

News in focus

more deadly than earlier versions of the virus.

Since B.1.1.7 was first identified in September in southern England, it has become the dominant variant in the United Kingdom and has spread to more than 30 countries. To investigate whether the lineage causes an increased risk of dying, Nicholas Davies, an epidemiologist at the LSHTM, and his colleagues analysed data from more than 850,000 people who were tested for SARS-CoV-2 between 1 November and 11 January but who were not in hospital.

Although the B.1.1.7 variant was new, the researchers were able to identify people infected with it because of a glitch in a standard diagnostic kit used in the United Kingdom. The test normally looks for three SARS-CoV-2 genes to confirm the presence of the virus. But, in the case of B.1.1.7, changes to the spike protein mean that people who are infected still test positive, but for only two of these genes.

The team found that B.1.1.7 is more deadly than previous variants for all age groups, genders and ethnicities. “This provides strong evidence that there indeed exists increased mortality from the new strain,” says Henrik Salje, an infectious-disease epidemiologist at the University of Cambridge, UK.

However, Cevik says that the small number of deaths among young people included in the analysis is not enough to conclude that the new variant hits all ages equally. “It seems to really be affecting older age-groups,” she says.

This is to be expected, given that the chances of dying from COVID-19 increase significantly with age, says Tony Blakely, an epidemiologist at the University of Melbourne, Australia.

The findings are also consistent with other preliminary work summarized in a document published on 22 January by the New and Emerging Respiratory Virus Threats Advisory Group (known as NERVTAG), a UK government advisory group (see go.nature.com/36kpraa). One research team at Imperial College London found that the average case fatality rate – the proportion of people with confirmed COVID-19 who will die as a result – was some 36% higher for people infected with B.1.1.7.

Other explanations

Cevik says more data and analysis are needed to conclude whether the variant is more deadly than other lineages. For instance, the latest study doesn't consider whether people infected with the variant have underlying co-morbidities, such as diabetes and obesity, and are therefore more vulnerable and at higher risk of dying, she says.

The study also covers only a small fraction of COVID-19 deaths in the United Kingdom – some 7% – and the effect could disappear if deaths in people tested at hospitals are included, says Cevik. Preliminary work by other groups has not found an increased risk

of death in people admitted to hospitals with the new variant, and this complicates the latest results.

Davies says it is possible that the new variant could be causing more-severe disease, resulting in more people ending up in hospital, but that, once there, their risk of dying could be the same as before. But he agrees that more data are needed before researchers can understand what's going on.

Some researchers had also suggested that B.1.1.7 could contribute to an increase in deaths because of its fast spread, which would overwhelm hospitals and affect the quality of care. But Davies says that he and his team ruled that out because they compared the risks of death associated with the new and older variants for people who were tested at the same time and place, and so would be subject to the same conditions in hospitals.

HOW TRUMP TURNED CONSPIRACY-THEORY RESEARCH UPSIDE DOWN

The former US president took QAnon and other fringe theories mainstream through social and mass media.

By Jeff Tollefson

For people around the world, the now-iconic images of a man in a horned head-dress roaming the US Capitol during the 6 January insurrection came as a shock.

For Kate Starbird, the images were frighteningly familiar. The ‘QAnon Shaman’ – the online persona of Jacob Anthony Chansley, or Jake Angeli – is a known superspreader of conspiracy theories that Starbird's research group has been monitoring for years.

The storming of the Capitol was “this physical manifestation of all of these digital characters we've been studying”, says Starbird, a

social scientist at the University of Washington in Seattle, who investigates the spread of disinformation on social media. “To see all of that come alive in real time was horrifying, but not surprising.”

Starbird is among a cadre of researchers in the United States and abroad who study the way disinformation and conspiracy theories take root and spread through social and mass media. As US president and a prolific tweeter, Republican Donald Trump turned their research upside down when he helped to push typically fringe theories into the mainstream – most recently, by downplaying the coronavirus pandemic and promoting the



The ‘QAnon Shaman’ became an icon of the 6 January insurrection at the US Capitol.

unfounded claim that the US presidential election had been stolen from him.

With Trump out of office, these researchers are now working to make sense of the deluge of data that they've collected from platforms such as Twitter and Facebook. It's been a lesson in modern populism: a world leader amplified once-obscure conspiracy theories, with each tweet and retweet strengthening the ideas and emboldening their supporters. Now, researchers are retooling to understand – and prepare for – what comes next.

Conspiratorial thinking

During his presidency, Trump frequently retweeted followers linked to the notorious conspiracy theory QAnon, a narrative that originated in 2017 and claimed that a powerful cabal of Democrats and elites are trafficking and abusing children – and that Trump is fighting them. Although Trump never endorsed QAnon, he repeatedly refused to condemn the conspiracy theory in interviews, and once praised its followers for their support.

One debate in the conspiracy-theory research community is whether Trump has pushed more people into embracing QAnon, or whether he emboldened those who already believed in it. Polling suggests that QAnon adherents remain a small, if increasingly vocal, minority, says Joseph Uscinski, a political scientist at the University of Miami in Florida who has been tracking public support for several years. Others argue that polls don't necessarily capture extremists.

QAnon has clearly gained ground under Trump in recent years, says Joan Donovan, a disinformation researcher at Harvard University in Cambridge, Massachusetts. The activity that she and her team monitor online, as well as the real-world protests and political rallies taking place, add up to “a growing interest in, or dedication to, these ideas”, she argues.

