"In covid, these two words have such a huge meaning because we need to know that decisions are being made based on evidence and science," she tells *The BMJ*. "Do we know



The pandemic is buffing the reputation of organisations loel Lexchin



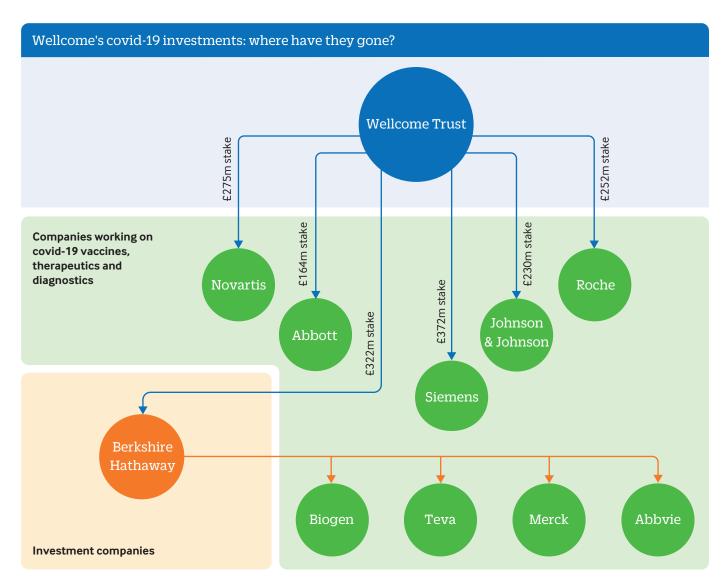
Do we know which companies they are talking to? Mohga Kamal-Yanni



There's been no attempt by Wellcome to influence me Kenny Baillie



Financial conflicts introduce a level of risk that is unnecessary Marc Rodwin



which companies they are talking to? How they make the decisions about funding a particular company—or this product or that one?"

The Wellcome Trust disputes that its investments compromise—or conflict with-its independence. "We are not aware of any situation in our relations with the ACT Accelerator in which a conflict has arisen as a result of our investment portfolio, or in which it would have been necessary for Wellcome representatives to recuse themselves," a spokesperson said, declining to comment on its investments in Novartis or Roche. "We would never make decisions or advise others about the pandemic response for a

reason other than public health."

Wellcome's supporters describe the deep well of biomedical expertise the charity brings to the pandemic, prominently from its director, Jeremy Farrar, a famed infectious disease researcher who is credited with playing leading roles in previous outbreaks of Ebola and avian influenza.

Kenny Baillie, a research group leader in the department of genetics and genomics at the University of Edinburgh who has received research funding from Wellcome, says that the charity also deserves credit as a "beacon of probity and good governance."

He explains, "I certainly can speak to my personal experience

interacting with the science side, and there's been no attempt to influence me or any other researcher I know from doing the best science to benefit humanity." Yet it is still not clear what governance structures are in place to guarantee that Wellcome's vast endowment does not influence its agenda setting role through WHO or its other work in the pandemic.

Unitaid, which co-leads the WHO ACT Accelerator project, says that it has a "clear mutual understanding" with Wellcome "that relevant institutional interests will be transparently disclosed." But, Unitaid told *The BMJ* last December, "We have not received any declaration of conflict of interest."

Marc Rodwin, professor of law at Suffolk University in Boston, Massachusetts, says that institutions with financial conflicts of interest can still make valuable contributions to the pandemic response but should not be in a position of influence or decision making.

"I'd go back further than just saying they should recuse themselves from particular decisions. Why are they being chosen in the first place to be in these positions [of authority]?" he asks. "I like the concept of epidemiological risk factor here—it's just introducing a level of risk that is unnecessary. When there's a lot of money going around, you don't want to have those kinds of financial conflicts that can sway those decisions."

Government adviser

In addition to its work through WHO, Wellcome also influences the pandemic response through Farrar's position on the Scientific Advisory Group for Emergencies (SAGE) advising the UK government on covid-19, as well as his board seat on the Coalition for Epidemic Preparedness Innovations, a leading publicprivate partnership in the pandemic that has pledged more than \$1bn to covid-19 vaccine development. He also often features as an expert in the news media, including The BMJ, where he has cited the potential of specific drugs against covid-19.

These advisory and media activities seem to overlap with Wellcome's £28bn endowment, which has at least £1.25bn invested in companies working on covid vaccines, therapeutics, and diagnostics: Roche, Novartis, Abbott, Siemens, Johnson & Johnson, and (through holdings in the investment company Berkshire Hathaway) Merck, AbbVie, Biogen, and Teva.

