



SPECIAL REPORT

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Holding China Accountable for Its Role in the Most Catastrophic Pandemic of Our Time: COVID-19

A Report by the Non-partisan Commission on China and COVID-19

Convened by The Heritage Foundation

Chaired by John L. Ratcliffe, 6th U.S. Director of National Intelligence

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The Heritage Foundation Nonpartisan Commission on China and COVID-19

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This paper, in its entirety, can be found at <https://report.heritage.org/sr286>

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A Note from the Chairman

The Heritage Foundation's Nonpartisan Commission on China and COVID-19 was formed and founded with a unity of purpose: to review the facts and circumstances related to one of the most devastating pandemics the world has ever witnessed, to assess and calculate the human toll and economic damages caused by the Chinese government, and to make recommendations to hold China accountable.

We prepared this report and the recommendations that follow for consideration by the President of the United States, Congress, and the American people. A nine-member panel of commissioners, comprised of Republicans and Democrats, worked together to present this report unanimously and without dissent.

The goal of our work was to seek the truth, foster accountability, and safeguard the interests and well-being of the American people. To this end, we established four distinct lines of effort designed to unearth the facts, assess the impact, and identify actionable measures.

1. **Data Analysis.** The Commission has undertaken a rigorous analysis of data to ascertain the extensive human and economic costs incurred by the United States due to COVID-19. The aim has been to provide a comprehensive understanding of the pandemic's impact on American society.

2. **The Case.** A comprehensive review of open-source facts and available evidence was a fundamental component of the Commission's work. We have reviewed hundreds of documents and reports produced over the past four years ranging from the U.S. Congress to investigative journalists' reporting and accounts from Chinese citizens. Through the process, we have reviewed, consulted, and considered countless authoritative books, scientific papers, and works from a global network of individuals that unearthed remarkable material. We have also held two virtual hearings and spoken to experts, data analysts, and officials involved with pandemic efforts who worked in the U.S. government in 2020. The purpose of this in-depth examination has been to establish a clear narrative of the events that transpired in China during the critical period from late 2019 through early 2020.
3. **Legal Measures.** In pursuit of accountability and justice, the Commission has evaluated proven and established legal and international causes of actions, principles, and theories to support various potential remedies and case options. We have provided guidance for legal actions that can be taken to address the consequences of COVID-19.
4. **Recommendations for Action.** The Commission has developed actionable recommendations outlining immediate steps for the U.S. government to take in order to hold China accountable and ensure the protection and resilience of our nation. After almost five years of inaction, we call on the President and Congress to take decisive action now.

It has been an honor and a privilege to chair this esteemed Commission. I thank my colleagues for their willingness to serve and provide their expertise. Together, we have strived to honor the values and principles upon which our nation stands and ensure the health and well-being of our citizens.

I am also grateful to The Heritage Foundation for having the leadership and vision to convene our nonpartisan Commission.

John Ratcliffe

Chairman

Nonpartisan Commission on China and COVID-19

6th United States Director of National Intelligence

Former Member of Congress

July 2024

Executive Summary

The COVID-19 pandemic carries with it enormous human and economic costs to the world that will linger for generations to come. In the pandemic's wake, 28 million lives were lost, dreams were shattered, the vulnerable were impoverished, and economies endured trillions of dollars of losses in damages. The United States alone is estimated to have suffered 1.1 million dead and \$18 trillion in losses from COVID-19.

The Heritage Foundation convened a Nonpartisan Commission on China and COVID-19 (the Commission) to embark on a fact-finding mission to determine the enormous costs to the United States from the pandemic, to look at all the evidence available regarding the virus's origin and spread based on the scientific and operating environment in China, to review and offer legal options, and to provide policy recommendations for the United States to implement based on its findings. The Commission's report does not rule out that many other governments, institutions, and individuals may have played contributing roles in the pandemic, but it finds that China has been in a league uniquely of its own in its active and aggressive opposition to honesty, transparency, and accountability regarding the virus and its spread. This behavior by the Chinese government, more than anything else, was the proximal origin of the COVID-19 pandemic.

In this report, the Commission documents several major facts about the pandemic that contradict the Chinese-propagated narrative. The Commission finds that the balance of available evidence points toward the pandemic's having resulted from an initial spillover resulting from a research-related incident at the Wuhan Institute of Virology (WIV), an institution known internationally for its coronavirus-related research, rather than emerging from wild animals sold at a market in that city.

The Commission finds numerous examples of the Chinese government not taking appropriate steps to secure the WIV from potential contamination. It notes that several scientists at the lab became suspiciously ill and that the Chinese government acted to cover up highly pertinent information about the disease during the critical early weeks and months of the outbreak from their own public, the scientific community, and the world at large. The Commission documents how the Chinese government has destroyed samples, hidden records, imprisoned Chinese journalists for asking basic questions, enforced a gag order on Chinese scientists, and fiercely blocked any meaningful international investigation of the origin of the pandemic. The Commission also finds that China published false data about the outbreak. These and other actions were taken by the Chinese

government despite its being a signatory to an international agreement that requires it to notify the World Health Organization of public health emergency concerns and to provide timely, accurate, and detailed information about the disease.

All governments and institutions must comprehensively review their actions leading up to and during the COVID-19 pandemic and take appropriate corrective action to minimize current and future risks. Although this process is not as advanced as it could and should be in the United States, significant steps have been taken by both the executive and legislative branches of the U.S. government. More is required. Here again, China's behavior is in a league all its own and puts China, the United States, and the world at great and unnecessary risk.

Given China's refusal to practice accountability, including its obstructionist role in international institutions, efforts like this Commission are critical. While acknowledging the imperfections of other states and institutions, this report strives to assess China's liability and recommend measures to hold China accountable. Here it finds multiple legal grounds on which the Chinese state and various Chinese corporate entities could be held to account. The Commission also outlines 17 policy recommendations that the U.S. government could implement to strengthen deterrence, transparency, and accountability.

While the Commission analyzes the pandemic mostly in the context of the costs to the United States and what the United States can do to hold China to account, its conclusions are not limited to the United States. We encourage other countries to use the model created by this Commission to investigate the human and economic costs of the pandemic to their own societies and explore how they too can hold China accountable for its actions.

Just as establishing accountability and liability is an essential tool in any functioning domestic legal system, so must those principles also be applied in this context. In the face of unprecedented global challenges, the alternative is a perilous gamble on far worse future pandemics that could claim millions or even billions more lives.

The Unprecedented Global Cost of the Pandemic

The COVID-19 pandemic is considered one of the seven deadliest plagues in world history,¹ inflicting extraordinary human and economic costs across the globe. The head of the International Monetary Fund has called it “a crisis like no other.”²

Before looking at the specific cost estimates for the United States, it is therefore imperative that one understands the impact of the pandemic in a global context. As of June 2024, for example, *The Economist* estimated that global excess deaths from COVID-19 had reached 28 million, including more than 1.1 million Americans.³

In addition to the immense loss of human life, the economic repercussions from the pandemic have been staggering. The world’s collective GDP fell by 3.4 percent in 2020 alone.⁴ Economic output contracted in around 90 percent of countries in the same year.⁵

The World Bank referred to the economic upheaval as “the largest global economic crisis in more than a century” and noted that worldwide poverty had risen “for the first time in a generation.”⁶ The pandemic pushed an estimated 97 million people into poverty from 2020 to 2021.⁷ Low-income countries were disproportionately hit the hardest.⁸

Global unemployment soared to 6.5 percent in 2020—up from 5.4 percent the previous year.⁹ Job losses were not equally spread across the demographic spectrum, as women lost their jobs at greater rates than men according to a World Bank survey.¹⁰ The pandemic erased the equivalent of 255 million full-time jobs through work-hour losses in 2020 alone. These losses were found to be especially acute “in Latin America and the Caribbean, Southern Europe and Southern Asia.”¹¹ The effect of the pandemic persists to this day: Several low-income regions in Africa and the Arab world were projected to have higher unemployment rates in 2023 than they had before the pandemic.¹²

Children bore a disproportionate burden as a result of COVID-19. The United Nations referred to the pandemic as “the worst crisis for children” that it had seen in its 75-year history.¹³ Not only did children face illness and death, but they also experienced the loss of family, isolation due to quarantines and school shutdowns, food insecurity, and challenges with accessing health care for conditions that were not deemed priorities if they were not related to the virus.

Education was hit the hardest. At the pandemic’s peak in 2020, more than 1.5 billion children were out of school worldwide.¹⁴ Total or partial school closures still affected more than 616 million children by 2022.¹⁵ It

was estimated that 70 percent of 10-year-olds in lower-income and middle-income countries were rendered functionally illiterate in February 2022—up from 57 percent before the pandemic.¹⁶ Children in the high-income countries that make up the Organization for Economic Cooperation and Development (OECD) also experienced significant learning loss as mean reading and math test scores declined significantly: Among 15-year-old students in OECD states, 25 percent (one in four) were considered low performers in 2022.¹⁷

In mental health terms, the pandemic period was associated with a 27.6 percent rise in major depressive disorders and a 25.6 percent rise in anxiety disorders globally among those both young and old. Those most prone to mental illness were the young and women.¹⁸ Some countries even saw a doubling of the prevalence of these mental disorders.¹⁹ The social fabric of families and communities unraveled as people grappled with death, illness, isolation, grief, the loss of jobs and incomes, and general uncertainty.

Long COVID is an often-debilitating illness that occurs in at least 10 percent–20 percent of infections and affects people of all ages including children.²⁰ Children are regarded as being particularly at risk of developing long COVID;²¹ in the United States alone, an estimated 6 million children suffer from the disease.²²

More than 200 symptoms of long COVID have been identified with impacts on multiple organ systems.²³ The extensive list includes such multi-organ, multisystem, relapsing-remitting symptoms as fatigue, breathlessness, neurocognitive effects, and dysautonomia. While neurological effects were once considered rare, these cases are becoming “increasingly recognized in both adults and children.”²⁴

Additionally, a range of radiological abnormalities in the olfactory bulb, brain, heart, lung, and other sites has been observed in individuals with long COVID. Long COVID can also trigger other chronic health conditions such as diabetes and heart or liver conditions.²⁵ The disease burden spans from mild symptoms to profound disability with the scale making this a huge, ongoing global health care challenge.²⁶

The global costs of the pandemic were certainly massive, but because of constraints that include the lack of cost data for individual countries, this report focuses only on dollar costs for the United States. This Commission encourages organizations and governments in other countries to use their nations’ statistics to calculate similar figures. The calculations on the following pages that were developed for the United States provide a road map that other countries can use to create their own cost models and join the U.S.

in holding the Chinese Communist Party (CCP) financially accountable for both its actions and its inaction.

The Cost of the COVID-19 Pandemic in the United States

This section is intended to help government officials and the public understand the true costs of this devastating pandemic in the United States.

Totals. The Commission estimates that as of December 2023, the total cost of the COVID-19 pandemic in the U.S. had reached \$18.007 trillion. Table 1 shows the total costs by major category.

For reference, the total net value of U.S. wealth in 2022 was \$135.555 trillion according to the Federal Reserve.²⁷ In other words, the total dollar cost of the pandemic thus far is roughly 13 percent of U.S. wealth. The following sections walk through the cost calculations for each category.

Deaths. The monetary costs of the deaths from COVID can be calculated using a measure known as the value of a statistical life (VSL). The VSL measures how much more individuals must be paid to take on the additional risk of death from given activities.

VSL figures can be inferred from market or survey data. For example, if a job with an additional risk of death of 1 in 10,000 workers per year pays \$1,000 more per year than a similar job, then the VSL is \$10,000,000. Every 10,000 workers collectively will receive \$10,000,000 (10,000 workers x \$1,000 extra for each worker per year) and, on average, one of them will die. Therefore, \$10,000,000 was paid for the risk of one life lost.

The VSL should not be confused with lifetime income or the profits generated from work. It is a measure of the individual's willingness to accept small increases in the risk of death in return for increases in pay.

Treating the outbreak of COVID as an event that increased the risk of death, we can use the VSL to estimate a dollar figure that, if the money were given to all U.S. households after the outbreak, would be considered fair compensation for the increased risk of death.²⁸ However, not every death entails the same loss of remaining life. Obviously, older people have fewer years of life left on average than younger people. Additionally, COVID did not affect all age groups equally and had a greater effect on the older population.

Hence, we calculate the VSL for different age groups using a constant value of a statistical life *year* (VSLY) and sum up the VSLYs over the statistically expected remaining years of life. This method treats every year of life equally.

In our calculations, we use a VSLY of \$500,000, which is in line with the figure used by the U.S. Department of Health and Human Services.²⁹ Dollar

figures for VSLYs far into the future are converted to present values using a discount rate. The discount rate adjusts for the time value of money because a dollar in the future is less valuable than a dollar in the present. The VSL figures reported in Table 2 are based on a discount rate of 3 percent.

The Centers for Disease Control and Prevention (CDC) collects weekly provisional counts for all U.S. deaths including deaths related to COVID-19.³⁰ From the start of the pandemic in 2020, there have been 984,716 deaths in which COVID-19 was the underlying cause and 1,138,763 deaths in which COVID-19 was one of multiple causes.

However, some people who died from COVID may never have tested positive. Others may have died because of something not directly related to the pandemic—at-risk individuals may have avoided medical care because of potential exposure to COVID-19, for example, or health care providers may have delayed services.

For a more comprehensive number for lives lost to COVID, we therefore looked at the CDC’s tracking of “excess deaths” associated with COVID-19—a measure of how much weekly mortality counts exceed what otherwise would have been expected had the pandemic not happened. We use the CDC’s measure of excess deaths broken down by age group to capture variation in the increased risk of death across different ages.

Table 2 presents provisional mortality data from the CDC by age group. Mortality rates before the outbreak of COVID are calculated as the average of rates from 2017–2019 and are presented in the “2017–2019 Average Death Rate per 100,000” column. The higher mortality rates that the United States experienced during COVID are shown as an average in the “2020–2022 Average Death Rate per 100,000” column. Multiplying the percentage change in average death rate by the “2020–2022 Population Average” and multiplying that number by three to account for three years of deaths produces the “Excess Deaths Over 3 Years.” Again, for all age categories, that totals 1,476,457 excess deaths from 2020 to 2022. Multiplying the excess deaths for each age group by its corresponding VSL gives the total cost of increased deaths.

Adjusting for the changing risk of death over three years of the pandemic using a VSLY of \$500,000 yields a total value of \$8.625 trillion.

Lost Income. Comparing economic projections from before the outbreak of COVID-19 with the actual data during it can give an approximation of the pandemic’s effect on the entire economy. While it is not a perfect measure because there were other changes in the economic outlook during the same period, the outbreak should represent the dominant amount of new information over the past few years.

