



US President Joe Biden introduces his COVID-19 strategy, while vice-president Kamala Harris stands by in support.

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# BIDEN'S AMBITIOUS COVID PLAN: WHAT SCIENTISTS THINK

The strategy pledges to follow the science – but researchers anticipate a tough road ahead.

By Amy Maxmen & Nidhi Subbaraman

**S**marter testing, faster vaccinations and health equity are cornerstones of the 200-page COVID-19 strategy released by US President Joe Biden's administration on 21 January, just before the country surpassed 420,000 deaths due to the coronavirus. The plan pledges to "listen to science" – a shift from the approach of former president Donald Trump, who, at times, politicized scientific evidence and ignored public-health recommendations.

Many researchers posted messages on Twitter expressing relief that scientific evidence would have a central role in Biden's plan. They also celebrated the existence of a coordinated national pandemic strategy, after complaining that Trump's failure to enact one

impaired testing, tracing and other responses required to tame the outbreak.

"This marks a pretty radical shift," says J. Stephen Morrison, director of global health policy at the Center for Strategic and International Studies in Washington DC, who compares Biden's strategy to a wartime national mobilization.

The speedy posting of a federal plan bodes well, says Janet Hamilton, executive director of the Council of State and Territorial Epidemiologists, based in Atlanta, Georgia. "We are really pleased to see the release of a national strategy to ensure we have a coordinated path forward," she says.

Still, scientists who've long been working on the US coronavirus response say that Biden's strategy needs more detail, particularly on the funding, staffing and procedures for some

initiatives, such as the plan for scaling up surveillance of new variants of the SARS-CoV-2 coronavirus.

Testing is one area of focus for the Biden plan, which aims to ensure that everyone in the country can be tested regularly for coronavirus infection by increasing the number of testing sites, and by scaling up the production of rapid tests. Helen Chu, an infectious-disease researcher at the University of Washington in Seattle, says more testing will help, but it won't be enough if the tests don't reach the communities hit hardest. She says the US government must figure out how to expand home testing for people who can't get to testing sites because of work, childcare duties or a lack of transportation.

Increasing the United States' surveillance for new, potentially dangerous, variants of SARS-CoV-2 is part of the Biden administration's plan. But Chu wants to see a systematic strategy for sequencing the genomes of coronaviruses across the country, as opposed to researchers conducting studies on samples they happen to obtain through fragmented projects. "Right now, surveillance is being led by academic research labs in a piecemeal way," she says, "and not at the coordinated, high-throughput level that you need to identify and act on new variants quickly."

Biden's strategy calls for a better online

dashboard for tracking the prevalence of the virus in cities and towns across the United States, so that people and officials can make evidence-based decisions about socializing, or opening offices and schools. And his plan pledges to modernize data systems used within the US health-care system, which are often painfully outdated.

Hamilton is pleased with that goal, but cautions that it won't be realized until funding is in place. "We need a serious investment in resources to build data superhighways," she says.

She and Chu are concerned that simply having more data, and even regular press briefings from the US Centers for Disease Control and Prevention – another part of Biden's plan – won't overcome the ocean of misinformation surrounding COVID-19. People who want evidence-based answers about the reliability of tests, vaccine safety and other questions struggle to find them online, says Hamilton. "We really need to tackle how to provide really plain information to the public."

### Turbocharging vaccination efforts

Chasing an ambitious goal of administering 100 million shots to US residents in its first 100 days in office, the Biden team proposes creating 100 vaccination centres run by the federal government and mobile vaccination units in under-served areas, and using grocery stores and stadiums as vaccination venues. The ramp-up includes growing the ranks of vaccinators with retired or foreign-trained doctors, as well as medical students, and by directing staff such as nurses, physician assistants and doctors at various federal agencies to assist US states.

This multitude of new players will need clear instructions, says Saad Omer, a vaccinologist who is director of the Yale Institute for Global Health in New Haven, Connecticut. For instance, at the start of the US vaccine rollout, most vaccination centres did not receive guidance on how to allocate unused doses left over at the end of the day, a predictable development because people who make vaccination appointments don't always keep them, he says. Now, some states are beginning to provide those instructions.

