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JetBlue's Founder Helped Fund A Stanford Study That Said The Coronavirus Wasn't That Deadly

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A Stanford whistleblower complaint alleges that the controversial John Ioannidis study failed to disclose important financial ties and ignored scientists' concerns that their antibody test was inaccurate.

A highly influential coronavirus antibody study was funded in part by David Neeleman, the JetBlue Airways founder and a vocal proponent of the idea that the pandemic isn't deadly enough to justify continued lockdowns.

That's according to a complaint from an anonymous whistleblower, filed with Stanford University last week and obtained by BuzzFeed News, about the study conducted by the famous scientist John Ioannidis and others. The complaint cites dozens of emails, including exchanges with the airline executive while the study was being conducted.

The study — released as a non-peer-reviewed paper, or preprint, on April 17 — made headlines around the world with a dramatic finding: Based on antibodies in thousands of Silicon Valley residents' blood samples, the number of coronavirus infections was up to 85 times higher than believed. This true infection count was so high that it would drive down the virus's local fatality rate to 0.12%–0.2% — far closer to the known death rate for the flu.

Almost immediately, the study became a flashpoint in the increasingly politicized debate over whether and how to reopen the economy. Although many scientists assailed its methods, leading the authors to post a revision nearly two weeks later, it was trumpeted by conservative media to support a growing theory: that fears of the coronavirus are overblown.

"Most of the population has minimal risk, in the range of dying while you're driving from home to work and back," Ioannidis said on the Fox News show Life, Liberty & Levin, a few days after the study's release.

But Ioannidis and his coauthors did not disclose that the study was funded in part by Neeleman. "Concern that the authors were affected by a severe conflict of interest is unavoidable," states the complaint, which was submitted to Stanford's research compliance office by an anonymous whistleblower involved with the research.

And emails cited within the complaint also suggest that the study's authors disregarded warnings raised by two Stanford professors who tried to verify the accuracy of the antibody test used. The pair of scientists ultimately refused to put their names on the study because, they told the lead researchers, they could not stand by the test results. The complaint suggests that Neeleman "potentially used financial incentives to secure cooperation from" one of these scientists, who told colleagues by email that she was "alarmed" by aspects of the antibody test's performance.

Asked if Neeleman donated to the study, Ioannidis said he was “not personally aware” he did. “David Neeleman has a particular perspective and some ideas and some thoughts,” he told BuzzFeed News. “I don’t know exactly who were the people who funded the study eventually. But whoever they were, none of them really told us it should be designed in a given way or done in a given way or find a particular type of result or report a particular type of result.”

Ioannidis added that he did not know how much the study cost, but the funding came from an anonymized pool of financial gifts given to Stanford’s Office of Development: “This form of funding is the most unconflicted type of funding process to do research. It secures perfect intellectual and scientific independence of the study.”

But according to Neeleman, the authors did know he’d given money to fund the study. Neeleman confirmed that he made a $5,000 donation to Stanford to be given to these researchers and that he was in communication with them while they were conducting their research. He denied, however, that he influenced their process or results in any way, saying they had “tremendous integrity,” and said that he was not shown the results prior to release. He also rejected the accusation that he put financial pressure on the researcher who expressed misgivings about the test.

“The whistleblower jumped to a false conclusion that is not provable, because it never happened,” Neeleman said. “There is no there there. Period.”

Another coauthor, Eran Bendavid, also said no donors had any influence on the research process. “We had many funders with their own interests,” Bendavid said by email. “We have been in touch with many people, some of whom may or may not have funded our study (I do not have access to that). That does not mean that they influence our study.”

On whether Neeleman’s contributions were a potential conflict of interest that should have been disclosed, Bendavid told BuzzFeed News that “everybody has an interest,” including the federal National Institutes of Health. He added, “What if I told you we had supporters of Hillary Clinton funding the study? What difference would that make?”

In response to a detailed set of questions about the whistleblower complaint, Stanford Medicine spokesperson Julie Greicius said: “Stanford Medicine is aware of serious concerns related to the Santa Clara County seroprevalence study. The integrity of Stanford Medicine’s research is core to our mission. When we receive concerns such as this, they are taken extremely seriously. This matter is being reviewed by the appropriate oversight mechanisms at Stanford.”

As one of the world’s most-cited researchers and a “godfather to the science reform crowd,” Ioannidis helped elevate the study to national news. In a landmark 2005 paper titled “Why Most Published Research Findings Are False,” he called out the factors that incentivize shoddy scientific work, from personal bias to tenure systems that reward quantity over quality. In doing so, he spurred a movement to root out bad science.