TABLE 1

Total Costs of the COVID-19 Pandemic

Item	Cost (trillions of dollars)
Deaths	\$8.625 trillion
Lost Income	\$1.825 trillion
Chronic Conditions	\$6.026 trillion
Mental Health	\$1.096 trillion
Education Losses	\$0.435 trillion
Total Cost	\$18.007 trillion

SOURCE: Heritage Foundation calculations.

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We calculate the income lost to the economy by comparing actual gross domestic product (GDP) data to Congressional Budget Office (CBO) baseline forecasts from January 2020, which were calculated and released just before the pandemic.

GDP measures the value of goods and services produced within the United States and, consequently, the income that Americans generate from that production. It should be noted (1) that nominal GDP can be split into real GDP, which values goods and services at constant prices, and the implicit GDP deflator, which measures changes in the overall price level, and (2) that changes in real GDP and the implicit deflator should be tracked separately so that increases in the price level with no material benefit are not mistaken for increases in real income.

To calculate the pandemic’s effect on real GDP, we take the difference between current real GDP data and the CBO baseline and multiply it by the implicit GDP deflator. This produces a data series that values real output using the price levels that were expected in the absence of the pandemic. Subtracting this alternate series from the CBO’s January 2020 nominal GDP baseline calculates the nation’s lost income while controlling for inflation, which is calculated in a separate section below.

Summing the nominal GDP differentials over the three years of the pandemic produces a reduction in U.S. total output of \$1.825 trillion. Over the period from the first quarter of 2020 to the fourth quarter of 2022, real GDP averaged 2.5 percent below the projections at the beginning of 2020.

Chronic Conditions. For most people, a COVID-19 infection results in a few days of flu-like symptoms followed by a recovery back to normal. However, some patients report lingering symptoms for months after infection. This is referred to as “long COVID.”

According to surveys from the CDC and the Census Bureau, about 15 percent of U.S. adults have contracted long COVID at some point.³¹ With an adult population of 260.9 million, this equates to 40.2 million cases.

The typical duration of long COVID is still unknown. However, a recent estimate suggests that most symptoms resolve within one year.³²

The relevant economic measure of the harm from long COVID is the Quality-Adjusted Life Year (QALY).³³ QALYs count the number of years in good health, scoring each year between 1 (perfect health) and 0 (death). We use the same reduction in quality of life from long COVID that is used by Harvard University economist David Cutler and former U.S. Treasury Secretary Lawrence Summers, who use a harm per case of -0.25 to -0.35 based on a comparison to chronic obstructive pulmonary disease.³⁴

Using a central estimate of a case of long COVID representing 0.70 QALY for one year and the same value of \$500,000 for the value of a statistical life year that we used previously, the total U.S. harm from long COVID during the three years of the pandemic is \$6.0 trillion.

Mental Health. CDC and U.S. Census survey data show that around 25 percent of adults have been reporting symptoms of either anxiety or depression since the COVID outbreak.³⁵ Whether this was caused by the disease itself or the policies that individual countries implemented to combat the disease is largely a moot point because none of those measures would have been taken had it not been for the disease. The linkage between anxiety and depression symptoms and the prevalence of cases related to COVID-19 is demonstrated by CDC data.³⁶ The prevalence of anxiety and depression reached above 35 percent between July 2020 and January 2021.³⁷ Using the adult population of 260.9 million, that is between 65 million (25 percent) and 91 million (35 percent) cases of anxiety or depression.

The CDC says that depression typically affects 16 million adults, or about 6 percent of the population, every year and that anxiety often accompanies depression.³⁸ This implies that three years of the pandemic resulted in an additional 49 million cases of depression or anxiety (using the low-end number, 25 percent, for this calculation).

Estimates of patients’ willingness to pay for treatment of depression put the figure at around 10 percent of household income.³⁹ Willingness to pay is the appropriate measure because it captures the full value of fair compensation needed to make someone as well off as he or she would be if COVID had


TABLE 2

Costs of Increased Deaths from COVID-19 by Age Group

Age Group in Years	2017-2019 Average Death Rate*	2020-2022 Average Death Rate*	Change from Pandemic	2020-2022 Population Average	Expected Additional Deaths	Value of a Statistical Life (millions of dollars)	Cost per Person	Total Cost (trillions of dollars)
Less than 1	559.3	550.3	-0.01%	3,621,316	-974	\$15.061	-\$4,052	-\$0.015
1-4	23.9	24.9	0.00%	15,359,304	461	\$14.966	\$449	\$0.007
5-14	13.4	14.3	0.00%	41,557,202	1,039	\$14.578	\$364	\$0.015
15-24	71.3	84.8	0.01%	42,900,991	17,418	\$13.872	\$5,632	\$0.242
25-34	130.1	167.7	0.04%	45,692,036	51,449	\$12.953	\$14,585	\$0.666
35-44	196.4	264.0	0.07%	42,977,045	87,200	\$11.762	\$23,864	\$1.026
45-54	396.6	484.5	0.09%	40,580,269	107,010	\$10.240	\$27,003	\$1.096
55-64	885.3	1,042.9	0.16%	42,671,187	201,835	\$8.387	\$39,672	\$1.693
65-74	1,779.6	2,068.6	0.29%	33,293,955	288,625	\$6.225	\$53,966	\$1.797
75-84	4,389.0	5,066.8	0.68%	16,287,943	331,183	\$3.931	\$79,924	\$1.302
85 or more	13,417.6	15,519.8	2.10%	6,203,305	391,211	\$2.037	\$128,459	\$0.797
Total				331,144,555	1,476,457			\$8.625

*Death rate is per 100,000 people.

SOURCE: Heritage Foundation calculations.

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never happened. Combining that with a median household income of \$74,580 in 2022 puts the mental health costs at around \$1.096 trillion (49 million cases multiplied by \$7,458 in treatment per year multiplied by three years).

Education. GDP measures the market value of goods and services produced in an economy in each time period. Services not priced in a market, such as public education, count toward GDP as measured by their cost. During the pandemic, many schools moved to remote learning to satisfy social distancing requirements. Teachers continued to work, so their contribution to GDP was unchanged.

However, remote learning has proved to be not nearly as effective as traditional in-class learning. Students' test scores on standardized assessments declined during the pandemic and have not rebounded to pre-pandemic levels. Average math scores for fourth and eighth graders on the National Assessment of Educational Progress in 2022 were five and eight points lower, respectively, than scores in 2019.⁴⁰ Average reading scores were down three points across the board.

These education losses amount to students being one-quarter to three-quarters of a school year behind in their education.⁴¹ Using an annual

figure of \$870 billion in public elementary and secondary school expenditures, this equates to a loss of \$218 billion to \$653 billion worth of education. For our loss calculations, we will take the average of the high-end and low-end figures, which is \$435 billion.

Conclusion

The COVID-19 pandemic has exacted a staggering toll on the United States, both in human lives and in economic terms. The total estimated cost of \$18.007 trillion is a stark reminder of the profound impact this global health crisis has had on the nation. By understanding and acknowledging these costs, we can lay the groundwork for holding accountable those whose negligence or overt actions exacerbated the pandemic's severity.

The Case for Chinese Government Accountability

The Commission focused on two areas to assess the role the Chinese Communist Party (CCP) played in the COVID-19 pandemic. The first was a review of available facts and evidence surrounding the science and operating environment in China. The second was a review of the actions taken by Chinese authorities to conceal the truth.

The Science and Operating Environment

After a careful review of the available evidence, it is the view of this Commission that the COVID-19 pandemic very likely stemmed from a research-related incident in Wuhan, China. The Chinese government has obscured much of the relevant record and obstructed all credible international efforts to investigate the origin of the virus, but the available evidence strongly supports a research-related accident.

Although it remains theoretically possible that COVID-19 emerged via zoonosis in the wild⁴² or spillover in a wet market⁴³ (spillover is a virus originating in animals before it passes to humans), there is no evidentiary basis for either of these hypotheses despite extensive testing over four years. The proponents of these hypotheses focus on a spatial analysis of early cases, allegations of two lineages emerging from the market, and the presence of susceptible animals. There are numerous major challenges to these hypotheses. The Worobey et al. Science paper⁴⁴ asserting dispositive evidence of a market origin was later refuted by two different authors' peer-reviewed articles that statistically disproved the Worobey et al. spatial analysis.⁴⁵ Early case data finally released in 2024 fully refute the double spillover argument and indicate that a single introduction of the virus into humans caused the pandemic.⁴⁶ No evidence of infected animals in the market was ever found.⁴⁷ In other viral outbreaks, such evidence was found rather quickly and in multiple places along the usual distribution channels and final destinations of these animals.⁴⁸

Other studies observed that the transmission evidence found at the marketplace did not differentiate between a superspreader event among humans and a natural spillover.⁴⁹ The genetic and early case data appear to suggest that the virus was already in circulation among human beings before the outbreak associated with the market.⁵⁰ And while the SARS-CoV-2 virus conceptually could have emerged naturally⁵¹ from human contact with infected animals in the wild, there is still no evidence of direct zoonotic transfer from a bat or intermediate species.

Logic and Common Sense. The virus that caused the COVID-19 pandemic, formally known as SARS-CoV-2, first emerged in Wuhan, China, in the fall of 2019. This city of 11 million people is approximately a thousand miles away from the natural habitat of the horseshoe bats potentially laced with the viruses⁵² and a long way from the areas of tropical southern China that are commonly associated with viral spillovers. Moreover, Wuhan is situated in a part of China where relatively fewer people eat wild animals and there is less of a trade in wild animals than there is in some other parts of China.

While Wuhan is far from the natural habitat of the relevant horseshoe bats and from the animal distribution channels that were linked to the 2003 SARS outbreak,⁵³ it somehow managed to be the one city where the virus emerged, with no known independent introduction anywhere else. At the same time, the city is a leading center for Chinese virology research and home to multiple virology and public health institutes, including the Wuhan Institute of Virology (WIV).⁵⁴ The WIV has the largest collection of captive SARS-like coronaviruses in the world and was doing risky research manipulating those viruses under substandard safety conditions.⁵⁵ This research included infecting animals, including humanized mice, with these newly created viruses.⁵⁶

Although the WIV presents itself as a civilian institution,⁵⁷ the U.S. government stated in early 2021 that the WIV has collaborated on publications and secret projects with China's military, including laboratory animal experiments and coronavirus experiments.⁵⁸

It is difficult for anyone outside of China to have intimate knowledge of experimentation being done at the institute, but we know that the WIV became the focal point for international coronavirus research following the 2003 SARS outbreak.⁵⁹ Shi Zhengli, director of the WIV's Center for Emerging Infectious Diseases, and her colleagues had genetically engineered chimeric SARS-like coronaviruses, which sometimes became more virulent in humanized mice compared to viruses collected from nature.⁶⁰

Shi and others at the WIV carried out such work at biosafety level 2 (BSL-2),⁶¹ a much lower tier than that used by Shi's former American collaborator, virologist Ralph Baric, who carried out work at BSL-3.⁶² BSL-2 is grossly inadequate for conducting risky viral experiments. The consensus among international scientists is that such research should be conducted at least at BSL-3 and, ideally, at BSL-4.

Furthermore, the SARS-CoV-2 virus contains distinct features and attributes that suggest a research-related origin. Perhaps of all these features, it is the furin cleavage site that attracted the most attention. The

furin cleavage site had never been seen in this subgenus of coronaviruses, known as sarbecoviruses.⁶³ Studies have found that the furin cleavage site is key to SARS-CoV-2 pathogenesis.⁶⁴ There is a strong case to be made that the pandemic virus emerged from research in Wuhan where scientists had proposed to insert furin cleavage sites into novel SARS-like coronaviruses.

Wuhan Institute of Virology’s Deficient Biosafety Record. There is a long and copious record of insufficient safety protocols besetting the WIV prior to the outbreak that cannot be dismissed.

In 2017 and 2018, for example, U.S. embassy officials in Beijing sent cables to the State Department warning about safety concerns at the WIV. They were ignored. The cables were prescient, specifically citing the sensitivity of the lab’s work on SARS-like bat coronaviruses and human infectivity.⁶⁵ During another U.S. government visit to Wuhan, a National Institute of Allergy and Infectious Diseases official learned that the WIV had no experience operating a high-containment Biosafety Level BSL-4 lab and had to “learn everything from zero.”⁶⁶

The director of China’s Center for Disease Control and Prevention, Dr. Gao Fu, published an editorial in March 2019 in the journal *Biosafety and Health* warning about potential natural, accidental, and deliberate biological threats. He specifically identified laboratory risks:

Non-compliance of approved biocontainment and biosafety protocols could result in accidental or deliberate release of pathogens into the environment...
[G]enetic modification of pathogens, which may expand host range as well as increase transmission and virulence, may result in new risks for epidemics...
[such as] synthetic bat-origin SARS-like coronaviruses [that] acquired an increased capability to infect human cells.⁶⁷

In July 2019, the WIV leaders warned that they were facing “urgent problems.”⁶⁸

Despite the biosafety concerns⁶⁹ and lax security protocols associated with the institute, dangerous viral research continued apace.