Farrar sits on Wellcome's internal investment committee, which plays a broad advisory role regarding the trust's endowment. Wellcome would not comment on the desirability of Farrar's dual roles—helping manage the trust's money and its charitable mission—and it declined multiple requests to interview Farrar or the charity's other representatives.

The full scope of Wellcome's investments in companies working on covid-19 is unknown because the trust also refused to disclose to The BMJ the details of its investment portfolio, most of which is described only generally as being invested in "hedge funds," "public equities," "private equity," or "property." Wellcome publishes on its website a list of a few dozen of its largest individual corporate investments, and The BMI uncovered additional information about its endowment



Jeremy Farrar is both a director of Wellcome and a member of SAGE

through financial regulatory filings it made in the US.

On the basis of this limited public reporting Wellcome seems to be expanding its covid related investments, reporting last summer nearly two million shares in Abbott Laboratories, a major supplier of covid-diagnostic tests. Its regulatory filings state that, from July to October, the value of its 1.95 million shares in Abbott rose from \$178m to \$212m, a windfall for the non-profit charity.

Wellcome reports gains of £3.3bn from all investments in 2020, three times more money than the trust gave to charities.

Investor influence

Wellcome's role in financial markets has played out in other striking ways during the pandemic. The *Wall Street Journal* has reported that Wellcome held conference calls with private investment companies as far back as January 2020, with Farrar warning money managers about the gravity of covid-19. The calls prompted investors to reorganise portfolios, either to minimise losses or to make financial gains, the newspaper reported.

The trust would not provide transcripts of Farrar's calls with outside investors but stated that he offered investors the same covid warnings he offered in the news media and other venues.

Two investment companies on the calls with Farrar—Sequoia and Blackstone—have paid dividends to Wellcome in recent years, the charity's recent tax filings in the US show. Wellcome would not comment on whether it had money invested with these companies at the time it organised Farrar's calls.

The ethics of Wellcome's investment activities have come under public scrutiny several times in recent years, including a public campaign organised by the *Guardian* newspaper in 2015 to pressure it and the Gates Foundation to divest from fossil fuels. Tens of thousands of people signed a campaign petition, which argued that Wellcome's and Gates's fossil fuel investments were at odds with their work supporting "human progress and equality."

In a response letter, Farrar discounted divestment, saying that Wellcome was using its position as an investor to push fossil fuel companies towards better behaviour. One former Wellcome employee told *The BMJ* that the trust's fossil fuel investments became a source of much contention among employees, who questioned the charity's investment strategy.

In 2018 *Science* reported that Wellcome had nearly \$1bn in offshore investments, including a Cayman Islands energy fund that had a stake in a company that sells highly pollutive shipping fuels. *Science* quoted economists criticising offshore investments by Wellcome and other charities in tax havens, charging that they institutionalise and normalise tax avoidance behaviour, which exacerbates income inequality.

Public and private sector governance

Throughout the pandemic, allegations of financial conflicts of interest have circled many public and private actors in many jurisdictions. In the UK the government's chief scientific adviser, Patrick Vallance, made headlines when he was revealed to have financial ties to the drug company GlaxoSmithKline. Government sources have defended Vallance from allegations of wrongdoing.

In the US, four members of Congress were investigated for stock trading based on non-public information to which they had access through their political positions. All were cleared during the investigation, the *New York Times* reported.

Last year *The BMJ* reported on a failure by SAGE to publicly disclose competing interests related to covid, after which they were released for public review.

Despite the outsize role that private charities play in the pandemic response their financial interests have been little scrutinised, probably because foundations are not subject to the same oversight mechanisms as public institutions.

Linsey McGoey, a sociology professor at Essex University, who has written extensively on accountability in philanthropy, views Wellcome's and Gates's pharma investments in the context of their support for the prevailing market mechanisms driving modern medicinewhich has translated into wealthy nations getting priority access to covid-19 drugs. Many stakeholders are challenging this model during the pandemic, McGoev notes, including pressure put on the World Trade Organization to relax intellectual property restrictions related to vaccines and therapeutics.

She says, "They seem to be wholly committed to a charitable model... [that] seems to really conflict with the health justice and vaccine justice approach that most global south activists and policy makers are calling for.

"These foundations sort of perpetuate the false ideological impression that they are solving the problem even when they're not. And they might be compounding it by perpetuating this ideological impression of private sector saviourism."

Tim Schwab, independent journalist, Washington DC timschwab2020@gmail.com

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