The whistleblower complaint alleges, however, that the coronavirus study was rife with some of the pitfalls Ioannidis has famously lambasted, from a sloppy statistical analysis to an apparent conflict of interest. In the COVID-19 era, as science and politics become increasingly intertwined, the Stanford study is perhaps the highest-profile instance of a hotly contested scientific finding fueling arguments for policies with life-and-death stakes.

“This has nothing to do with science. This is wanting his airlines to thrive.”

Marc Lipsitch, an epidemiologist at Harvard University, criticized the initial study as well as Ioannidis’s early assertions that there simply wasn’t enough data to justify long-term social distancing and lockdowns.

Lipsitch and almost all other experts agree that coronavirus infections are being undercounted to some degree. But he told BuzzFeed News that the allegations raised in the whistleblower complaint further suggest that “the paper and some of its authors are affected by ideology, and that the whole effort was affected by sloppy science.”

And as for Neeleman, Lipsitch added, “This has nothing to do with science. This is wanting his airlines to thrive.”

II. “I have come to know them personally.”

The pandemic’s global death toll is staggering, at 303,000 and counting. It is also inflicting an economic toll unseen since the Great Depression, sending historic numbers of people out of work and putting millions of companies at risk of permanently shutting down. How to solve these interlocking crises, without jeopardizing one or the other, is now a fiercely partisan debate.

One especially hard-hit sector is the airline industry, which stands to lose $314 billion this year as would-be travelers hunker down at home for the indefinite future.

Neeleman is feeling the hit. On top of starting JetBlue in 1999, the entrepreneur founded Azul Brazilian Airlines, cofounded WestJet of Canada and Morris Air, and holds a major stake in TAP Air Portugal.

On April 7, he vented in an op-ed for the Daily Wire, the right-wing news website helmed by political commentator Ben Shapiro. “Since the outbreak, I have spent all my days and a lot of my nights trying to find a solution to save as many as possible of the 40,000 jobs I am responsible for and do what I can to help avoid an economic catastrophe in the making,” Neeleman wrote.

His “search for a solution,” he continued, had led him to “three amazing and dedicated professors and scientists from Stanford University School of Medicine with impeccable credentials”: Jay Bhattacharya, Eran Bendavid, and John Ioannidis. “I have come to know them personally,” Neeleman added.

Days prior to the op-ed, those scientists had overseen their massive antibody, or serological, survey in Santa Clara County. On April 3 and 4 in sunny Northern California, more than 3,300 people drove through pop-up testing sites at two parks and a church and stuck out their fingers to be pricked. If their blood turned out to have antibodies to the virus, that could indicate they’d recovered from an infection.

Many participants had learned about the test from Facebook. Others had received an email from Bhattacharya’s wife, falsely claiming that an “FDA approved” test would definitively reveal if they could “return to work without fear,” as BuzzFeed News has reported.

The Stanford team wouldn’t release their results until April 17. But in his Daily Wire op-ed 10 days beforehand, Neeleman spelled out what the scientists thought antibody testing would show: “Drs. Ioannidis, Bhattacharya and Bendavid believe that the actual number of cases is very likely off by an order of magnitude of 10, or maybe even many times more.” This was important, Neeleman explained, because if the actual number of infections was “3 million, 10 million or more,” it would be “a game changer”: the fatality rate would be “a tiny fraction of the percentage based on deaths as a fraction of confirmed cases.”

It was no secret that the scientists shared Neeleman's belief, even before they conducted their study. In op-eds of their own — Ioannidis in Stat on March 17 and Bhattacharya and Bendavid in the Wall Street Journal a week later — all three argued that the death rate was likely drastically lower than believed.

It is almost certain that the infection fatality rate — the number of deaths divided by total cases, both diagnosed and undiagnosed — is lower than currently reported. Of the 1.3 million diagnosed coronavirus cases in the US, about 6% have died. But deaths are likely undercounted. And experts stress that, because of severe delays in diagnostic testing and the unknown number of asymptomatic and mild cases, the number of people who have already been infected is also much higher than we know.

But the Stanford study authors did not just hypothesize, and then calculate, fatality estimates that are on the lower end. Some of them also declared that the coronavirus is therefore not much deadlier than the flu.