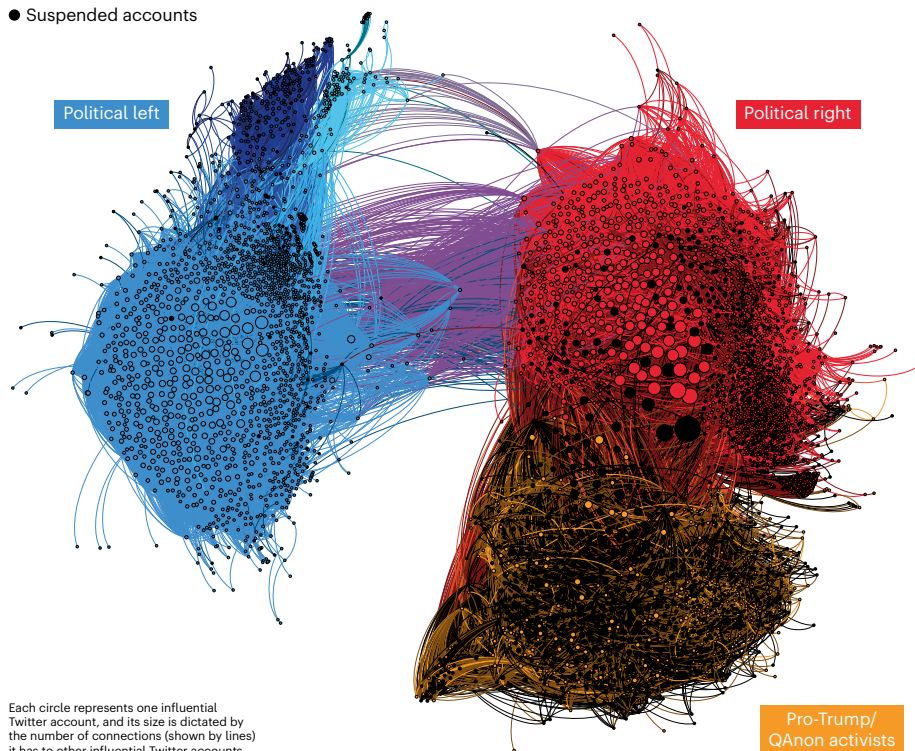
Researchers such as Donovan knew QAnon was primed to embrace the theory that the 2020 US presidential election was rigged. Trump began pushing the idea when he suggested that postal ballots can be falsified. Things came to a head at a 6 January rally, when Trump told attendees, “If you don't fight like hell, you're not going to have a country anymore.” He then called for them to march to the US Capitol, just as Congress was preparing to certify Democrat Joe Biden as the next US president.

The false narrative about the election was a landmark – albeit discomfiting – opportunity for researchers to study how disinformation spreads across the Internet. In July, Starbird teamed up with Renee DiResta, chief researcher at the Stanford Internet Observatory in California, and others in the Election Integrity Partnership to track – and correct – disinformation on social-media platforms such as Twitter, Facebook and TikTok. The team is

DISINFORMATION CRACKDOWN

Twitter shut down former US president Donald Trump's account, as well as more than 70,000 others associated with the conspiracy theory QAnon, after the US Capitol insurrection. This image depicts the effects of the purge on a network of politically influential accounts: 750 pro-Trump and QAnon accounts disappeared, along with 654 right-wing and 124 left-wing accounts.

● Suspended accounts



Each circle represents one influential Twitter account, and its size is dictated by the number of connections (shown by lines) it has to other influential Twitter accounts.

still sifting through its data, but Starbird says the work is revealing how social media makes it possible for populist leaders such as Trump to build constituencies and wield power.

In one case study, the researchers tracked false claims that Sharpie pens given to voters in Illinois and Arizona resulted in damaged ballots that could not be read by voting machines. Seeded by Trump's narrative about election fraud, these claims originated among his supporters on Twitter and were later amplified by members of his own family and right-wing influencers, helping to spread the message much farther and bring it into the mainstream. Efforts to set the record straight, including Twitter affixing warning labels to prominent tweets, failed as the narrative spread at the grass-roots level among smaller, unverified accounts, the researchers found.

“We see this interplay between the elites and their audiences, who are actually collaborating with each other to create false narratives,” says Starbird. Social media becomes a testing ground for ideas that then gain momentum and are often picked up by right-wing media outlets such as Fox News, she adds. “What we're learning is that mass media and social media are actually very integrated.”

In the wake of the Capitol insurrection, Twitter banned Trump and took down more than 70,000 accounts linked to disinformation about campaign fraud and conspiracy theories.

These actions have stifled the conversation online: Starbird's team analysed its network of influential Twitter users, and found that an entire section tied to QAnon had disappeared overnight (see ‘Disinformation crackdown’). But Starbird says the extremists they've been following will always find new platforms to spread their dangerous ideas. Law-enforcement agencies remain on high alert: on 27 January, the Department of Homeland Security released a terrorist bulletin warning that ideologically motivated violent extremists who object to the presidential transition could continue “to mobilize to incite or commit violence” in the coming months.

Although they are still analysing mountains of data, many disinformation researchers say it's already clear that new regulations will be needed to govern the Internet, tech giants and the content that their users post online. Donovan says the Biden administration should conduct a comprehensive review of social media, including the algorithms that drive search and recommendation engines, as well as the ways in which technology companies have profited from spreading disinformation and conspiracy theories.

“The gatekeeping power of mass media has now shifted to these platform companies,” says Donovan. “We need them to be much more transparent about what they are doing, and we need regulation so that they know what the guard-rails are.”