The U.S. State Department noted in a January 2021 fact sheet that it had “reason to believe” that several scientists “inside the WIV became sick in [the] autumn [of] 2019.”⁷⁰ Those scientists reportedly exhibited symptoms consistent either with COVID-19 or with common seasonal illnesses, despite a claim by WIV leadership that there were no infections among the staff and students there.⁷¹ Subsequent U.S. news articles have disclosed additional information regarding three WIV researchers who reportedly fell ill before the acknowledged public outbreak of COVID-19 in Wuhan.⁷²

Match Between 2018 DEFUSE Proposal and 2019 SARS-CoV-2 Virus. In 2021, the online research network DRASTIC released details about key documents associated with a March 2018 grant proposal to the U.S. government for a research project named DEFUSE, which aimed to manipulate coronaviruses at the WIV in ways eerily similar to the genetic profile of what later would be identified as SARS-CoV-2.⁷³ The U.S. government declined to fund the proposal,⁷⁴ which would have been a joint research venture by the New York–based organization EcoHealth Alliance, the WIV, Duke NUS (National University of Singapore) Medical School in Singapore, and the University of North Carolina (UNC). Additional documents obtained in December 2023 by researchers at the organization U.S. Right to Know showed how the early drafts of the DEFUSE proposal reinforced its correlation with SARS-CoV-2.⁷⁵

It is noteworthy that UNC researcher Ralph Baric commented to EcoHealth Alliance chief Peter Daszak in an early draft of the DEFUSE proposal that “[i]n china, might be growin[g] these virus[es] under bsl2. US resea[r]chers [would] likely freak out” if they knew about this.⁷⁶

It is suspicious that in February 2020, after the outbreak of COVID-19, the WIV scientists published a paper about the virus in *Nature* that left out its most important and novel feature: the furin cleavage site,⁷⁷ which enables the virus to bind to and release its genetic material into a human cell more efficiently, making it easily transmissible and dangerous.⁷⁸ This is particularly puzzling given that the furin cleavage site was something that Shi should have been acquainted with given her involvement with the DEFUSE grant proposal and her prior publications.⁷⁹

Although the U.S. government did not approve the DEFUSE proposal, it is common practice for researchers to seek funding for work that has already begun. The WIV would not have needed to rely on the desired U.S. government funding in order to pursue this dangerous research independently. Without the involvement of experienced foreign parties, China would have been free to do it its own way (at BSL-2) with limited risk-management constraints.⁸⁰

The Chinese Communist Party’s Systematic Cover-up

Seven Weeks that Changed the World. Starting in December 2019—at the latest—there were seven weeks during which Chinese officials could have shown good faith and honored their international commitments to try to prevent a domestic epidemic from becoming a global pandemic. They consistently chose to do otherwise. Key facts:

- Chinese officials knew in December 2019 that there was human-to-human transmission of the new virus.
- Chinese authorities aggressively silenced medical personnel, journalists, and other Chinese citizens—at times jailing them—for trying to warn each other and the world about the seriousness of the virus.
- Chinese authorities withheld the genomic sequence of SARS-CoV-2 (the virus) starting on December 27, 2019.
- Chinese authorities withheld vital information from the World Health Organization (WHO), including the type of virus behind the illness, the true number of infected people, and the attested human-to-human transmission, until it was obvious to the whole world that they could not contain the outbreak.
- Chinese authorities issued orders to labs to destroy evidence that could prove incriminating.
- Chinese authorities issued gag orders against academic researchers and scientists that prohibited them from sharing information about the virus.
- The genomic sequence became available only when a Chinese scientist posted it online, in defiance of the official orders, on January 11, 2020. This delay denied other countries the immediate opportunity to begin development of tests, drugs, and vaccines.
- Chinese officials allowed international flights to continue from Wuhan and other Chinese cities despite evidence that the lethal virus could be asymptomatic. This facilitated its global spread.
- Chinese officials blocked international attempts to investigate the origin of the pandemic.

December 2019. There is a growing body of evidence that suggests SARS-CoV-2 began circulating in Wuhan in the fall of 2019.⁸¹ Frontline clinicians across multiple Chinese hospitals quickly realized “that the unusual pneumonia they were treating was likely infectious.”⁸² One hospital doctor, Dr. Zhang Li, later wrote that by the end of December, “the signs of

human-to-human transmission were already very obvious.”⁸³ China’s CDC Director General Gao Fu admitted in a March 21, 2021, interview that while “doctors in Wuhan reported early cases to local hospitals but these did not make in to our [national diseases reporting] network.”⁸⁴

Indeed, a few months before the acknowledged outbreak in December 2019, the WIV changed its security protocols, ordered an expensive new air incinerator⁸⁵ and ventilation system, and—in the middle of the night—mysteriously took down an online database of 22,000 bat virus samples.⁸⁶

Numerous reports have indicated that researchers at the WIV were infected in the fall of 2019.⁸⁷ The virus first circulated in Wuhan no later than November 2019 according to a 2021 U.S. intelligence report.⁸⁸ Other data suggest there were cases earlier in 2019.⁸⁹ Official Chinese reports, however, claimed the first patient in Wuhan was recorded on December 1, 2019.⁹⁰ Later, they changed that to December 8.⁹¹ According to Chinese government documents obtained by the *South China Morning Post* in March 2020, nine November 2019 cases were identified, with the earliest case occurring on 17 November 17.⁹²

In the crucial early days of the pandemic, the Chinese government used a powerful apparatus to control and manipulate information about the virus.⁹³ Starting on December 1, 2019, the use of the terms “SARS” and “shortness of breath” in Chinese social media started to increase, and by December 29, it had peaked.⁹⁴ A day later, local authorities in Wuhan issued “an emergency notice to medical institutions” that forbade them from releasing “unauthorized” information about the disease.⁹⁵ This ban was quickly rendered ineffective due to social media. Local authorities’ emergency notification “about the severe acute respiratory syndrome (SARS)-like coronavirus” quickly made its rounds on social media.⁹⁶ Medical professionals were even criticized for wearing masks at a time when China was denying human-to-human transmission, resulting in unnecessary deaths and further transmissions.⁹⁷

Doctors who first tried to share information about the virus were detained by police and forced to confess to “spreading rumors.”⁹⁸ Chinese journalists and activists were also imprisoned for trying to tell the truth to fellow citizens and the outside world about what was happening inside Wuhan.⁹⁹ China’s citizens told a story that was very different from the official CCP narrative.¹⁰⁰

The CCP withheld information, published false data,¹⁰¹ and refused to share information about health care workers—a key to understanding transmission patterns and developing strategies to contain outbreaks.¹⁰²

On December 24, doctors at Wuhan Central Hospital took fluid samples from the lungs of a patient with pneumonia and sent them to Vision

Medicals, a Chinese genomics company, for testing.¹⁰³ Around that time, local doctors sent at least eight other patient samples from hospitals around Wuhan to multiple Chinese genomics companies, including BGI Group.¹⁰⁴

Chinese medical staff in two hospitals in Wuhan were suspected of contracting viral pneumonia and were quarantined¹⁰⁵ on December 25, providing additional evidence of human-to-human transmission.¹⁰⁶

On December 27, Vision Medicals reported the analysis of the nearly full genome sequence to the hospital and to the Chinese CDC by phone. The sequence was also shared with the Institute of Pathogen Biology of the Chinese Academy of Medical Sciences in Beijing, which has links to the People's Liberation Army (PLA),¹⁰⁷ for further analysis. The results stated that it was a SARS-like coronavirus of bat origin and that the homology was very high.¹⁰⁸ BGI completed genomic sequencing of the novel coronavirus on December 29.¹⁰⁹ The lab test results all pointed to a SARS-like virus. By December 27, Beijing was aware of the severity of the virus after it was sequenced by Vision Medicals¹¹⁰ and followed by BGI.¹¹¹

At the same time, China's National Health Commission ordered commercial labs to destroy or hand over virus samples and ordered that research findings be published only after official approval.¹¹² Health Commission authorities were sent to seize the samples from Vision Medicals.

At about 10 p.m. on December 27, the dean and director of the designated pulmonary infections hospital in Wuhan (Jin Yin-tan) reviewed the SARS-CoV-2 sequence with the WIV, which confirmed its homology with SARS and likely danger.¹¹³

On December 30, Dr. Li Wenliang sounded the alarm and released initial evidence to other doctors in an online chat group. He warned that they were being silenced and punished by local authorities in Wuhan for "spreading rumours" and "disturbing the public order."¹¹⁴ Local police used humiliation tactics on whistleblowers.¹¹⁵

The crackdown went into full force and continued for months. Police across the country threatened activists and lawyers. Others were jailed¹¹⁶ or disappeared,¹¹⁷ risking their lives to tell the truth.¹¹⁸

On December 30, the Wuhan Health Commission confirmed¹¹⁹ the existence of a virus of unknown cause and issued an order to hospitals, clinics, and other health care facilities strictly prohibiting the release of any information about treatment of this new disease.¹²⁰ By the end of day on December 30, all 27 known cases were transferred to the negative pressure pulmonary infections ward of Jin Yin-tan hospital, using negative pressure ambulances disinfected after each trip. The precautions were taken after the guidance the hospital received from the WIV on December 27.¹²¹

On December 31, the World Health Organization's China Country Office picked up a media statement by the Wuhan Municipal Health Commission's website reporting cases of "viral pneumonia" in Wuhan.¹²²

January 2020. On January 1, 2020, the National Health Commission ordered the WIV not to disclose anything about the epidemic such as testing, experimental data, and results—even to partner organizations and technical service companies.¹²³ Additionally, sequencing companies were told to stop sequencing, to destroy samples, and not to communicate anything.¹²⁴

On January 3, 2020, Chinese officials provided information to the WHO on the cluster of "viral pneumonia of unknown cause" cases identified in Wuhan.¹²⁵ Chinese authorities told the WHO that they had no idea what was causing it.¹²⁶ The same day, the National Health Commission sent a secret memorandum to labs banning unauthorized scientists from working on the virus and disclosing the information to the public.¹²⁷

Chinese authorities prohibited the sharing of critical data about infections of frontline health care workers. These authorities also repeatedly stressed that no health care workers were infected with the new virus—an important sign for possible human-to-human transmission used to suggest that the virus was not very contagious.¹²⁸

The CCP did not disclose that the virus could spread through human-to-human transmission until January 20, 2020. Asymptomatic transmission of SARS-CoV-2 is the stumbling block of COVID-19 pandemic control. Transmission from asymptomatic individuals was estimated to account for approximately 60 percent of all transmission.¹²⁹

Delay in Releasing Viral Sequence/Genome and Admission of Human-to-Human Transmission. On January 11, a team led by Zhang Yongzhen of the Shanghai Public Health Clinical Center published the genomic sequence on the U.S. website Virological.org.¹³⁰ (Two days later, Chinese authorities forced his lab to close for "rectification."¹³¹) *The Wall Street Journal* broke the news that Chinese scientists had identified a new coronavirus.¹³² It was not until after Zhang released the genome that the Chinese government, the Chinese CDC, the Wuhan Institute of Virology, and the Chinese Academy of Medical Sciences raced to publish their sequences.¹³³ This was a full two weeks after Beijing had been informed.¹³⁴

The delay in the release of the genome stalled recognition of its spread to other countries. The lack of detailed patient data also made it harder to determine how quickly the virus was spreading, thereby undermining efforts to stop or slow its transmission.¹³⁵

By January 10, the number of cases in hospitals was starting to explode. That day, a radiologist in a one Wuhan hospital diagnosed 30 cases. On

January 15, a radiologist in another hospital diagnosed 50 cases by CT-scans, which was more than the official total number of cases since the start of the outbreak (41) as reported by the Chinese authorities. By January 20, CT-scan machines were breaking down under the load.¹³⁶

Despite this explosion of cases, the governor of Hubei province told officials on January 17, citing Xi Jinping's precepts of top-down obedience, that "politics is always No. 1."¹³⁷ Shortly after this, and to set a new world record, the Wuhan government went forward with hosting an enormous potluck banquet for 40,000 families¹³⁸ in what surely became a massive superspreader event.

Finally, on January 20, a well-known medical doctor appeared on Chinese state television and informed the public of the reality of human-to-human transmission, citing 14 medical staff infections.¹³⁹

It is clear that by the end of December 2019 and through early January 2020, Chinese authorities in Beijing had "access to numerous genomic sequences and whole genomes of the SARS-like novel coronavirus, in addition to clusters of cases, suspected cases and expert physicians' concerns that the viral pathogen was contagious."¹⁴⁰ The amount of quality information available to Chinese policymakers in late December 2019 was substantial from a disease prevention and control perspective.¹⁴¹

Unrestricted Travel. The Chinese government was similarly late to restrict air traffic. According to the *Global Times*, a CCP news outlet, Xi Jinping gave the order to "impose traffic control and people's movement" in Wuhan and other cities in Hubei province on January 22.¹⁴² The lockdown began the next day.

But it was too late. By January 23, Xi missed the last clear chance to stop the virus from going global. Seven million people had already left Wuhan in January for the Chinese New Year holiday, and outbreaks were growing in more than 30 cities across 26 countries via travels from Wuhan.¹⁴³

Xi's directive stopped flights from Wuhan to other Chinese cities but allowed for the continuation of international flights from Wuhan unabated.¹⁴⁴ There were 21 countries that had direct flights from Wuhan.¹⁴⁵

Beijing's actions facilitated the virus's spread undetected beyond its borders despite knowledge of its lethality and human-to-human transmission. There were 1,300 direct flights from Wuhan to 17 cities in the United States before the U.S. government restricted travel on January 31.¹⁴⁶

Other Important Facts. Beijing's withholding and censorship of crucial information regarding the virus affects not only China's own population or travelers to China, but also the global scientific community. The WIV virus database with its more than 22,000 samples was taken down in

September 2019. This database, which would have been the most useful in tracking down the origin of SARS-CoV-2, was never released to American researchers.¹⁴⁷

On February 3, 2020, Xi Jinping gave a speech to the Politburo Standing Committee (PBSC) in which he recounted his requests and instructions on the pandemic starting at a January 7 PBSC meeting. “Party committees and governments at all levels,” Xi said, “must resolutely obey the unified commands, unified coordination, and unified dispatch...of the Central Party Committee to the point that all orders and prohibitions are strictly enforced.”¹⁴⁸ Thus, Xi was giving important orders about the virus outbreak as early as January 7 even as he persisted long thereafter to cover up and play down the matter for the Chinese public and other world leaders.

The CCP hoarded Personal Protective Equipment (PPE). In the early part of the outbreak, Beijing directed Chinese-owned firms located in China and abroad to procure millions of protective masks, medical gowns, and gloves on the international market and ship them back to the mainland. Chinese authorities nationalized the supply chains and manufacturing capacity of foreign companies including General Motors and 3M to produce medical supplies while denying export licenses for their products.¹⁴⁹

Before the U.S. had access to the viral genome,¹⁵⁰ the Chinese Communist Party was evidently well underway in its vaccine research and development.¹⁵¹

General Zhou Yusen, senior PLA researcher and Director of the 5th Institute of the Beijing Academy of Military Medical Sciences (AMMS), worked with the WIV and possibly at the WIV prior to the pandemic.¹⁵² Zhou had a long history as an accomplished coronavirus vaccinologist.¹⁵³ On February 24, 2020, he submitted one of the first COVID-19 vaccine patents, which requires access to both the sequence of the SARS-CoV-2 and the live virus itself.¹⁵⁴ The research methodology tied in with the patent indicates that work on a vaccine probably began no later than November 2019.¹⁵⁵ Zhou was reported as having mysteriously died sometime after submitting the preprint of his study adapting SARS-CoV-2 to BALB/c mice and the initial testing of his candidate vaccine in early May 2020 and its publication in July 2020. There was no official PRC government acknowledgement of his death.¹⁵⁶

China is a signatory to the WHO International Health Regulations (IHR), which were amended in 2005 after the SARS epidemic of 2002–2004.¹⁵⁷ Under the IHR, China was responsible for collecting data about the spread of COVID-19 and for informing the WHO.¹⁵⁸ China is in violation of Articles 6 and 7. Article 6 requires that states first notify the WHO of an event of

public health emergency concern and provide any timely, accurate, and detailed public health information available to it. Article 7 extends this to circumstances that include a state seeing evidence of an unexpected or unusual public health event within its territory that may constitute a public health emergency of international concern even if the origin or source of it is unknown.¹⁵⁹ In the case of COVID-19, China acted in clear violation of both articles.

