News in focus

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A crowded train on the London Underground in June.

WHY ENGLAND'S COVID 'FREEDOM DAY' ALARMS RESEARCHERS

Easing restrictions amid rising infections increases the chances of new variants emerging and poses a health risk, say researchers around the world.

By Philip Ball

On 19 July, the UK government dropped nearly all measures for mitigating the spread of COVID-19 across England — despite steeply rising infections in the partially vaccinated population. The decision, widely hailed by its advocates as heralding a 'freedom day', has been sharply criticized by many scientific and public-health experts in the United Kingdom and beyond.

Some scientists call the relaxation an unprecedented public-health experiment that could result in many hospitalizations and deaths, and increase the chances of vaccine-resistant SARS-CoV-2 variants emerging.

"There is absolutely no justification for relaxing restrictions now," says Peter English, former chair of the British Medical Association's Public Health Medicine Committee. "If anything, they should be tightened, at least until the increase in case rates has reversed."

Researchers worldwide are concerned in particular because of the potential for high infection rates in a partially vaccinated population to breed further 'variants of concern' that could then be exported around the world. "The world has its eyes on the UK," says Lauren Ancel Meyers, director of the University of Texas at Austin's COVID-19 Modeling Consortium.

"The decision, and the way it has been presented, repeats a pattern of foolishly promising an outcome when dealing with a highly infectious agent," says epidemiologist William Hanage, at the Harvard T. H. Chan School of Public Health in Boston, Massachusetts, alluding to the government's earlier assurances that the pandemic would soon be over.

From 19 July, all businesses in England are allowed to open as normal, there are no social-distancing requirements, and mask-wearing is no longer legally mandated in public spaces. Yet infections in the United Kingdom are already at levels comparable to those in

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Chris Whitty, chief medical adviser to the UK government, in a 12 July press conference with Prime Minister Boris Johnson (centre) and chief scientific adviser Patrick Vallance (right).

last winter's devastating second wave of the pandemic, and are still rising. The local governments of Scotland, Northern Ireland and Wales, which set public-health policy independently, do not plan to lift all restrictions yet.

A dangerous experiment

In late February, UK Prime Minister Boris Johnson announced a road map that would take England from full lockdown to an ending of all restrictions on 21 June. That schedule was delayed for a month because of the spread of the highly infectious Delta variant of the virus.

The government said that relaxation of restrictions would be guided by "data, not dates", and that each stage of the plan would happen only if certain criteria were satisfied. In particular, reopening would be postponed or reviewed if a rise in infection rates risked causing a surge in hospital admissions, or if new variants of the virus altered the picture. It is unclear whether those measures have been met yet, say researchers. On 11 July, there were 31,000 recorded new cases of COVID-19 — and total infections are now around 300 per 100,000 people. And a modelling study shows an impending surge of hospitalizations, although the numbers are highly uncertain (see go.nature.com/2uwmkat).

The government argues that, nonetheless, relaxation is justified — given the damage to the economy, livelihoods, education and mental health caused by restrictions — because the country's good progress on vaccinations has weakened the link between infections and hospitalizations or deaths. As of early July, around 68% of the population had received at least one shot of a vaccine, and 52% had received two doses. Although the current infection rate is comparable to that in February, hospitalizations and deaths are more than ten times lower.

The government has decided that this is an acceptable compromise, but many scientists and health professionals have grave doubts. On 7 July, *The Lancet* published a letter with around 100 signatories that accused the UK government of "embarking on a dangerous and unethical experiment" (D. Gurdasani *et al. Lancet* https://doi.org/gnnx; 2021).

Some are concerned that the government is willing to accept widespread infections among young people and children, who are not vaccinated and currently account for most known cases. Although this group is at much lower risk of serious illness and death than are older people, public-health specialists say that a policy that encourages the spread of infectious disease is unprecedented. Some think the government is aiming to achieve 'herd immunity' through a mix of natural infection and vaccination.

"Once you've generated a lot of vaccine-resistant viruses, where do you go?"

But Hanage sees no grounds for thinking that natural infection would be better than vaccination for generating population-level protection — not least because the vaccines are known to be safe, whereas COVID-19 is not.

Mike Ryan, a World Health Organization official, has said that a rush to reopen economies that accepted infections as inevitable and encouraged them to occur "sooner rather than later" amounted to "moral emptiness and epidemiological stupidity".

Grave risks

One particular concern with letting infections run high is 'long COVID' — symptoms of COVID-19, such as exhaustion and difficulty concentrating, that persist for many months after infection — which affects close to one million people in the country. (Whether vaccines confer significant protection against long COVID is still unclear.)

Vaccines do not offer complete protection against hospitalization due to the Delta variant. For the widely used AstraZeneca vaccine, the protection has been found to be about 92%, so there will still be many casualties if infection rates are very high. People vulnerable to serious illness, for example those with compromised immune systems, will be put particularly at risk.

Many researchers acknowledge that compromises are needed: the economic and social costs of restrictions are too grave to impose indefinitely. "We should certainly be considering, in the light of all we've learned, which measures are most effective, and which we might be able to drop," says English. But experts criticize the abandonment of measures that could reduce infection with minimal cost or inconvenience, such as mask wearing.

Johnson has insisted that the decision to open up reflects a judgement that the summer is the best time to do so. Spreading is reduced when people can be out in the open air, schools are on holiday, and hospitals are less pressured by seasonal ailments, such as influenza, than they will be in the autumn and winter.

But English says relaxation when case numbers are high and rising does not make sense.

Azra Ghani, an epidemic modeller at Imperial College London, agrees. "I think many of us in the scientific community would have preferred to see a more gradual relaxation" by waiting for all adults to have had the opportunity to get fully vaccinated, she says. "With a complete relaxation of interventions, we could see infection levels rise much higher than at any previous time during the pandemic."

Hanage points to the experience in the Netherlands, where most restrictions were dropped on 26 June. Infections quickly began to soar, so the Dutch government was forced to reintroduce some safety measures from 10 July.

One of the gravest concerns is that if England's number of infections gets as high as anticipated — some forecast up to 100,000 new infections per day over the summer — the chances of a variant emerging with even greater vaccine evasion are greatly increased. "All the experience we have with viruses", says virologist Richard Tedder at Imperial College London, "is that if you let them replicate in a partially immune population, you will select inevitably for [vaccine] escape variants."

So far, vaccines have mostly held up well against the variants of concern. But if more variants appear, this could cease to be true, at which point vaccines will need to be redesigned. More deaths and long COVID, although seriously concerns, are minor problems compared with wiping out the efficacy of any vaccines, he says. "Once you've generated a lot of vaccine-resistant viruses, where do you go?"