Ignore the conspiracy theories: scientists know Covid-19 wasn't created in a lab

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In a recent [interview with the Telegraph](https://www.telegraph.co.uk/news/2020/06/03/exclusive-coronavirus-began-accident-disease-escaped-chinese/), the former head of MI6 Sir Richard Dearlove cited an “important” scientific report that suggested that the novel coronavirus had not emerged naturally, but had been created by Chinese scientists. Dearlove said he believed the pandemic had “started as an accident” after the virus escaped the lab. A month earlier, the US secretary of state, Mike Pompeo, had said he had [“enormous evidence”](https://www.theguardian.com/world/2020/may/03/mike-pompeo-donald-trump-coronavirus-chinese-laboratory) that Covid-19 had originated in a lab in China, only to backtrack from this claim on [live TV](https://www.rollingstone.com/politics/politics-news/interview-pompeo-sends-mixed-messages-coronavirus-wuhan-lab-993341/) in the same sentence.

Suggestions that Covid-19 is a manmade virus are the latest chapter in a tale of blame, misinformation and finger-pointing. Cue the [conspiracy theorists](https://www.snopes.com/collections/new-coronavirus-collection/), marching out their narrative about the high-security BSL-4 lab in Wuhan, where mysterious experiments to design “frankenviruses” led to the tragic global pandemic. Cue the genetic analyses pointing to “unexpected” insertions in the code of A, G, T, and C that explain how this virus could [not have evolved naturally](https://www.biorxiv.org/content/10.1101/2020.01.30.927871v1.full.pdf). Cue political posturing against China, with calls for an inquiry, trade sanctions and even reparations.

Determining the origins and emergence of a pandemic is as messy and complex as studying a plane crash. Just as an air crash investigator pieces together fragments at a crash site, pinpointing the origins of a new virus is painstakingly difficult and time-consuming, and requires logic and reason. I know, because this is exactly what [our organisation](https://www.ecohealthalliance.org/), EcoHealth Alliance, does. We work around the world to identify the origins of pandemics, map them and analyse them, and use these results to predict where the next pandemic will likely emerge. We then target these “hotspots” for enhanced surveillance, capacity-building and risk-reduction programmes to prevent diseases emerging.

I also know the work of the Wuhan Institute of Virology, because we have partnered with them on research projects. For the past 15 years we’ve been working in China to analyse the group of viruses from which Sars and now Covid-19 have emerged. Sampling more than 16,000 bats, [we showed that Sars emerged from a cluster of coronaviruses carried by horseshoe bats](https://www.sciencemag.org/news/2020/06/nih-halted-study-unveils-its-massive-analysis-bat-coronaviruses) that are abundant across southern and central China and traded frequently in wet markets. We found Sars-related viruses that could infect human cells in the lab, cause diseases in lab animals, and evade drugs and vaccines designed to protect us. We worked with the scientists behind the breakthrough drug [Remdesivir](https://www.theguardian.com/world/2020/may/26/remdesivir-drug-to-be-available-for-selected-nhs-covid-19-patients) to show that it was effective against known human coronaviruses and the viruses we suspected might be the next to emerge. We raised the red flag on these viruses and pointed out their potential to cause the next pandemic.

Our 15 years of work in China now puts us in a unique position to identify, with a remarkable degree of confidence, the likely origin of Covid-19. In a recent paper, soon to appear in a peer-reviewed journal, we reported 781 genetic sequences of bat-origin coronaviruses previously unknown to scientists. These include the closest known relatives to Sars-CoV, Sars-CoV-2 and [Sads-CoV](https://www.nature.com/articles/s41586-018-0010-9), a virus that killed more than 25,000 pigs in Guangdong in 2016 and 2017. All are carried by horseshoe bats that are found across southern China and neighbouring countries. Our report firmly concludes that Covid-19 originated in bats, in a hotspot of viral evolution along the border of Yunnan province in China, Myanmar, Laos and Vietnam.

Most people (including former heads of intelligence agencies) aren’t trained in how to decipher genetic codes, so we have to assess the rigour of competing research to determine the truth of claims that Covid-19 was manmade. Writing in the peer-reviewed journal [Nature Medicine](https://www.nature.com/articles/s41591-020-0820-9), researchers strongly refuted the idea that the code had been purposefully manipulated. Whereas the article in Nature Medicinewas written by senior virologists, one author, John Fredrik Moxnes, the chief scientific adviser to the Norwegian military, has already withdrawn his name from the [paper](https://www.cambridge.org/core/services/aop-cambridge-core/content/view/DBBC0FA6E3763B0067CAAD8F3363E527/S2633289220000083a.pdf/biovacc19_a_candidate_vaccine_for_covid19_sarscov2_developed_from_analysis_of_its_general_method_of_action_for_infectivity.pdf)cited by Dearlove – while scientists from the Francis Crick institute and Imperial College London also dismissed its conclusions.