China's nontransparency and coercion extended beyond its domestic decisions and WHO obligations. China's dispute with Australia was but one example of coercion used by the CCP against a foreign government target. After Australia's then-Prime Minister Scott Morrison called for an international investigation into the origin of COVID-19, China retaliated by imposing trade sanctions that included heavy tariffs on Australian exports.¹⁶⁰ Other such international attempts to investigate the origin of the pandemic were similarly blocked by Chinese officials.¹⁶¹

In March 2020, the Federal Bureau of Investigation warned that Chinese government-affiliated cyber actors and nontraditional collectors were "observed attempting to identify and illicitly obtain valuable intellectual property (IP) and public health data related to vaccines, treatments, and testing from networks and personnel affiliated with COVID-19-related research."¹⁶² The FBI added that "[t]he potential theft of this information jeopardizes the delivery of secure, effective, and efficient treatment options."¹⁶³

Conclusion

Wuhan doctor and COVID-19 whistleblower Dr. Li Wenliang died on February 7, 2020, at the age of 33, leaving behind a pregnant wife and young son. In an interview before his death, he said: "If the officials had disclosed information about the epidemic earlier, I think it would have been a lot better. There should be more openness and transparency."¹⁶⁴

Despite obligations to inform other states about the health crisis, China's government did not act transparently. It repeatedly took steps that allowed the virus to spread despite its obligation to inform other states about the health crisis. Such negligent actions ran the gamut from blocking the sharing of relevant scientific data, to knowingly lying to the WHO and the international community about human-to-human transmission, to allowing international flights out of affected cities. These actions also made it more difficult to ascertain the origin of the virus, casting all the more doubt on the regime's claims regarding the origin.

As one scholar has observed, “The characteristics of the Chinese political system, preoccupied with maintaining stability and quick to suppress unwelcome opinions and signals, were ill-suited for handling an outbreak that necessitated public involvement from the outset.”¹⁶⁵

China's Legal Culpability

It is the belief of this Commission that the Chinese government and its affiliates can be and should be held liable for damages to the United States and its people caused by Chinese negligence and malfeasance related to the COVID-19 pandemic. Any action to hold China or its controlled corporate entities accountable for the devastation of the COVID-19 virus will have to confront the formidable obstacles posed by the U.S. Foreign Sovereign Immunity Act (FSIA), which mandates that foreign states—and their instruments and agents—“shall be immune from the jurisdiction of the courts of the United States and of the States” with certain exceptions.¹⁶⁶

The Commission finds that a number of potential causes of action (and attendant areas of factual inquiry) could be brought to hold China accountable for its role in the COVID-19 pandemic consistent with FSIA. The success of an individual case would turn on the development and marshalling of the key facts necessary to overcome FSIA immunity. While, again, the Commission believes that China can be held accountable within the strictures of FSIA, that is a difficult process. The Commission therefore believes that FSIA should be revised in a narrow, tailored, and appropriate way to bring direct accountability in the extraordinary and unique context of global pandemics.

Possible Causes of Action Under FSIA

A. FSIA's Ambit.

1. A “foreign state” is defined to include the state itself and its “political subdivisions” (organs dedicated largely to governance functions).¹⁶⁷ It also includes the state’s “agencies or instrumentalities,” which are separate legal persons or entities that are either an “organ” of a foreign state or “a majority of whose shares or other ownership interest is owned by a foreign state.”¹⁶⁸ Four exceptions to FSIA’s broad immunity are relevant here.
 - a. First, under the “commercial activity exception,” a foreign state is not immune based upon:
 - a commercial activity carried on in the United States by the foreign state;

- an act performed in the United States in connection with a commercial activity of the foreign state elsewhere; or
- an act outside the territory of the United States in connection with a commercial activity of the foreign state elsewhere and that act causes a direct effect in the United States.¹⁶⁹

An activity is “commercial” “when a foreign government acts, not as a regulator of a market, but in the manner of a private player within it.”¹⁷⁰ “[A]n effect is *direct* if it follows as an *immediate* consequence of the defendant’s...activity.”¹⁷¹

- b. Second, there is no immunity for “personal injury or death, or damage to or loss of property, occurring in the United States and caused by the tortious act or omission of that foreign state or of any official or employee of that foreign state while acting within the scope of his office or employment.”¹⁷² Relevant here, the “entire tort” must have occurred within the United States.¹⁷³ But there is an exception to this exception that applies where the conduct in question is “based upon the exercise or performance or the failure to exercise or perform a discretionary function regardless of whether the discretion be abused” or the relevant claim arises “out of malicious prosecution, abuse of process, libel, slander, misrepresentation, deceit, or interference with contract rights.”¹⁷⁴ In FSIA parlance a “discretionary act” is a deliberate policy judgment.¹⁷⁵
 - c. Third, there is no immunity for “an act of international terrorism in the United States.”¹⁷⁶ FSIA imports the criminal law definition of international terrorism.¹⁷⁷
 - d. Finally, a foreign state (or its component) can waive its FSIA immunity.¹⁷⁸
2. Even if FSIA’s immunity is overcome, FSIA presents four additional complications to any cause of action.
 - a. As an initial matter, FSIA provides a specific scheme for service of process to secure personal jurisdiction.¹⁷⁹ The Chinese government has excelled at complicating service of process under these

procedures. Service of process is not likely to present an insurmountable barrier but may well require the cooperation of the Department of State and motions practice before a court.

- b. Even if there is no immunity under FSIA, it absolutely precludes the recovery of punitive damages.¹⁸⁰ It also almost certainly precludes many forms of injunctive relief.
- c. FSIA grants federal district courts original jurisdiction over any action involving a “foreign state.”¹⁸¹ Any state court action is removable on this basis.¹⁸² Such action shall be tried without a jury.¹⁸³
- d. Independent of liability, FSIA restricts the satisfaction of judgments. The general rule is that “property in the United States” is immune from “attachment, arrest, and execution.”¹⁸⁴ An exception exists where “the property is or was used for the commercial activity upon which the claim is based.”¹⁸⁵ A broader exception exists for “any property in the United States of an agency or instrumentality of a foreign state engaged in commercial activity in the United States” where “the judgment relates to a claim for which the agency or instrumentality is not immune by virtue of section 1605(a)(2)...or (5)...regardless of whether the property is or was involved in the act upon which the claim is based.”¹⁸⁶

B. Potential Parties.

1. **People’s Republic of China (PRC).** The Foreign Sovereign Immunities Act does not immunize the PRC against the claims and allegations arising from the spread of the COVID-19 virus. The PRC’s acts and omissions that caused the global spread of COVID-19 were tortious, commercial, and nondiscretionary in nature, and they caused direct injury, property damage, and death within the United States. Claims premised on conduct of these sorts fall within recognized exceptions to sovereign immunity under 28 U.S.C. §§ 1605(a)(2) and § 1605(a)(5).

Additional defendants must fit applicable FSIA exceptions by principally carrying on commercial activity directly in the United States that is bound up in the actionable course of conduct. The Commission believes that two Chinese airlines qualify as additional defendants that would not be entitled to immunity under the FSIA.

2. **China Southern Airlines Company Ltd.** “China Southern” is a company that does business in the United States and accordingly has subjected itself to U.S. jurisdiction. Incorporated and headquartered in Guangzhou, China Southern is a state-owned entity with the government of the PRC holding a majority stake in the business. China Southern is directly overseen by the state-owned Assets Supervision and Administration Commission of the State Council. Its filings with the U.S. Securities and Exchange Commission clarify that “[t]he interests of the Chinese government in the Company...may conflict with the interests” of shareholders.¹⁸⁷ China Southern operates worldwide with 224 destinations¹⁸⁸ including U.S. cities Los Angeles, New York, and San Francisco. Through China Southern, the PRC engages in a traditional commercial activity of owning and operating a civilian airline open to cargo and travelers across the globe including those flying to and from the United States. As a condition of its right to operate flights into the United States, China Southern waived its sovereign immunity.¹⁸⁹

3. **China Eastern Airlines Company Ltd.** “China Eastern” is a company that does business in the United States and accordingly has subjected itself to U.S. jurisdiction. Incorporated and headquartered in Shanghai, China Eastern is a state-owned entity with the PRC holding a majority stake in the business. The airline’s website lists it as “one of the three state-owned backbone airlines of China.”¹⁹⁰ China Eastern operates internationally with destinations in the U.S. including Chicago, Los Angeles, New York, and San Francisco. Through China Eastern, the PRC engages in a traditional commercial activity of owning and operating a civilian airline open to cargo and travelers across the globe including those flying to and from the United States. As a condition of its right to operate flights into the United States, China Eastern waived its sovereign immunity.¹⁹¹

The Chinese National Pharmaceutical Group (Sinopharm), Chinese manufacturers of PPE equipment, and other possible defendants should also be considered.

C. Prior Successful COVID Cases.

The only COVID-19 claims of which we are aware that have survived FSIA immunity, involving China’s role in hoarding PPE supplies, were plead

under the third commercial activity exception theory (an act outside the territory of the United States in connection with a commercial activity of the foreign state elsewhere that caused a direct effect in the United States).

The first case is *State of Missouri v. The People's Republic of China*.¹⁹² There, Missouri sued the PRC alleging public nuisance, abnormally dangerous activities, breach of duty by allowing transmission of COVID-19, and breach of duty by hoarding PPE. Although the District Court dismissed for lack of jurisdiction under FSIA, the Eighth Circuit held that each defendant was a “foreign state” under FSIA and that the FSIA applied to the first three claims but reversed the District Court’s dismissal of Missouri’s hoarding claim, holding that the FSIA’s commercial activity third exception applied to the PPE hoarding claim. The Eighth Circuit remanded the case to the District Court for further proceedings consistent with the opinion, giving Missouri an opportunity to try to prove that the PRC hoarded PPE, that their anticompetitive actions were commercial in nature, and that their behavior had a direct effect in the United States.

Similarly, the State of Mississippi sued the PRC in federal district court in a two-count complaint in 2020, claiming that the PRC both violated the Mississippi Consumer Protection Act by covering up the seriousness of COVID-19 and hoarding PPE and violated the state’s antitrust law by “restraining or attempting to restrain the freedom of trade concerning PPE.”¹⁹³ On March 5, 2024, the clerk of the court entered a default judgment against the defendants. The next step in the proceedings is a damages hearing.¹⁹⁴

D. Specific Possible Causes of Action.

1. **Negligence.** A claim could be brought against the PRC and similar commercial entities conducting business in the United States, such as China Southern Airlines and China Eastern Airlines, for traditional common law negligence. These defendants had a nondiscretionary duty, under World Health Organization guidelines and other objective standards, to reasonably inform the public of pending disasters and reasonably maintain safe protocols. China breached its duties by failing to exercise due care in conducting risky viral research, by negligently misrepresenting facts about the virus beginning in December 2019, by allowing individuals from areas within China known to have COVID-19 infections to travel abroad, and by transporting for profit—without adequate warnings—infected individuals to the United States via China Southern and China Eastern, thereby causing COVID-19 to spread. As a direct and proximate result of the defendants’ conduct of

their commercial activities, millions of Americans suffered injury to their persons and property.

2. **Strict Liability for Abnormally Dangerous Activities.** This claim could be brought against the PRC and other directly related defendants, such as the Wuhan Institute of Virology, for conducting liability for abnormally dangerous activities. Anyone who “carries on an abnormally dangerous activity is subject to liability for harm...resulting from the activity, although he has exercised the utmost care to prevent the harm.”¹⁹⁵ Recent evidence of coronavirus research and biosafety concerns in the Wuhan Institute of Virology and Chinese laboratories more generally make it plain that the PRC was engaged in abnormally dangerous activities. These activities were not those of a sovereign, but those of a market actor that financially supported dangerous commercial risk-taking in scientific experimentation. Conducting such research is not inherently sovereign; it is a commercial activity that other actors such as universities, pharmaceutical companies, and private laboratories can undertake.
3. **Public Nuisance.** This claim could be brought against the PRC, China Southern, China Eastern, and other entities with direct operations in the United States under a common law public nuisance claim. The simple facts surrounding COVID-19 point toward PRC culpability. The virus behind the pandemic emerged in the same Chinese city where the Wuhan Institute of Virology, a research lab for SARS-like viruses, is located. Scientists at this lab a year before the outbreak proposed creating viruses with key features similar to SARS-CoV-2. This lab had inadequate biosafety conditions that were not ideal to contain a virus like SARS-CoV-2. More natural theories of the origin of the virus, such as its coming from wild animals at a market, are not strongly supported by the available evidence.¹⁹⁶

When the disease began to infect the population, rather than restrict its spread, the PRC attempted to conceal its source and severity. Meanwhile, the PRC, through China Southern and China Eastern, continued commercial flights abroad, effectively exporting the virus to countries like the U.S. Defendants’ acts and omissions created “a significant interference with the public health, the public safety, the public peace, the public comfort or the public convenience.”¹⁹⁷ The defendants collectively operated commercial airlines in a manner that

knowingly or recklessly transported a deadly, highly transmissible virus to the United States. Defendants' activities were the direct cause of trillions of dollars in economic losses, untold numbers of infections and nonlethal harm, and more than a million American deaths.

4. **Anticompetitive Behavior.** This claim could be brought against the PRC under federal or state law for anticompetitive behavior in the hoarding and sale of personal protective equipment under state law. To be sure, states normally are not antitrust defendants, but this case is different precisely because China is not acting as a state, but rather as a market participant. From January 23 through January 30, 2020, the PRC initiated the acquisition of a significant portion of the global face mask supply and simultaneously prevented personal protective equipment from being exported outside China even as it made efforts to buy up much of the world supply of PPE.¹⁹⁸ The little PPE that China sold abroad was faulty and inadequate, as the PRC kept quality materials for itself while selling defective equipment at inflated prices to other nations including the U.S. The PRC also assumed control of factories within China that were making PPE for American customers, including 3M, and then directed their production.

The PRC had a duty not to hoard PPE and not to provide ineffective PPE to medical providers. The PRC's commercial actions in the market for personal protective equipment caused financial injury to other participants in the market for personal protective equipment, including health care providers in the United States, as well as physical injury to persons deprived of adequate PPE. The PRC relied on anticompetitive behavior not only to give China an unfair advantage in preparing for the fallout from COVID-19, but also to wring from customers in the U.S. an unearned profit inflated by a need that U.S. customers could not foresee—and that the PRC's own recklessness had created. Again, Missouri's claims under this theory survived a motion to dismiss under FSIA.¹⁹⁹

5. **Fraudulent Misrepresentation.** This claim could be filed against China Southern Airlines and China Eastern Airlines regarding public comments made by either entity relating to COVID-19 under common law tortious conduct liability for fraudulent misrepresentation.