In a video announcing the study's results, Ioannidis told viewers that the virus has an "infection fatality rate that is in the same ballpark as seasonal influenza." On May 1, he told Wired, "Based on what we're seeing now, the fatality of the virus is more or less the same as influenza, about 0.1 percent. Most of the earlier data was completely bogus." The high estimate infections were "great news," wrote coauthor and biotech investor Andrew Bogan in the Wall Street Journal, hours after the study was posted, because "the true infection fatality rate is somewhere in the range of 0.12% to 0.2% — far closer to seasonal influenza than to the original, case-based estimates."

The whistleblower complaint alleges that Neeleman "sought out the study authors for their congruent policy views" on the pandemic and funded their work.

But so far, the coronavirus appears to be much more lethal than the flu. According to a preliminary analysis of more than a dozen recent studies, including Stanford's, the infection fatality rate worldwide ranges from 0.49% to 1.01%. That would be 5 t0 10 times higher than the flu's death rate from confirmed cases, at about 0.1%. (And the flu's infection fatality rate is likely even lower, given the unknown number of people who don't report having it.)

"It's not a fair comparison," said Natalie Dean, a biostatistician at the University of Florida. Given other factors — from the lack of any immunity to the coronavirus to the existence of a flu vaccine — there are far more people at risk of falling ill, getting hospitalized, and dying from COVID-19 than the flu. "Way more people are likely to be infected here, so way more people are likely to die," she added. "That's a huge difference."

The whistleblower complaint alleges that Neeleman "sought out the study authors for their congruent policy views" on the pandemic and funded their work. The complaint is based on a series of screenshotted emails — some timestamped around early April, others with truncated dates and email addresses — and does not specify the value or nature of Neeleman's funding.

Screenshots of two such emails came into the complainant's possession by April 11, the complaint states. One undated screenshot shows the email addresses of Bogan, the investor and coauthor, and of David Neeleman. In another, undated message, "Andrew" expressed gratitude to "David": "Thanks again for your willingness to help me and my friends in Silicon Valley support this groundbreaking and timely research work financially."

The email adds, "I think we all agree how critically important that is to better informing public health and policy leadership's decision making across the nation."

Neeleman confirmed receiving the email. Bogan did not respond to a request for comment.

The Stanford researchers and the airline executive have not concealed having a personal connection to each other.

On April 12, the entrepreneur appeared with two of them — Bhattacharya and Bogan — on the Fox News show The Next Revolution, whose host laid out a strategy to end the economic shutdown and introduced his guests as "the people who put it together." Referring to his elderly parents, Neeleman said, "We need to figure out a way to protect them but also to get people back to work in a more safely manner."

The same day, Neeleman tweeted "a science based plan using data to reopen a [sic] economy with a bang as is the desire of President Trump."

The basis for the plan: antibody tests that "confirmed that the infection is closer to that if [sic] the seasonal flu than than the numbers we have today." He added, "Drs Bhattacharya and Eran Bendavid from Stanford University just finished there [sic] study of 3,000 residents Santa Clara County," and "the results will be published this week."

III. "Do you need money?"

But behind the scenes in early April, the researchers were running into obstacles getting their results into the world, according to the complaint.

They had asked Taia Wang, an infectious disease expert at Stanford, to validate the accuracy of their antibody test. And from her perspective, they were in a rush.

The test — one of many unverified tests the FDA allowed into the US this spring — was distributed by Premier Biotech of Minnesota and made by Hangzhou Biotest Biotech of China, which had provided internal data about its accuracy. But that data needed to be independently validated before the Stanford study could be completed.

Bendavid, an associate professor of medicine, started calling and emailing Wang on March 29, as she would later note in an email chain that mushroomed to more than 15 Stanford researchers leading or involved with the study. "There seemed to be tremendous urgency around this request," she wrote, in a mid-April email attached to the complaint.

In a separate thread of screenshotted emails, which came into the complainant's possession by mid- to late April, the lead scientists and Neeleman appear to discuss Wang's efforts to check the test.

One email, without a visible timestamp or sender that was sent to Bogan's and Neeleman's addresses, read: "David, I think you should write Taia a note and tell her you'll support her lab if she validates this kit." Bendavid confirmed that he put Neeleman and Wang in touch.

And Neeleman did write to her. "First and absolutely most importantly, we have to establish without any doubt, the efficacy of these tests," he wrote. "I am frustrated by what appears to be the lack of urgency."

Neeleman acknowledged that "the Santa Clara test has been in the works for weeks," then expressed interest in doing a future antibody study in New York. He also made clear what kind of result he thought would make a bigger media splash.