There will be unanticipated hitches unique to a location – and health officials should be prepared to respond to those, too. "Immunization programmes sink or swim based on local 'microplanning'," says Omer.

The Biden plan also emphasizes equity in health care. The president has already established a COVID-19 Health Equity Task Force to ensure an "equitable pandemic response". In the United States, COVID-19 is 2.8 times more likely to kill Hispanic and Black people, and 2.6 times more likely to kill Native American people, than white, non-Hispanic people.

This task force must work in sync with the

entire federal response team, and have a clear sense of its goals, says Jewel Mullen, associate dean for health equity at Dell Medical School at the University of Texas at Austin. "Equity needs to inform every aspect of the operation."

Separate from the task force, the strategy lists ways to get vaccines and information to high-risk groups and communities of colour. And it states an intent to back "equitable reopening" of colleges, noting that students

### "We need a serious investment in resources to build data superhighways."

from low-income families were more likely in the past year to cancel plans to attend college.

But moving the needle on health-care access will take time, wrote Rachel Hardeman, who researches reproductive-health equity at the School of Public Health at the University of Minnesota in Minneapolis, in an e-mail to *Nature*. "COVID-19 has exacerbated and highlighted inequities and systemic racism in our systems that has been there in some way, shape or form for 400 years," she says. "COVID response and relief must be a starting

point for building new systems and structures that lead with equity."

Another area of focus for the Biden plan is rejoining global efforts to fight the pandemic. Last July, Trump began withdrawing from the World Health Organization (WHO), after he accused it of ignoring reports of the virus spreading in China. Soon after, 750 global-health experts wrote a letter to the US Congress saying the accusations were unfounded and that the "withdrawal will likely cost lives".

Biden's COVID-19 strategy states that the United States will rejoin, fund and help to reform the WHO so that it's better equipped to respond to health emergencies in the future. The plan also states that the country will join the WHO's COVAX initiative, which aims to provide vaccines around the globe. And Biden will attempt to prevent future pandemics by launching a National Center for Epidemic Forecasting and Outbreak Analytics.

Morrison says that joining the WHO and COVAX is a "terribly important step", but he notes a long path ahead in getting vaccines to low- and middle-income countries. "How much of a priority will that be when we have cascading crises domestically – the US pandemic, the economic crisis, racial strife and a grave proportion of Americans who don't believe that Biden won the election?"

## 'LIFE ON VENUS' CLAIM FACES STRONGEST CHALLENGE YET

### Studies knock down a controversial report observing phosphine gas in the planet's atmosphere.

By Alexandra Witze

**T**wo papers have dealt a fresh blow to the idea that Venus's atmosphere might contain phosphine gas – a potential sign of life.

The claim that there is phosphine on Venus rocked planetary science last September, when researchers reported spotting the gas's spectral signature in telescope data<sup>1</sup>. If confirmed, the discovery could mean that organisms drifting among Venusian clouds are releasing the gas. Since then, several studies have challenged the report.

Now, a team of scientists has published the biggest critique yet. "What we bring to the table is a comprehensive look, another way of explaining this data that isn't phosphine," says Victoria Meadows, an astrobiologist at

the University of Washington in Seattle who helped to lead the latest studies. Both papers have been accepted for publication in *Astrophysical Journal Letters* and were posted on the arXiv preprint server on 26 January.

In one study, Meadows and her colleagues analysed data from one of the telescopes used to make the phosphine claim – and could not detect the gas's spectral signature<sup>2</sup>. In the other, the scientists calculated how gases would behave in Venus's atmosphere – and concluded that what the original team thought was phosphine is actually sulfur dioxide (SO<sub>2</sub>), a gas that is common on Venus and is not a sign of possible life<sup>3</sup>.

The papers pretty clearly show that there is no sign of the gas, says Ignas Snellen, an astronomer at the University of Leiden in the Netherlands who has published a different critique of