Public comments from companies regarding COVID-19 warrant action under a tort claim of fraudulent misrepresentation. "One who

fraudulently makes a misrepresentation of fact, opinion, intention or law for the purpose of inducing another to act or to refrain from action in reliance upon it, is subject to liability to the other in deceit for pecuniary loss caused to him by his justifiable reliance upon the misrepresentation.”²⁰⁰ State-owned Chinese businesses with information about the true extent and severity of COVID-19 and its effect on the population prior to a general understanding in the United States of the virus’s severity are liable because their public statements misrepresented the severity of the dangers of the virus, notably that the virus was novel and that the situation was in flux and subject to change, despite a clear understanding within the PRC of the magnitude and dangers of the virus.

6. **Civil RICO Violations Under 18 U.S.C. § 1961 *et seq.*** This claim could be brought against China Southern Airlines and China Eastern Airlines for civil Racketeer and Corrupt Organization Act (RICO) violations. From December 2019 through February 2020, the PRC made a series of intentional misrepresentations to the international community regarding COVID-19, including that the virus’s origin was unknown, that Chinese researchers had not identified or sequenced the virus, and that neither person-to-person nor asymptomatic transmission was a feature of the virus. The airline defendants repeated these false statements and fraudulently concealed from passengers and foreign regulators the dangers of spreading COVID-19.

The PRC, in conjunction with the airline defendants, engaged in a pattern of fraudulent and anticompetitive conduct that furthered a criminal enterprise in violation of 18 U.S.C. § 1961 *et seq.* A potential plaintiff should marshal all available evidence of false material statements being used for fraudulent ends such as obtaining commercial travelers or positioning within a market. Defendants’ pattern of criminal conduct, sustained over multiple months, enabled the defendants to corner the market for personal protective equipment and to profit from the continued commercial transportation of infected persons abroad, including to numerous locations within the United States. Defendants’ fraudulent misrepresentations and anticompetitive conduct were the sole direct cause of plaintiff’s economic losses in the market for PPE if appropriate to the plaintiff and proximate cause of illness and death for millions of individuals worldwide including in the United States.

E. Relief Sought.

For preliminary relief, plaintiff(s) should seek a Mareva injunction/freezing order to avoid asset dissipation. For final awards, plaintiff(s) should seek (i) restitution/disgorgement; (ii) any authorized civil penalties; (iii) actual, direct, and/or consequential damages; (iv) costs of litigation; and (v) prejudgment interest. As for prospective injunctive relief, it is doubtful that courts can order such relief.

Revisions in FSIA

The Commission finds that FSIA, properly understood, would not bar a cause of action against China and its instrumentalities. Nevertheless, in the interests of clarity, the Commission believes Congress should pass legislation to remove a foreign sovereign's immunity in the specific context of the extraordinary circumstances of global pandemics that lead to more than one million excess deaths of American citizens and residents and are caused by a foreign state.

There is precedent for such an approach. The Justice Against Sponsors of Terrorism Act²⁰¹ was passed in 2016 in response to overwhelming concern that FSIA unduly restricted Americans in their quest for judicial recourse for September 11.²⁰² Notably, this act passed over President Barack Obama's veto.²⁰³

There has been some consideration of bringing in a bill directly targeting China for its past conduct and removing its immunity relative to COVID-19.²⁰⁴ This raises complex decisions concerning consistency with the customary international law of sovereign immunity. It also raises the consideration that any action abrogating FSIA immunity would have considerable economic impact by making it considerably more difficult for Chinese companies to do business in the United States. Accordingly, the Commission proposes a middle course—abrogating FSIA for world catastrophes on the scale of the COVID-19 pandemic that have a sizable effect in the United States. Proposed language for such language would be:

The district courts of the United States shall have original and exclusive jurisdiction over any case in which money damages are sought against a foreign state for physical or economic injury to person, property, or business occurring in the United States following any reckless action or omission (including a conscious disregard of the need to report information promptly or deliberately hiding relevant information) of a foreign state, or of any official, employee, or

agent of that foreign state while acting within the scope of his or her office, employment, or agency, that caused or substantially aggravated any global pandemic in the United States regardless of where the action or omission occurred; of a foreign state that failed to carry out or allow for a comprehensive, unfettered investigation provided, that the biological agent underlying the global pandemic was the causative agent of more than 1,000,000 excess deaths in the United States directly or indirectly caused by the pandemic.

Such a provision could be inserted as an amendment to the existing FSIA framework. Other revisions would need to be considered to provide trial by jury, the availability of punitive damages, attachment of assets, and ease of service. (One idea for the attachment of assets would be to use the precedent of the terrorism exception in the FSIA, which allows any American who wins damages judgement against a state sponsor of terrorism to enforce it against the commercial assets of both the state sponsor itself and any state-owned enterprises controlled by that state sponsor. This idea has been proposed in the context of would-be FSIA amendments relating to Chinese state-backed intellectual property theft and is equally meritorious for this proposed pandemic carveout.²⁰⁵

Consideration should be given to some mechanism by which the United States could suspend the operation of any exception made to FSIA if the national interest so required. A possible approach would be a modified application of *The Charming Betsy* approach.²⁰⁶ Under that approach, the modifications to FSIA would not apply in any case where the Attorney General and the Secretary of State both filed certificates personally certifying that the action was contrary to the interests of the United States. Factors could be provided for their consideration such as whether the state conducted a comprehensive and unfettered investigation and made the results of that investigation public.

Policy Recommendations for the United States to Hold China Accountable for its Role in the Covid-19 Pandemic

With more than enough evidence demonstrating the Chinese Communist Party's central role in the devastation of the COVID-19 pandemic, American leadership is required to promote accountability, restitution, and future global public health. Inaction incentivizes the CCP only to persist in its nontransparent, noncooperative, and even hostile behavior. Both President Donald Trump and President Joe Biden committed to holding the CCP accountable, as have lawmakers in Congress, yet no meaningful action has resulted. The time has come to fulfill those promises.

The Heritage Foundation Nonpartisan Commission on China and COVID-19 has considered numerous courses of action, weighing not only the ability to advance executive actions or enact legislation in the current political environment but also the trade-offs inherent in any course of action. These final recommendations are designed to decrease the odds of a similar pandemic by establishing strong mechanisms for deterrence, transparency, and accountability.

Recommendations for Congress

1. Establish a bipartisan U.S. National COVID-19 Commission.

Congress should create a commission and fund it through budget offsets. Efforts have been made to set up a commission like the 9/11 Commission, but they have stalled.²⁰⁷ The Heritage Foundation Nonpartisan Commission on China and COVID-19 believes it is imperative to create such a panel following an event of this magnitude. The commission would be multifaceted, and its duties would include a review of China's negligence and cover-up as well as an evaluation of the domestic policies that were implemented once COVID-19 arrived in the United States. We strongly encourage other nations to develop their own commissions to conduct similar reviews to hold China accountable.

2. Create a bipartisan Reparations/Compensation Task Force to cover claims against China.

U.S. citizens deserve restitution from China for the pain and suffering they have experienced because of COVID-19. Historically, several globally recognized models have been established to assess accountability for and offset large-scale

damages due to the aggression or negligence of governments. These have ranged from the Claims Conference for the German Holocaust to the U.N. Compensation Commission covering Iraq's 1990 invasion of Kuwait. Had it been enacted, Congress's proposed Chinese Government COVID-19 Accountability Act could have been used to secure damages from China.²⁰⁸ The Task Force could be combined with the National COVID-19 Commission proposed in Recommendation 1 or set up as a separate entity.

- 3. Facilitate avenues for the filing of civil claims against the People's Republic of China.** Congress must explore opportunities for expanding U.S. federal court jurisdiction such that it would allow Chinese individuals or agencies to be held liable for U.S. civil claims.²⁰⁹ Similar to what has been proposed in the CCP Wrongful Death Accountability Act of 2023,²¹⁰ this would provide compensation to civilians harmed by the COVID-19 pandemic through a deduction on interests or debts owed to China or through deductions from foreign aid funds to China.

Although liability is possible under the current text of the Foreign Sovereign Immunities Act, the Commission recommends that Congress pass and the President sign the following amendment:

The district courts of the United States shall have original and exclusive jurisdiction in any case in which money damages are sought against a foreign state for physical or economic injury to person, property, or business occurring in the United States following any reckless action or omission (including a conscious disregard of the need to report information promptly or deliberately hiding relevant information) of a foreign state, or of any official, employee, or agent of that foreign state while acting within the scope of his or her office, employment, or agency, that caused or substantially aggravated any global pandemic in the United States regardless of where the action or omission occurred; provided, that the biological agent underlying the global pandemic was the direct or indirect causative agent of more than 1,000,000 excess deaths in the United States.

- 4. Pass the BIOSECURE Act to begin decoupling U.S. government and commercial supply chains from Chinese state-backed companies.** This bill would restrict the U.S. government and U.S. government contractors from continuing to do business with Chinese

“biotechnology entities of concern” that have ties to the Chinese Communist Party, state, and military.²¹¹ Introduced early this year with bipartisan support in the House and Senate, the bill is still pending in both chambers.

Eventually, the reduction of American dependence on foreign countries like China to produce pandemic-related needs like PPE and pharmaceuticals would also enhance America’s resilience. This enhancement of American resilience would in turn be to the advantage of U.S. national security and public health interests.

5. Pass legislation to establish an audit of all U.S. government funding for biomedical and related research activities in China, structured according to a rebuttable presumption that such research shall be discontinued unless relevant sponsors can demonstrate that their research projects are overwhelmingly in the public interest and entail extremely low risk of harm.

The goal would be to ensure that the United States does not fund dangerous research in uncontrolled environments with insufficient safety and security equipment and protocols or research that could be weaponized by the Chinese military and security services. This standard would be applied to all future and existing biomedical and related research activities in China supported by U.S. federal grants or educational and research institutions that receive federal funding. This would include any direct funding through a federal award or indirect funding through sub-awards coming from organizations receiving federal funding and subcontracting work to China. For all existing research, sponsors would have one year to rebut the presumption that their research poses unacceptable risks. A U.S. government select commission, composed of national security practitioners and experts as well as scientific and biomedical practitioners and experts, would be constituted to review applications to initiate or continue biomedical and related research in China. At least half of the commissioners would be national security practitioners and experts. The committee membership would be a mix of executive branch, U.S. Senate, and U.S. House of Representatives appointees. (Congressional appointees should be made by majority and minority leaders in their respective chambers.) Research projects that failed to rebut a presumption of harm would be suspended and/or denied.

As Chinese researchers continue to conduct highly lethal and risky research at substandard or insufficient biosafety-level research labs, U.S. taxpayer dollars should not be used to fund research in a country that does not uphold basic research and transparency protocols. These problems are political and systemic at least as much as they are technical and scientific, given the nature of the single-party autocracy that governs all scientific activity in China.

- 6. Amend the Chemicals and Biological Weapons Control and Warfare Elimination Act to enact two-phased sanctions on entities that fail to maintain their biological facilities and that withhold data.** Those entities, such as the Wuhan Institute of Virology and the Chinese Academy of Sciences, should be held to account for failing both to maintain basic safety standards and to share relevant data. A two-phased sanctions regime can be enacted against such entities. Remedial action can be taken over a period of time after a determination that a biological or chemical event has occurred. Congress can order an investigation into that event and can determine whether the event was caused by gross or significant negligence by a foreign entity.²¹²
- 7. Work closely with the National Security Commission on Emerging Biotechnology.** Established by Congress and charged with conducting a review of how advancements in emerging biotechnology and related technologies will shape current and future activities of the Department of Defense, the advisory Commission will provide recommendations for action by Congress and the federal government in December 2024. We anticipate that these recommendations will be extremely important and suggest that our recommendations as well as theirs be considered together.

Recommendations for the President

- 1. Demand as a diplomatic priority that China allow a comprehensive, unfettered scientific and forensic investigation into COVID-19's origin in China.** International experts need to conduct research and share the results in an open and transparent manner. To this day, the Chinese government has prohibited a formal investigation of the pandemic's origin. In 2020, the United States, allied nations, and international scientists repeatedly called on China to

provide access to all information available to determine the source of the novel virus in order to determine its lethality and trajectory and begin the development of a vaccine and therapeutics. In 2021, leaders at the G-7 Summit called for a transparent, expert-led COVID-19 study. That has not happened. Instead, China has blocked the work of the WHO Scientific Advisory Group on the Origin of Novel Pathogens (SAGO). China's continued obfuscation and aggressive prevention of any meaningful investigation into the pandemic's origin are not just an affront to the victims of COVID-19 and their families; they also pose a threat to international peace and security.

2. **Impose economic sanctions on Chinese officials and entities associated with the COVID-19 cover-up.**²¹³ In the spirit of the Li Wenliang Global Public Health Accountability Act and the Coronavirus Origin Validation, Investigation, and Determination Act of 2023,²¹⁴ the U.S. government should impose sanctions against (1) senior Chinese officials determined to be directly complicit in the distortion and concealment of information related to the COVID-19 pandemic and (2) individuals who assisted in and/or supported the distortion and concealment of information. Additionally, the Secretary of State and the Secretary of Treasury should investigate sanctions against the Wuhan Institute of Virology, the Chinese Academy of Sciences, the National Health Commission, the Academy of Military Medical Sciences, the Chinese Academy of Medical Sciences, the Wuhan Institute of Biological Production, and their extensive networks of state, academic, and commercial affiliates for activities relating to the cover-up of COVID-19 and for engaging in undeclared, classified biological weapons research and development for the Chinese military in possible violation of U.S. Presidential Executive Order 13382 on the proliferation of weapons of mass destruction.²¹⁵
3. **Recognize that the COVID-19 pandemic was an epochal event, similar to the dawning of the nuclear age and necessitating comparably significant changes in U.S. law, policy, diplomacy, government, commerce, and academic affairs.** Gain-of-function technologies of the kind that emerged only in the past 10 to 15 years—where the deadliest viruses can conceivably be fused with the most infectious ones—appear to pose a species-level risk to human life. The gain-of-function risk on pathogens of pandemic potential is that one mistake in one place—let alone one deliberate act by some state or

nonstate actor—is all that it takes. Once a virus of sufficient infectiousness and deadliness escapes a lab, there may be nothing humanity can do to stop it. As the dropping of the atomic bombs at Hiroshima and Nagasaki necessitated the establishment of new domestic and international norms, standards, and institutions, so the example of COVID-19 is more than enough to justify dramatic public concern and policy innovation in biosecurity, involving everything from gain-of-function funding to laboratory safety standards, international transparency norms, technology controls, and more. Yet very little such innovation is happening. Overcoming this failure is a basic obligation of national leadership.