"Unfortunately PR impact and the ability to raise large amounts of money quickly will not be the same if you announce 1% of Santa Clara County tested positive for the antibodies versus 30% of New Yorkers which would be huge news," he wrote.

Finally, Neeleman dangled the prospect of funding her to conduct that future test. “If you are willing to do a 5,000 test in New York, just tell me the cost and I will raise the money immediately,” he wrote, signing off with his cellphone number. “Time is of the essence.” (In a screenshotted email included in the complaint, Neeleman appears to share his note to Wang with the lead researchers.)

Reached by BuzzFeed News, Wang declined to comment on most of the emails or her testing. But she said she did not ask Bendavid for the email introduction. Neeleman’s message about providing funding for her to do a test in New York “really upset me,” she said.

She said she spoke to him once by phone afterward. “He expressed interest in doing some studies in New York, and I told him I thought it was a good idea, but I’m not doing that,” she recalled. “My lab is not a contract lab. That’s not what we do.” She added, “I did not request funding or receive any funding for anything related to this.”

For his part, Neeleman said he was just trying to be helpful and was curious about “how it was going.” He said he recalled asking her “‘Do you need money?’” to which he said she responded, “‘No, I have plenty of money.’”

“She had the tests all done by the time I talked to her,” he added. “It was just a nice conversation, I didn’t pressure her or anything.”

Neeleman told BuzzFeed News he was interested in New York because he sees value in conducting antibody tests in places with lots of infections and deaths. “That’s why I didn’t want them to do Santa Clara,” he said. “If they had just done the New York study first, there wouldn’t be so much scrutiny.”

Wang’s experiments on the test left her “alarmed.”

Bendavid said his intent was to possibly “provide additional support at a time of great stress” for Wang, not to financially pressure her, since Wang had mentioned that she was tight on lab space and staff.

He said he was not frustrated with the pace at which she was validating the test, and that his team had thanked her over multiple emails. “I fully understood her constraints and her considerations,” he said.

Wang’s experiments on the test left her “alarmed,” as she would soon recount on the email thread to the group of Stanford faculty. In her retelling, she had told Bendavid by phone that the test entirely missed a certain class of antibodies in some samples. She also told him, she informed the group, that she thought the test “performed very poorly on samples with lower antibody” levels that are more representative of people with mild or asymptomatic infections.

Regardless, the paper ended up including Wang’s data. In a section that describes the test’s accuracy rates, the preprint states that out of 30 samples from virus-free people, the test correctly produced negative results for all of them. But out of 37 samples from known COVID-19 patients, the test correctly detected antibodies in only 27 of them (erroneously identified as 25 in the first preprint).

In her email to the group of faculty, Wang was clear: She did not want her name on the paper and did not trust the test.

“I declined authorship on any manuscript because, based on our testing, I do not believe that the [Premier Biotech] kit is a robust readout for the presence [receptor-binding domain] antibodies,” she wrote.

Wang fired off this email on the morning of April 12 — five days before the results were released to the world.

IV. "I would feel that we were responsible."

Wang's message was part of an email chain that began bouncing into Stanford faculty's inboxes on the eve of Easter weekend. Not long before, President Trump had publicly declared that Easter would be a sure deadline to open up the country. Instead, the US surpassed Italy that weekend to become the country with the most coronavirus deaths in the world.

On the thread were the scientists helming the study — Bhattacharya, Bendavid, and Ioannidis — and a host of other researchers involved. One of them was Scott Boyd, a pathologist who would also try to verify the Premier test's accuracy. According to emails in the whistleblower complaint, he, too, ended up arguing that the test was unreliable.

It's unclear why or how Boyd came to try validating the test, since Wang had already done so. But in an email sent just before 1 p.m. on Friday, April 10, Bendavid outlined several possible ways that Boyd's lab could go about the task.

Bendavid mentioned that he was particularly worried about the test's rate of false positives. If the test generated more false positives than the scientists were expecting, the results would throw off their infection estimates and affect what they could tell people about their antibody status, he wrote.

Coronavirus antibody tests have big limitations. Scientists don't know whether, or for how long, antibodies confer immunity against the new virus, for example. And false positives — incorrect reports that someone has antibodies to the virus — might give people the unfounded confidence to stop socially distancing, potentially causing them to contract and spread the disease.

