

3-years and counting: GLP contributing writer and geneticist Ricki Lewis highlights 100 articles on the COVID pandemic

Three years ago, health officials in China announced the first cases of infection with a “novel coronavirus.”

[Dr. Zhang Jixian](#) reported the first case on December 26, 2019 in a senior couple living in the residential community near her hospital in Wuhan. An expert in SARS, she recognized the triad of fever, cough, and an unusual pneumonia.

The earliest events remain a bit murky.

“On December 30th, China reported an outbreak of respiratory disease in Wuhan City, a major transportation hub about 700 miles south of Beijing with a population of more than 11 million people,” declared Nancy Messonnier, director of CDC’s [National Center for Immunization and Respiratory Diseases](#), on January 17, 2020.

But I heard about it on NPR shortly after New Years.

My [first COVID post](#) was January 23: *“I’m astonished at the speed with which geneticists and epidemiologists are zeroing in on the Wuhan coronavirus,”* referring to the first viral genome sequence announced [January 15](#). Sequencing viral genomes would evolve into a powerful tool of, well, viral evolution, with the US caught behind.

It’s been a hellish roller coaster ride, with terrible tragedy juxtaposed against some of the most astonishingly brilliant science I’ve ever encountered. I switched from covering rare genetic disease to following the erupting pandemic, reporting news, interpreting technical reports, and delving into the history of epidemiology.

I think about the origins often, comparing RNA sequences and trying to deduce how it happened.

The new pathogen SARS-CoV-2, or a direct predecessor, came from nature. Likely mammals such as bats carried viruses out of caves to who-knows-where, perhaps eventually a wet market or two, maybe following a stint at the Wuhan Institute of Virology. There the critically located tweak to the viral genome happened, intentionally or not, more than a single RNA base change. But somewhere along the journey, genetic changes to the virus’s Achilles heel (the receptor binding domain of the spike protein) happened, easing entry into human cells. I covered it all, returning to the origin theme because it still intrigues me.

Most of my posts ran here at *DNA Science*, several at *Genetic Literacy Project*, and a few at *Medscape* and *MedPage Today*. Early on, I sometimes had 2 COVID articles published on the same day; now it has trickled to one every few weeks.

At first I interviewed clinicians and researchers, until everyone became too busy to talk. Then government agencies like FDA and CDC, major medical and science journals, and clinical centers began holding

regular webinars for health care providers and journalists so we could keep up. Dr. Fauci was a regular on my favorite, which JAMA sponsored, often speaking off-the-cuff in those days before hatred was irrationally turned on perhaps the greatest physician-scientist of our time.

Other early speakers to the media would emerge as lead communicators as the pandemic wore on. I remember Dr. Leana Wen talking to me for a long time before CNN signed her on. And several of the key people in vaccine development shared their thoughts. At the same time, availability of preprints on [medRxiv.org](https://medrxiv.org) and bioRxiv kept journalists up-to-the-minute on research, albeit not yet peer-reviewed. With so many people dying, there simply wasn't time for the protocols of normal scientific and medical publishing.

As viral genome sequences accrued and mRNA vaccines were taken off the shelf from SARS 1.0 circa 2004 and adapted to the new target, my background in genetics became ever more useful for explaining things: protective mutations; viral variants; natural selection in viral evolution; the choreography of the immune response to SARS-CoV-2 infection that could go into deadly overdrive; anatomy of the virus; and applying existing biotechnologies to develop diagnostics, vaccines, and treatments.

My most important post was one of the first to describe the anatomy of the enemy: From February 20, 2020, [COVID-19 Vaccine Will Close in on the-Spikes](#). The most personal was when a new friend died ([Sandy from the Mountains Dies, Leaving a Message to the Unvaxxed](#)), epitomizing how not understanding science and being vulnerable to those who think they do can be lethal. My family tried to save her.

Along the way, I tuned out politicians' absurd suggestions: inject bleach, take untested drugs, restrict flights into the US.

I watched in horror as the anti-vaccine movement gained momentum, opening the door to not only SARS-CoV-2 but to other pathogens, such as the highly infectious virus that causes [measles](#). Today's ignorance and arrogance will surely reverberate for decades.

I delved into [past plagues](#) and looked ahead to how SARS-CoV-2 would continue to evolve, including the viral point of view.

I screamed at the TV as news reports continued to focus on antibodies, when [T cells](#) were clearly calling the shots. Explain the biology!

I cringed at the misuse of classic terms from genetics – like *wild type* and *gain-of-function* – and their trumpeted new meanings tainted with the value judgment that is not part of science.

Here are my 100 COVID posts, a chronology of a killer virus, from the beginning.

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Will scientists ever get ahead of fast-mutating deadly health viruses? Exploring the coronavirus and the genetics of other viral outbreaks

Ricki Lewis | February 11, 2020



Bubonic plague

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Sophie's Choice' in the time of coronavirus: Deciding who gets the ventilators

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[How an Antibody Cocktail Against COVID-19 Channels the 3 Stooges – But is a Great Idea](#)

The Three Stooges illustrate why coronavirus-fighting ‘antibody cocktails’ could help contain the virus well before a vaccine

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