4. **Include biotechnology as a sector restricted for purposes of U.S. outbound investment into China, pursuant to Executive Order 14105 of August 2023.**²¹⁶ The order should be expanded to cover biotechnology, and Congress should pass legislation to strengthen restrictions on U.S. government and private-sector investments in Chinese sectors that include biotechnology. China has recently enacted wide-reaching policy changes that have increasingly redefined biological research within its national security framework. In 2017, Beijing said that special government funding would be made available for biological research as part of the country’s “military–civil fusion” drive—a national program to integrate civilian technology and research into the People’s Liberation Army for military use.²¹⁷ U.S. Department of Energy officials warned their National Institutes of Health counterparts about the national security risks posed by gene editing and its possible uses by hostile foreign adversaries, including China.²¹⁸ As a result of this threat, it is critical that the U.S. government closely scrutinize U.S. biotech investments in China through any new outbound investment regime or law passed by Congress.

5. **Task the U.S. Intelligence Community with prioritizing the collection and analysis of data on COVID-19’s origin, working alongside allies including “Five Eyes” partners Britain, Canada, Australia, and New Zealand.** As part of this process, conduct an aggressive internal “lessons learned” review, augmented by independent scientific and national security experts, to study intelligence-related shortcomings since the outbreak of COVID-19 and biosecurity and biosurveillance in general. Biological intelligence, or BIOINT, should be made a core discipline of the U.S. Intelligence Community, endowed with a highly diverse array of sources and methods.

As an additional part of this process, comply fully (and belatedly) with the COVID-19 Origin Act of 2023. That law requires the Office of the Director of National Intelligence (ODNI) to “declassify any and all information relating to potential links between the Wuhan Institute of Virology and the origin of the Coronavirus Disease 2019 (COVID-19” and submit to Congress an unclassified report “with only such redactions as the Director determines necessary to protect sources and methods.”²¹⁹

- 6. Greatly enhance early detection and preparedness.** The U.S. announced a five-year plan to prepare for the next pandemic in its *2024 U.S. Global Health Security Strategy*. The plan seeks to expand the U.S.’s formal global health security partners from 19 states to 50 and to bolster partners’ capabilities to identify and respond to diseases through improved testing, surveillance, lab capacity, and immunizations. The “whole-of-government” strategy commits to employing the private and public sectors at the local, national, regional, and international levels to strengthen health and research systems.²²⁰ This is a good start, but far more is required. Executive branch agencies should provide global protocols for the prevention of future pandemic-related events and a clear explanation of the consequences for failure to follow these protocols.

The President should facilitate a public–private partnership centered around biothreat detection. The President should also attempt to globalize this network with the help of trusted allies and partners. Building an effective early warning system against natural or man-made pathogens and outbreaks must be a core national defense and national security function and not merely a public health activity of the United States and its partners²²¹ Biological surveillance and biological intelligence (BIOINT) can and must be made capable of detecting pathogens of pandemic potential before clinical cases accumulate in hospitals. It must also, using intelligence sources and methods as well as next-generation genomic analytic techniques, develop a means of reliably discerning between natural and artificially enhanced pathogens as a key first step toward deterrence. The United States must acquire a capability for attributing the origin of biological threats that is analogous to its capabilities to attribute the origin of nuclear threats.

- 7. Establish a new framework for scientific research and collaboration, and build collective resilience with allies and partners.** Host a presidential summit with allies and partners to review the impact of COVID-19 and launch a comprehensive strategy of collective resilience to defend against a future pandemic and/or biological threat. While China has been the top research partner of the United States, the actions of the CCP prove that the time has come for the United States to better prioritize safety and national security in its scientific collaborations, including by privileging research with allies and partners who share the values of research integrity and security.²²²
- 8. Impose significant costs on China for violating the World Health Organization's International Health Regulations.**²²³ China violated Articles 6 and 7 of the International Health Regulations. Article 6 requires that states first notify the WHO of a public health emergency concern and provide any timely, accurate, and detailed public health information they have available. Article 7 extends this to circumstances that include a state seeing evidence of an unexpected or unusual public health event within its territory that may constitute a public health emergency of international concern, even if the origin or source is unknown. China must be held accountable to 192 other countries for purposely breaching the legally binding agreement it signed. It is impossible to imagine that any global pandemic treaty can succeed if China is allowed to disregard its international commitments and spark a catastrophic global pandemic with impunity.
- 9. Consider suspending or revoking the 1979 Science and Technology Agreement (STA) with China.** The STA has been on a temporary month-to-month extension since August 2023.²²⁴ While the STA is a nonbinding cooperative agreement, the landscape has changed completely since the it was last renewed in 2018. Not only does China continue to block any credible investigation into the origin of COVID-19, but a deluge of aggressive new Chinese laws severely restricts the ability of American scientists, academics, and researchers to work collaboratively with Chinese counterparts. China's military-civil fusion policy makes no distinction between the military and civilian use of technology, thereby enabling China to continue international scientific collaboration while concealing that this collaboration also assists in modernizing China's military.²²⁵

10. Verify China’s compliance with the Biological Weapons Convention (BWC). Articles I and III of the Biological Weapons Convention affirm the need to prevent the development, manufacture, or attainment of any biological agent, toxin, weapon, or equipment that has “no justification for prophylactic, protective or other peaceful purposes” and “not to transfer, or in any way assist, encourage or induce anyone to manufacture or otherwise acquire biological weapons.”²²⁶

While the Biological Weapons Convention entered into force in 1975 and banned an entire class of weapons, it lacks a formal verification protocol and process. In 1987, states that were parties to the convention established an annual data exchange, referred to as the Confidence-Building Measures (CBMs). China became a State Party to the BWC in 1984, and the U.S. State Department has raised questions and concerns about its compliance with the convention since 1993. China has submitted CBMs each year since 1989, including most recently in 2023. Its CBM reporting, however, has never disclosed that China ever possessed an offensive biological weapons program, nor has China acknowledged publicly or in diplomatic channels its past offensive biological weapons efforts. Yet China has reportedly weaponized ricin, botulinum toxins, and the bacterial agents of anthrax, cholera, the plague, and tularemia.²²⁷

China’s military medical institutions have conducted research to identify, test, and characterize diverse families of potent toxins with dual-use (civilian and military) applications. China’s annual CBMs do not include information on this dual-use biological research on pathogens and marine and animal toxins conducted at military institutions.²²⁸

Conclusion

Across the world, the COVID-19 pandemic left 28 million persons dead, whole economies shattered, and the vulnerable impoverished—in addition to creating a mental health crisis. A whole generation’s educational experience was disrupted. In the United States alone, the pandemic killed over a million people and is estimated by our calculations to have cost the country \$18 trillion in losses. Millions of adults and children still suffer from an often-debilitating illness of long COVID.

The scope and scale of this disaster demand answers about the deadly virus’s origin and the circumstances of its spread. It is with that purpose in

mind that the Nonpartisan Commission on China and COVID-19's investigation finds that the balance of evidence shows that the virus resulted from a research-related incident in Wuhan. The report further meticulously documents how China acted in the early weeks and months of the disease's outbreak.

The fact of the matter is that the Chinese government did not act responsibly or transparently. They covered up highly pertinent information about COVID-19—even including when and where the disease began—from their own public, the scientific community, and the world. The Chinese government destroyed evidence, actively gagged their own scientists, jailed journalists for the crime of asking questions, and blocked attempts by the international community to investigate the origins of COVID-19. It engaged in these and other acts despite being a signatory to an international agreement that requires them to notify the World Health Organization of such a public health emergency accurately and in a timely manner.

In the absence of self-accountability by China, and in view of its obstructionist role in international institutions, the Commission believes that only holding the Chinese government accountable and liable for its negligence and malfeasance can provide both China's government and other governments with the incentives and impetus to act differently in the future. It is up to the United States government to implement the recommendations we have proposed. The Commission also hopes that other governments will take inspiration from our work and use it as a model to be adopted within their own contexts. Better to take bold action now than to ask ourselves why we didn't do more if an even deadlier pandemic emerges in the future.

Commissioners' Biographies

John Ratcliffe, Chairman

John Ratcliffe serves as chairman of the Nonpartisan Commission on China and COVID-19. Previously, as the 6th United States Director of National Intelligence (DNI), Ratcliffe served as the principal intelligence advisor to President Donald J. Trump and as the top official in the U.S. intelligence community. During his tenure, Director Ratcliffe successfully



coordinated and deployed intelligence and military assets to remove numerous designated terrorist leaders from the battlefield, for which he was awarded the National Security Medal, the nation's highest honor for distinguished achievement in the field of intelligence and national security.

Prior to his nomination and confirmation as DNI, John Ratcliffe served for more than five years as the U.S. Representative for the 4th Congressional District of Texas as a member of the House Intelligence, Homeland Security, and Judiciary Committees.

Director Ratcliffe also served in the George W. Bush Administration, initially appointed as Chief of Anti-Terrorism for the Eastern District of Texas, and later was judicially appointed as the U.S. Attorney, the top federal law enforcement official in the district from 2007 to 2008.

From 2008 until 2014, Director Ratcliffe was a founding partner with former U.S. Attorney General John Ashcroft of Ashcroft Sutton Ratcliffe LLP, a firm providing strategic legal advice on national and international security issues. Currently, Director Ratcliffe serves on multiple boards of directors and advisory boards focused on improving the national security posture of the United States.

Robert C. O'Brien

Co-founder and chairman of American Global Strategies LLC, Robert O'Brien was the 27th United States National Security Advisor from 2019–2021. O'Brien served as the President's principal advisor all aspects of American foreign policy and national security affairs and brought a renewed focus on defense and industrial base issues to the NSC. A long-time advocate



of sea power and a 355-ship Navy, O'Brien visited leading shipyards during his tenure. He also spent time at defense plants and with our troops at bases around the world.

During O'Brien's time as National Security Advisor, the United States orchestrated the historic Abraham Accords in the Middle East, brokered economic normalization between Serbia and Kosovo, achieved significant defense spending increases among our NATO allies, and increased cooperation with America's allies across the Indo-Pacific.

Prior to serving as NSA, O'Brien was the Special Presidential Envoy for Hostage Affairs with the personal rank of Ambassador. He was directly involved in the return of over 25 detainees and hostages to the United States. O'Brien previously served as Co-Chairman of the U.S. Department of State Public-Private Partnership for Justice Reform in Afghanistan under Secretaries of State Condoleezza Rice and Hillary Clinton.

O'Brien was also a presidentially appointed member of the U.S. Cultural Property Advisory Committee from 2008–2011. In 2005, he was nominated by President George W. Bush and unanimously confirmed by the U.S. Senate to serve as a U.S. Representative to the 60th session of the U.N. General Assembly. Earlier in his career, O'Brien served as a Senior Legal Officer for the U.N. Security Council commission that decided claims against Iraq arising out of the first Gulf War. He was a major in the Judge Advocate General's Corps of the U.S. Army Reserve.

O'Brien is partner emeritus at Larson LLP in Los Angeles, a nationally recognized litigation boutique that he co-founded in 2016. Over his career, he has served as counsel and arbitrator in dozens of international proceedings.

O'Brien is the recipient of the National Security Medal, the National Intelligence Distinguished Service Medal, the Department of Defense

Medal for Distinguished Public Service, the National Defense Medal, the Legion d'honneur (chevalier), the Republic of China (Taiwan) Order of the Brilliant Star with Special Grand Cordon, and the Kosovo Presidential Medal of Merits.

The National Museum of the Surface Navy named O'Brien the recipient of the 2021 Freedom of the Seas Award. That same year, O'Brien and former Secretary of State Mike Pompeo were awarded the Richard Nixon Foundation's Architect of Peace Award for their work on the Abraham Accords and other initiatives while in office. Following the signing of the Abraham Accords in 2020, a tree was planted on behalf of the State of Israel at the John F. Kennedy Memorial Forest in the Hills of Jerusalem in honor of O'Brien. In 2019, O'Brien received the Dr. Miriam and Sheldon Adelson Award for the Defense of America and Israel. The U.C. Berkeley School of Law presented O'Brien with the Stefan A. Riesenfeld Memorial Award for outstanding contributions to the field of international law in 2011.

In July 2022, O'Brien was elected as Chairman of the Board of Directors of the Richard Nixon Foundation. He also serves as co-chair with Secretary Pompeo of the Nixon Seminar on Conservative Realism and National Security.

O'Brien holds a J.D. from the U.C. Berkeley School of Law. He received his B.A. degree in political science, cum laude, from UCLA.

Heidi Heitkamp

Mary Kathryn "Heidi" Heitkamp is a member of the Nonpartisan Commission on China and COVID-19. She became the Director of the University of Chicago Institute of Politics in January 2023. She was a politician who served as a United States Senator from North Dakota from 2013 to 2019. A member of the North Dakota Democratic-Nonpartisan League

Party, she was the first woman elected to the U.S. Senate from North Dakota. Heitkamp served as the 28th North Dakota attorney general from 1992 to 2000 and 20th North Dakota tax commissioner from 1986 to 1992. As of 2022, she is the last Democrat to have represented North Dakota in Congress and the last to hold statewide office.



After leaving the Senate, Heitkamp became a CNBC contributor and visiting fellow at the Harvard Kennedy School's Institute of Politics. In April 2019, with Senator Joe Donnelly of Indiana (who also lost reelection in 2018), she launched One Country Project, an organization aimed at helping Democrats reconnect with rural voters. Heitkamp earned a B.A. from the University of North Dakota and a J. D. from Lewis Clark Law School.

Matthew Pottinger

Matthew Pottinger is a member of the Nonpartisan Commission on China and COVID-19. He is also a distinguished visiting fellow at the Hoover Institution and chairman of the China Program at the Foundation for Defense of Democracies. Pottinger served as U.S. Deputy National Security Advisor during the Administration of President Donald J. Trump from 2019 to 2021. Prior to that elevation, he served as the National Security Council's Senior Director for Asia, where he led the Administration's work on the Indo-Pacific region and its shift on China policy.



Pottinger is a U.S. Marine veteran who fought in Iraq and Afghanistan between 2007 and 2010. He was a reporter in China for Reuters and *The Wall Street Journal* from 1998 to 2005.

Pottinger is a graduate of the University of Massachusetts at Amherst. He is also co-author and editor of the 2024 book *The Boiling Moat: Urgent Steps to Defend Taiwan*.

Jamie Metzl

Jamie Metzl is a member of the Nonpartisan Commission on China and COVID-19. He is a leading technology and health care futurist, the founder and chair of the global social movement OneShared.World, a senior fellow of the Atlantic Council, a faculty member of NextMed Health, and a Singularity University expert. His public service experience runs the gamut from serving on the U.S. National Security Council and in State Department during the Clinton Administration, with the Senate Foreign Relations Committee on the staff of then-Chairman Joe Biden, and with the United Nations in Cambodia.