There is also a greater risk of an individual positive test result being incorrect when a disease is on the rarer side in a community, which may be the case with COVID-19 in some places. Even if a test generates a very low percentage of false positives, its ability to provide people with accurate results is hampered if a pathogen is present in the world at about the same rate.

In the Stanford study, participants had been told they would hear back if they had positive results in a few days to a week, three site volunteers told BuzzFeed News.

Boyd worried about the risk of false positives giving participants incorrect information. "We are concerned about the specificity of the Premier Biotech devices that were donated for your study," he responded on the night of the 10th, referring to the rate at which the test generated false positives. Anyone with a positive test result, he recommended, should be invited back to provide a new sample to be run on a different kind of antibody test, known as an ELISA, considered the gold standard in clinical lab testing.

"If a participant were to have a false impression that they have protective antibodies, and change their behavior as a result," Boyd wrote, "I would feel that we were responsible." He proposed that he would try to verify the test's accuracy rates by running ELISA tests on various kinds of samples, including a subset of the blood drawn at the pop-ups, which would take until the end of that Sunday, the 12th.

He and Bendavid fell into a back-and-forth. Bendavid voiced concern about the blood samples being a week old and frozen. And he came out in defense of the test's false-positive rate, saying that preexisting data indicated "good specificity." He did not commit to contacting and retesting participants, citing, among other factors, restrictions laid out in the study's Stanford-approved protocol.

Boyd shot back.

“You have identified, using a kit of uncertain provenance that was given to you, that you did not verify in any substantial way, a number of people in our community that you were prepared to tell had been infected with SARS-CoV-2 and had raised antibodies against this serious viral pathogen,” he wrote, shortly after noon on Saturday. “With the same untested device, you have given ~3,200 members of our community the impression that if they don’t hear from you, they have no antibodies to SARS-CoV-2.”

Bendavid seemed “resistant to the idea” that people with positive results should be contacted and retested, Boyd continued: “Is this because it would take some time to do so?” Furthermore, he noted, Wang had told him that she did not think her experiments “validated or verified the accuracy of the Premier Biotech kits at all.”

The professor urged Bendavid’s team to prioritize giving people “the most accurate information possible, even if that delays reporting the results of the study for weeks or months.” He concluded, “I hope you will not continue to exert yourself in finding ways to disregard that fundamental responsibility.”

The following week, Boyd had results in hand. Using ELISA tests to reassess the samples of community members who had come up positive for antibodies on the Premier test, he had ended up getting positive results for a little over half of them.

“The kits did not perform as badly as I had feared they might,” Boyd informed the Stanford faculty thread at 1:34 a.m. on the 14th, “but I am concerned that they do not perform well enough to report results back to patients if there are better options available.”

Unbeknownst to Boyd, he was too late. According to the whistleblower complaint, the researchers did not wait to hear what Boyd thought. The afternoon before, they had gone ahead and submitted their paper to MedRxiv, the preprint website where it would appear online several days later.

“This pre-print submission occurred after the first attempt at validating the study’s LFA antibody test was called into question, but before the results of a second validation were known,” the complaint alleges.

Bendavid said the authors made a decision based on all the feedback they had at the time from many experts across disciplines, including Boyd and Wang. Ioannidis also pointed out that it was a preprint, not a published study, and therefore subject to further revisions.

And Bendavid defended what the study authors told participants about how to interpret their results. According to him, the study’s Facebook ad warned, “The study is designed to guide public health in our county, not personal health status,” while a handout to all participants, and a script read to people who tested positive, noted that those results could be inaccurate. He declined to provide a copy of these materials.

The preprint went online on April 17. It quickly blew up on social media, driven by popular right-leaning commentators and with hashtags like #ReopenAmerica, #EndTheLockdown, and #BackToWork.

Before and after the study went live, the researchers made the rounds in the media, from the BBC and CNN to right-leaning outlets. On Tucker Carlson’s show on April 14, Bhattacharya said the infection fatality rate is “likely orders of magnitude lower than the initial estimates” and “much likely much closer to the death rate you see to the flu per case.” On April 15, Bogan called in to chat with the conservative radio host John Fredericks. A week later, Ioannidis Skyped in to Laura Ingraham’s show.

The whistleblower complaint made note of the authors’ media appearances, observing that they “coordinated the online publication of a non-peer-reviewed pre-print with multiple press appearances”

and "continued to promote the results of this and subsequent studies despite severe criticisms of their pre-print from multiple statisticians."