Metzl was appointed to the World Health Organization expert advisory committee on human genome editing. He is an accomplished author of various works including, but not limited to, *Superconvergence: How the Genetics, Biotech and AI Revolutions Will Transform Our Lives, Work, and World* and *Hacking Darwin: Genetic Engineering and the Future of Humanity*.

Metzl sits on advisory boards for multiple biotechnology and other companies. He holds a Ph.D. from the University of Oxford, a law degree from Harvard University, and an undergraduate degree from Brown University.

John Yoo

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In addition to his research work, Dr. Redfield oversaw an extensive clinical program providing HIV care and treatment to more than 5,000 patients



in the Baltimore/Washington, D.C. community. Dr. Redfield served as a member of the President's Advisory Council on HIV/AIDS from 2005 to 2009 and was appointed as chair of the International Subcommittee from 2006 to 2009. He is a past member of the Office of AIDS Research Advisory Council at the National Institutes of Health, the Fogarty International Center Advisory Board at the National Institutes of Health, and the Advisory Anti-Infective Agent Committee of the Food and Drug Administration.

Dr. Redfield earned a bachelor of science degree from Georgetown University's College of Arts and Sciences in 1973. He then attended Georgetown University School of Medicine and was awarded his Doctor of Medicine degree in 1977.

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Endnotes

1. Maya Prabhu and Jessica Gergen, "History's Seven Deadliest Plagues," VaccinesWork, November 15, 2021, <https://www.gavi.org/vaccineswork/history-seven-deadliest-plagues> (accessed June 28, 2024).
2. That remark was made by IMF Managing Director Kristalina Georgieva. See International Monetary Fund, "Transcript of Kristalina Georgieva's Participation in the World Health Organization Press Briefing," April 3, 2020, <https://www.imf.org/en/News/Articles/2020/04/03/tr040320-transcript-kristalina-georgieva-participation-world-health-organization-press-briefing> (accessed June 28, 2024).
3. For both worldwide excess deaths and American death toll, see "The Pandemic's True Death Toll: Our Daily Estimate of Excess Deaths Around the World," *The Economist*, October 25, 2022, <https://www.economist.com/graphic-detail/coronavirus-excess-deaths-estimates> (accessed June 28, 2024), and updated archived page at <https://archive.ph/FBibu> (accessed June 28, 2024).
4. Einar H. Dyvik, "Impact of the Coronavirus Pandemic on the Global Economy—Statistics & Facts," Statista, January 10, 2024, <https://www.statista.com/topics/6139/covid-19-impact-on-the-global-economy/#topicOverview> (accessed June 28, 2024).
5. World Bank Group, *World Development Report 2022: Finance for an Equitable Recovery*, p. 1, <https://openknowledge.worldbank.org/server/api/core/bitstreams/e1e22749-80c3-50ea-b7e1-8bc332d0c2ff/content> (accessed June 28, 2024).
6. *Ibid.*
7. *Ibid.*, p. 29.
8. International Monetary Fund, "Transcript of Kristalina Georgieva's Participation in the World Health Organization Press Briefing."
9. "Goal 8: Decent work and Economic Growth," in United Nations, *The Sustainable Development Goals Report 2021*, p. 42, <https://unstats.un.org/sdgs/report/2021/The-Sustainable-Development-Goals-Report-2021.pdf> (accessed June 28, 2024).
10. World Bank Group, *World Development Report 2022: Finance for an Equitable Recovery*, p. 5.
11. International Labour Organization, *ILO Monitor: COVID-19 and the World of Work, Seventh Edition*, "Updated Estimates and Analysis," January 25, 2021, p. 1, https://www.ilo.org/wcmsp5/groups/public/@dgreports/@dcomm/documents/briefingnote/wcms_767028.pdf (accessed June 28, 2024).
12. International Labour Organization, *ILO Monitor on the World of Work, Eleventh Edition*, "A Global Employment Divide: Low-Income Countries Will Be Left Further Behind Without Action on Jobs and Social Protection," May 31, 2023, pp. 3–4, https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/briefingnote/wcms_883341.pdf (accessed June 28, 2024).
13. Press release, "COVID-19 'Biggest Global Crisis for Children in Our 75-Year History—UNICEF," United Nations Children's Fund, December 11, 2021, <https://www.unicef.org/turkiye/en/press-releases/covid-19-biggest-global-crisis-children-our-75-year-history-unicef> (accessed June 28, 2024).
14. *Ibid.*
15. Press release, "COVID: 19 Scale of Education Loss 'Nearly Insurmountable', Warns UNICEF," United Nations Children's Fund *Media Factsheet*, January 23, 2022, <https://www.unicef.org/press-releases/covid19-scale-education-loss-nearly-insurmountable-warns-unicef> (accessed June 28, 2024).
16. See World Bank; United Nations Educational, Scientific and Cultural Organization (UNESCO) Institute for Statistics; United Nations Children's Fund (UNICEF); U.K. Foreign, Commonwealth, and Development Office (FCDO); U.S. Agency for International Development (USAID); and Bill and Melinda Gates Foundation, *The State of Global Learning Poverty: 2022 Update*, Conference Edition, June 23, 2022, p. 29, <https://thedocs.worldbank.org/en/doc/e52f55322528903b27f1b7e61238e416-0200022022/original/Learning-poverty-report-2022-06-21-final-V7-0-conferenceEdition.pdf> (accessed June 28, 2024).
17. Organization for Economic Cooperation and Development. *PISA 2022 Results (Volume 1): The State of Learning And Equity In Education* (Paris: OECD Publishing, 2023), p. 3, <https://www.oecd-ilibrary.org/docserver/53f23881-en.pdf?expires=1719627093&id=id&accname=guest&checksum=0F4F6E8BEID4A300AC86DF893941D21E> (accessed June 28, 2024).
18. World Health Organization, "Mental Health and COVID-19: Early Evidence of the Pandemic's Impact," *Scientific Brief*, March 2, 2022, p. 1, <https://iris.who.int/bitstream/handle/10665/352189/WHO-2019-nCoV-Sci-Brief-Mental-health-2022.1-eng.pdf?sequence=1> (accessed June 28, 2024); COVID-19 Mental Disorders Collaborators, "Global Prevalence and Burden of Depressive and Anxiety Disorders in 204 Countries and Territories in 2020 Due to the COVID-19 Pandemic," *The Lancet*, Vol. 398, Issue10312 (November 6, 2021), p. 1700, <https://www.thelancet.com/journals/lancet/article/PIIS0140-6736%2821%2902143-7/fulltext#%20> (accessed June 28, 2024).
19. Organization for Economic Cooperation and Development, "Tackling the Mental Health Impact of the COVID-19 Crisis: An Integrated, Whole-of-Society Response," May 12, 2021, p. 2, https://read.oecd-ilibrary.org/view/?ref=1094_1094455-bukufIf0cm&title=Tackling-the-mental-health-impact-of-the-COVID-19-crisis-An-integrated-whole-of-society-response (accessed June 28, 2024).
20. Editorial, "Long COVID: 3 Years in," *The Lancet*, Vol. 401, Issue10379 (March 11, 2023), p. 795, [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(23\)00493-2/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(23)00493-2/fulltext) (accessed June 28, 2024).
21. Emily Harris, "Millions of US Children Experience Range of Long COVID Effects," *JAMA [Journal of the American Medical Association]*, Vol. 331, No.9 (2024), p. 726, <https://jamanetwork.com/journals/jama/article-abstract/2815350#:~:text=Brain%20fog%20affected%20between%20,mental%20health> (accessed June 30, 2024).

22. Harris, "Millions of US Children Experience Range of Long COVID Effects;" Suchitra Rao et al., "Postacute Sequelae of SARS-CoV-2 in Children," *Pediatrics*, Vol. 153, No.3 (March 2024), <https://publications.aap.org/pediatrics/article/153/3/e2023062570/196606/Postacute-Sequelae-of-SARS-CoV-2-in-Children?autologincheck=redirected> (accessed June 29, 2024).
23. Hannah E. Davis, Lisa McCorkell, Julia Moore Vogel, and Eric J. Topol, "Long COVID: Major Findings, Mechanism and Recommendations," *Nature Reviews Microbiology*, Vol. 21, No. 3 (March 2023), pp. 133–146, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9839201/> (accessed June 28, 2024).
24. Carl E. Stafstrom, "Neurological Effects of COVID-19 in Infants and Children," *Developmental Medicine & Child Neurology*, Vol. 64, No. 7 (July 2022), p. 818, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9111795/> (accessed June 29, 2024).
25. For symptoms, see Mayo Clinic, "COVID-19: Long-Term Effects," June 22, 2023, <https://www.mayoclinic.org/diseases-conditions/coronavirus/in-depth/coronavirus-long-term-effects/art-20490351#:~:text=The%20effects%20also%20could%20lead,a%20hospital%20intensive%20care%20unit> (accessed June 28, 2024); U.S. Department of Health and Human Services, National Institutes of Health, "Long COVID," last updated September 28, 2023, <https://covid19.nih.gov/covid-19-topics/long-covid#symptoms-of-long-covid-2> (accessed June 28, 2024).
26. Daniel M. Altmann, Emily M. Whettlock, Siyi Liu, Deepa J. Arachchilage, and Rosemary J. Boyton, "The Immunology of Long COVID," *Nature Reviews Immunology*, Vol. 23, No. 10 (October 2023), pp. 618–634, <https://www.nature.com/articles/s41577-023-00904-7> (accessed June 29, 2024). For a detailed overview of Long COVID and the challenges it poses for health systems, see National Academies of Sciences, Engineering, and Medicine, *A Long COVID Definition: A Chronic, Systemic Disease State with Profound Consequences* (Washington: National Academies Press, 2024), <https://nap.nationalacademies.org/catalog/27768/a-long-covid-definition-a-chronic-systemic-disease-state-with> (accessed June 29, 2024); National Academies of Sciences, Engineering, and Medicine, *Long-Term Health Effects of COVID-19: Disability and Function Following SARS-CoV-2 Infection* (Washington: National Academies Press, 2024), <https://nap.nationalacademies.org/catalog/27756/long-term-health-effects-of-covid-19-disability-and-function> (accessed June 29, 2024).
27. Figure taken from 2022 Q4 data. See Board of Governors of the Federal Reserve System, "Financial Accounts of the United States—Z.1," last update June 8, 2023, <https://www.federalreserve.gov/releases/z1/20230608/html/b1.htm> (accessed June 29, 2024).
28. In the economics literature, this is referred to as compensating variation.
29. See U.S. Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation, *Guidelines for Regulatory Impact Analysis*, 2016, https://aspe.hhs.gov/system/files/pdf/242926/HHS_RIAGuidance.pdf (accessed June 29, 2024); W. Kip Viscusi, "Pricing the Global Health Risks of the COVID-19 Pandemic," *Journal of Risk and Uncertainty*, Vol. 61, No. 2 (October 2020), pp. 101–128, <https://link.springer.com/article/10.1007/s11166-020-09337-2> (accessed June 29, 2024).
30. See, for instance, U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics, "Deaths by Week and State: Provisional Death Counts for COVID-19," last reviewed June 27, 2024, <https://www.cdc.gov/nchs/nvss/vsrr/COVID19/> (). The actual data used were downloaded on October 16, 2023, from U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics, "Excess Deaths Associated with COVID-19," last updated September 27, 2023, <https://data.cdc.gov/NCHS/Excess-Deaths-Associated-with-COVID-19/xkkf-xrst>, which reflects that "[e]ffective September 27, 2023, this dataset will no longer be updated. Similar data are accessible from wonder.cdc.gov."
31. Press release, "Nearly One in Five American Adults Who Have Had COVID-19 Still Have 'Long COVID,'" U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics, last reviewed June 22, 2022, https://www.cdc.gov/nchs/pressroom/nchs_press_releases/2022/20220622.htm (accessed June 29, 2024). The data in this source are derived from household surveys conducted by the U.S. Census Bureau and other federal agencies like the CDC.
32. Barak Mizrahi et al., "Long COVID Outcomes at One Year After Mild SARS-CoV-2 Infection: Nationwide Cohort Study," *BMJ [British Medical Journal]* 2023, 380, e072529, <https://www.bmj.com/content/380/bmj-2022-072529> (accessed June 29, 2024).
33. Matthew D. Adler, "QALYs and Policy Evaluation: A New Perspective," *Yale Journal of Health Policy, Law, and Ethics*, Vol. VI, No.1 (2006), https://openyls.law.yale.edu/bitstream/handle/20.500.13051/6066/04_6YaleJHealthPolyL_Ethics1_2006_.pdf (accessed June 29, 2024).
34. David M. Cutler and Lawrence H. Summers, "The COVID-19 Pandemic and the \$16 Trillion Virus," *JAMA*, Vol. 324, No. 15 (2020), pp. 1495–1496, <https://jamanetwork.com/journals/jama/fullarticle/2771764> (accessed June 30, 2024).
35. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics, and U.S. Department of Commerce, U.S. Census Bureau, "Household Pulse Survey, 2020–2024: Anxiety and Depression," last reviewed June 14, 2024, <https://www.cdc.gov/nchs/covid19/pulse/mental-health.htm> (accessed June 29, 2024).
36. Haomiao Jia et al., "National and State Trends in Anxiety and Depression Severity Scores Among Adults During the COVID-19 Pandemic—United States, 2020–2021," U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, *Morbidity and Mortality Weekly Report*, Vol. 70, No. 40 (October 8, 2021), pp. 1427–1432, https://www.cdc.gov/mmwr/volumes/70/wr/mm7040e3.htm?s_cid=mm7040e3_w (accessed June 29, 2024).
37. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics, and U.S. Department of Commerce, U.S. Census Bureau, "Household Pulse Survey, 2020–2024: Anxiety and Depression."
38. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, "Mental Health Conditions: Depression and Anxiety," last reviewed October 13, 2023, <https://www.cdc.gov/tobacco/campaign/tips/diseases/depression-anxiety.html> (accessed June 29, 2024).