Indeed, scientists immediately attacked the high-profile study's recruitment of participants and data analysis, with one calling it a textbook example of "how NOT to do statistics" and another saying he was "alarmed at their sloppy behavior." One major cause for alarm was that the authors were overly confident in their test's false-positive rate.

On the 21st, in response to the criticisms, Ioannidis told the New York Times: "It's not perfect, but it's the best science can do."

On the Stanford email thread, meanwhile, he and others were showering Boyd with praise for all his behind-the-scenes work. "No words can be good enough to thank you," Ioannidis wrote on the 20th. "I want to make sure that the quality of the data is as good as it can be."

In response, Boyd was hardly as warm. He made clear that none of the data he'd generated was allowed to see the light of day.

"When the results of the re-testing of the study participants are returned to them tomorrow," Boyd wrote, close to midnight on the 20th, "I will be happy to end my involvement in this situation without any ties, acknowledged or unacknowledged, to current, revised, or future contemplated preprints, publications or other public presentations of results from the Premier Biotech test kits."

Boyd did not return requests for comment.

V. "I'm just a scientist."

After the first preprint got pummeled by criticism, the Stanford team publicly stated that they would revise the study to address the issues raised. "This is exactly the way peer review should work in science," Bhattacharya told BuzzFeed News, days after the first study was released. (Bhattacharya did not respond to requests for comment for this story.)

On April 30, a second preprint toned down the researchers' conclusions, included more detail about their process and analysis, and addressed at length many of the critiques they had received.

The first version had stated an estimated range of between 48,000 and 81,000 infected people in Santa Clara County by early April — between 50 to 85 times more than the number of confirmed cases. But the revision gave a much wider range of between 25,000 and 91,000, or 26 to 95 times more than the number of confirmed cases. That change reflected a greater degree of uncertainty in their results.

Accordingly, a sentence that read "the infection is much more widespread than indicated by the number of confirmed cases" was changed to say that it "may be much more widespread" (emphasis added). The estimated infection fatality rate was also revised to 0.17%.

To at least some critics, these updates appeared to be improvements. But the whistleblower complaint raises questions about other claims in the new study that have not been addressed.

In an email cited by the complaint, Boyd reported retesting 47 positive samples from the Santa Clara County residents. But the second preprint, like the first, reports there were 50 positive samples. Bendavid said they had pictures and records of all 50, and deferred questions about the other three to Boyd.

The revised manuscript also provided a false-positive rate for the Premier test that was based on many more blood samples. Before, their specificity calculation was based on a total of 401 samples; in the new

version, it is based on an additional 2,923 samples. The authors did not explain where all the new sample data had come from.

But the complaint cites an internal draft with language stating that the vast majority were "data obtained by personal communication with laboratory director of Hangzhou Biotest," the Chinese manufacturer. This data was not originally provided by the company, the complaint alleges.

"This raises concerns that the data could be biased, intentionally or not, providing an unrealistically favorable view of the test," the complaint states, claiming that the additional data "presents the test as 7.5 times more precise than all other validation data available."

Bendavid said that claim, to the best of his knowledge, was false, and that the researchers had analyzed all of the data themselves.

And the preprint does not name any of what it said were its "many individual donors." A disclaimer stated that the "funders had no role in the design and conduct of the study, nor in the decision to prepare and submit the manuscript for publication."

All in all, the complaint raises even more questions about a study that has already come under fire. And while the university investigates, states have started easing stay-at-home orders.

Dr. Anthony Fauci, the nation's top infectious disease expert, told Congress this week that ending lockdowns now threatens to spark new waves of infections and deaths and set back progress toward recovery. Nevertheless, more than 30 states have reopened businesses or started limited reopening.

It's unclear how much the Stanford study has informed decisions to reopen the US. But in a Senate testimony last week, Ioannidis reiterated his stance that, while "shelter-in-place and lockdown orders were justified initially," continuing them long-term could have drastic consequences on other aspects of health and the economy. Moving forward, he said, the nation should protect at-risk groups, but "reassure most citizens — those of younger ages without serious preexisting conditions — that they are at very low risk."

That same week, Neeleman declared on Twitter, "When this is all over Dr Ioannidis will [sic] vindicated even though he is much maligned now."

Ioannidis was recently asked point-blank about his study's policy implications by the science news site Undark. While denying that the study made any explicit recommendations, Ioannidis also said it supports the hypothesis he has put forth all along: "this is a very common infection, and very often it is asymptomatic, so it goes below the radar screen."

His views, he insisted, were driven by data, not politics.

"I'm just a scientist," he said. ●