39. Jürgen Unützer et al., "Willingness to Pay for Depression Treatment in Primary Care," *Psychiatric Services*, Vol. 54, No. 3 (March 2003), pp. 340–345, <https://ps.psychiatryonline.org/doi/full/10.1176/ps.54.3.340> (accessed June 29, 2024).
40. Jake Bryant, Emma Dorn, Leah Pollack, and Jimmy Sarakatsannis, "COVID-19 Learning Delay and Recovery: Where Do US States Stand?" McKinsey & Company, January 11, 2023, <https://www.mckinsey.com/industries/education/our-insights/covid-19-learning-delay-and-recovery-where-do-us-states-stand> (accessed June 29, 2024).
41. Ben Chapman and Douglas Belkin, "Pandemic Learning Loss Could Cost Students \$70,000 in Lifetime Earnings," *The Wall Street Journal*, December 27, 2022, <https://www.wsj.com/articles/pandemic-learning-loss-could-cost-students-70-000-in-lifetime-earnings-11672148505> (accessed June 29, 2024).
42. Jonathan E. Pekar et al., "The Molecular Epidemiology of Multiple Zoonotic Origins of SARS-CoV-2," *Science*, Vol. 377, No. 6609 (July 26, 2022), pp. 960–966, <https://www.science.org/doi/10.1126/science.abp8337> (accessed July 1, 2024).
43. Michael Worobey et al., "The Huanan Market Was the Epicenter of SARS-CoV-2 Emergence," Zenodo, February 26, 2022, <https://zenodo.org/records/6299116> (accessed July 1, 2024).
44. Michael Worobey et al., "The Huanan Seafood Wholesale Market in Wuhan Was the Early Epicenter of the COVID-19 Pandemic," *Science*, Vol. 377, No. 6609 (July 26, 2022), pp. 951–959, <https://www.science.org/doi/10.1126/science.abp8715> (accessed July 1, 2024).
45. Dietrich Stoyan and Sung Nok Chiu, "Statistics Cannot Prove that the Huanan Seafood Wholesale Market Was the Early Epicenter of the COVID-19 Pandemic," arXiv preprint, August 22, 2022, <https://europepmc.org/article/ppr/ppr537695> (accessed July 1, 2024); Dietrich Stoyan and Sung Nok Chiu, "Statistics Did Not Prove that the Huanan Seafood Wholesale Market Was the Early Epicenter of the COVID-19 Pandemic," *Journal of the Royal Statistical Society Series A: Statistics in Society*, January 16, 2024, <https://academic.oup.com/jrssa/advance-article-abstract/doi/10.1093/jrssa/qnad139/7557954> (accessed July 1, 2024).
46. Jia-Xin Lv et al., "Evolutionary Trajectory of Diverse SARS-CoV-2 Variants at the Beginning of COVID-19 Outbreak," *Virus Evolution*, Vol. 10, No. 1 (2024), <https://academic.oup.com/ve/article/10/1/veae020/7619252?login=false> (accessed July 1, 2024).
47. Jesse D. Bloom, "Association Between SARS-CoV-2 and Metagenomic Content of Samples from the Huanan Seafood Market," *Virus Evolution*, Vol. 9, No. 2 (2023), <https://academic.oup.com/ve/article/9/2/vead050/7249794> (accessed July 1, 2024); Jesse D. Bloom, "Importance of Qualifying the Number of Viral Reads in Metagenomic Sequencing of Environmental Samples from the Huanan Seafood Market," *Virus Evolution*, Vol. 10, No. 1 (2024), <https://academic.oup.com/ve/article/10/1/vead089/7504441> (accessed July 1, 2024); William J. Liu et al., "Surveillance of SARS-CoV-2 at the Huanan Seafood Market," *Nature*, April 5, 2023, <https://www.nature.com/articles/s41586-023-06043-2> (accessed July 1, 2024); World Health Organization, *WHO-Convened Global Study of Origins of SARS-CoV-2: China Part | Joint WHO–China Study, 14 January–10 February 2021*, published March 30, 2021, <https://reliefweb.int/report/world/who-convened-global-study-origins-sars-cov-2-china-part-joint-who-china-study-14> (accessed July 1, 2024); Lv et al., "Evolutionary Trajectory of Diverse SARS-CoV-2 Variants at the Beginning of COVID-19 Outbreak."
48. Esam I. Azhar et al., "Evidence for Camel-to-Human Transmission of MERS Coronavirus," *The New England Journal of Medicine*, Vol. 370, No. 26 (June 26, 2014), <https://www.nejm.org/doi/full/10.1056/NEJMoa1401505> (accessed July 1, 2024); U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, "Prevalence of IgG Antibody to SARS-Associated Coronavirus in Animal Traders—Guangdong Province, China, 2003," *Morbidity and Mortality Weekly Report*, Vol. 52, No. 41 (October 17, 2003), pp. 986–987, <https://archive.ph/iWceZ#selection-289.0-289.113> (accessed July 1, 2024); Samy Kasem et al., "Cross-Sectional Study of MERS-CoV-Specific RNA and Antibodies in Animals that Have Had Contact with MERS Patients in Saudi Arabia," *Journal of Infection and Public Health*, Vol. 11, No. 3 (May–June 2018), pp. 331–338, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7102853/> (accessed July 1, 2024); Robert Roos, "Jordanian, Saudi Camels Have MERS-CoV-Like Antibodies," University of Minnesota, Center for Infectious Disease Research and Policy, December 12, 2013, <https://www.cidrap.umn.edu/mers-cov/jordanian-saudi-camels-have-mers-cov-antibodies> (accessed July 1, 2024); Ming Wang et al., "SARS-CoV Infection in a Restaurant from Palm Civet," *Emerging Infectious Diseases*, Vol. 11, No. 12 (December 2005), pp. 1860–1865, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3367621/> (accessed July 1, 2024).
49. Bloom, "Association Between SARS-CoV-2 and Metagenomic Content of Samples from the Huanan Seafood Market"; Virginie Courtier-Orgogozo and Francisco A. de Ribera, "SARS-CoV-2 Infection at the Huanan Seafood Market," *Environmental Research*, Vol 214, Pt. 1 (November 2022), <https://www.sciencedirect.com/science/article/pii/S0013935122010295?via%3Dihub> (accessed July 1, 2024); Steven E. Massey, Adrian Jones, Daoyu Zhang, Yuri Deigin, and Steven B. Quay, "Unwarranted Exclusion of Intermediate Lineage A-B SARS-CoV-2 Genomes Is Inconsistent with the Two-Spillover Hypothesis of the Origin of COVID-19," *Microbiological Research*, Vol 14, No. 1 (2023), pp. 448–453, <https://www.mdpi.com/2036-7481/14/1/33> (accessed July 1, 2024).
50. Jesse D. Bloom, "Recovery of Deleted Deep Sequencing Data Sheds More Light on the Early Wuhan SARS-CoV-2 Epidemic," *Molecular Biology and Evolution*, Vol. 38, No.12 (December 2021), pp. 5211–5224, <https://archive.ph/T0pwk#selection-2199.0-3157.62> (accessed July 1, 2024); Chaolin Huang et al., "Clinical Features of Patients Infected with 2019 Novel Coronavirus in Wuhan, China," *The Lancet*, Vol. 395, No. 10223 (February 15, 2020), pp. 497–506, [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(20\)30183-5/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)30183-5/fulltext) (accessed July 1, 2024); Lv et al., "Evolutionary Trajectory of Diverse SARS-CoV-2 Variants at the Beginning of COVID-19 Outbreak."
51. Pekar et al., "The Molecular Epidemiology of Multiple Zoonotic Origins of SARS-CoV-2."
52. Ping Yu, Ben Hu, Zheng-Li Shi, and Jie Cui, "Geographic Structure of Bat SARS-Related Coronaviruses," *Infection, Genetics, and Evolution*, Vol. 69 (April 2019), pp. 224–229, <https://www.sciencedirect.com/science/article/pii/S156713481830902X?via%3Dihub> (accessed July 1, 2024).
53. U.S. Department of State, "Fact Sheet: Activity at the Wuhan Institute of Virology," January 15, 2021, <https://2017-2021.state.gov/fact-sheet-activity-at-the-wuhan-institute-of-virology/> (accessed July 1, 2024).

54. Wuhan Institute of Virology, "About WIV," http://english.whiov.cas.cn/About_Us2016/Brief_Introduction2016/ (accessed July 1, 2024).
55. Aksel Fridstrøm, "Chinese Researchers Created New Corona Viruses Under Unsafe Conditions," *Minerva*, May 27, 2021, <https://www.minerva.no/china-dramatic-sars-cov-2/chinese-researchers-created-new-corona-viruses-under-unsafe-conditions/381476> (accessed July 2, 2024).
56. Xing-Lou Yang et al., "Isolation and Characterization of a Novel Bat Coronavirus Closely Related to the Direct Progenitor of Severe Acute Respiratory Syndrome Coronavirus," *Journal of Virology*, Vol. 90, No. 6 (March 2016), pp. 3253–3256, <https://journals.asm.org/doi/10.1128/jvi.02582-15> (accessed July 2, 2024); Shi Zhengli, "Reply to Science Magazine," 2020, p. 7, <https://www.science.org/pb-assets/PDF/News%20PDFs/Shi%20Zhengli%20Q&A-1630433861.pdf> (accessed July 2, 2024). See also Jon Cohen, "Wuhan Coronavirus Hunter Shi Zhengli Speaks Out," *Science*, Vol. 389, No. 6503 (July 31, 2020), pp. 487–488, <https://www.science.org/doi/pdf/10.1126/science.369.6503.487> (accessed July 2, 2024).
57. Andrew Kerr, "'Bat Lady' Denial of Chinese Military Involvement in Wuhan Lab Has Put China on Collision Course with U.S. Intelligence," *Daily Caller*, March 23, 2021, <https://dailycaller.com/2021/03/23/shi-zhengli-denies-chinese-military-wuhan-lab/> (accessed July 1, 2024).
58. Eva Dou, "Wuhan Lab's Classified Work Complicates Search for Pandemic's Origins," *The Washington Post*, June 22, 2021, https://www.washingtonpost.com/world/asia_pacific/wuhan-lab-leak-secret-coronavirus/2021/06/22/b9c45940-cf08-11eb-a224-bd59bd22197c_story.html (accessed July 1, 2024).
59. U.S. Department of State, "Fact Sheet: Activity at the Wuhan Institute of Virology."
60. Sharon Lerner, Mara Hvistendahl, and Maia Hibbett, "NIH Documents Provided New Evidence U.S. Funded Gain-of-Function Research In Wuhan," *The Intercept*, September 9, 2021, <https://theintercept.com/2021/09/09/covid-origins-gain-of-function-research/> (accessed July 2, 2024).
61. Bob Kadlec, Bob Foster, and 117th GOP HELP [Health, Education, Labor, and Pensions] Committee Staff, *Muddy Waters: The Origins of COVID-19 Report: Executive Summary*, April 17, 2023, p. 9, <https://www.marshall.senate.gov/wp-content/uploads/MWG-EXECUTIVE-SUMMARY-4.17-Final-Version.pdf> (accessed July 2, 2024).
62. Rowan Jacobsen, "Inside the Risky Bat-Virus Engineering that Links America to Wuhan," *MIT Technology Review*, June 29, 2021, <https://www.technologyreview.com/2021/06/29/1027290/gain-of-function-risky-bat-virus-engineering-links-america-to-wuhan/> (accessed July 2, 2024).
63. Valentin Bruttel, Alex Washburne, and Antonius VanDongen, "Endonuclease Fingerprint Indicates a Synthetic Origin of SARS-CoV-2," bioRxiv preprint, posted October 20, 2022, <https://www.biorxiv.org/content/10.1101/2022.10.18.512756v1.full.pdf> (accessed July 2, 2024); Yujia Alina Chan and Shing Hei Zhan, "The Emergence of the Spike Furin Cleavage Site in SARS-CoV-2," *Molecular Biology and Evolution*, Vol. 39, No. 1 (January 2022), <https://academic.oup.com/mbe/article/39/1/msab327/6426085> (accessed July 2, 2024); Alina Chan, "Why the Pandemic Probably Started in a Lab, in 5 Key Points," *The New York Times*, June 3, 2024, <https://www.nytimes.com/interactive/2024/06/03/opinion/covid-lab-leak.html> (accessed July 2, 2024); Hyeryun Choe and Michael Farzan, "How SARS-CoV-2 First Adapted in Humans," *Science*, Vol. 372, No. 6541 (April 30, 2021), pp. 466–467, https://observatoriocovid19.sv/doc/biblioteca/internac/Adaptation_sars_covid.pdf (accessed July 2, 2024).
64. Bryan A. Johnson et al, "Furin Cleavage Site Is Key to SARS-CoV-2 Pathogenesis," bioRxiv preprint, August 26, 2020, <https://pubmed.ncbi.nlm.nih.gov/32869021/> (accessed July 2, 2024); Bryan A. Johnson et al., "Loss of Furin Cleavage Site Attenuates SARS-2-CoV-2 Pathogenesis," *Nature*, Vol. 591, No. 7849 (March 2021), pp. 293–299, <https://pubmed.ncbi.nlm.nih.gov/33494095/> (accessed July 2, 2024); Siu-Ying Lau et al., "Attenuated SARS-CoV-2 Variants with Deletions at the S1/S2 Junction," *Emerging Microbes & Infections*, Vol. 9, No. 1 (December 2020), pp. 837–842, <https://pubmed.ncbi.nlm.nih.gov/32301390/> (accessed July 2, 2024); Thomas P. Peacock et al., "The Furin Cleavage Site in the SARS-CoV-2 Spike Protein Is Required for Transmission in Ferrets," *Nature Microbiology*, Vol. 6, No. 7 (July 2021), pp. 899–909, <https://pubmed.ncbi.nlm.nih.gov/33907312/> (accessed July 2, 2024).
65. David Feith, testimony before Select Subcommittee on the Coronavirus Pandemic, Committee on Oversight and Accountability, U.S. House of Representatives, "Investigating the Origins of COVID-19, Part 2," April 18, 2023, <https://docs.house.gov/meetings/VC/VCOO/20230418/115744/HHRG-118-VC00-Wstate-FeithD-20230418.pdf> (accessed July 2, 2024).
66. Katherine Eban, "Secret Warnings About Wuhan Research Predated the Pandemic," *Vanity Fair*, November 21, 2023, <https://www.vanityfair.com/news/2023/11/covid-origins-warnings-nih-department-of-energy> (accessed July 1, 2024).
67. George F. Gao, "For a Better World: Biosafety Strategies to Protect Global Health," *Biosafety and Health*, Vol. 1, No. 1 (June 2019), pp. 1–3, <https://doi.org/10.1016/j.bsheat.2019.03.001> (accessed July 2, 2024).
68. Report, "A Complex and Grave Situation": A Political Chronology of the SARS_CoV-2 Outbreak, 2023, p. 6, https://www.rubio.senate.gov/wp-content/uploads/_cache/files/790b6d70-7150-4f0f-a8b9-01ea45d3b1d1/EAB44A6CA6190D31041C0037E9C5E589.05.01.23-origin-report-clean-v1-11.pdf (accessed July 2, 2024). The report was released by the Office of Senator Marco Rubio (R-FL) on May 16, 2023. Press release, "Rubio Releases Groundbreaking COVID Origins Report," May 16, 2023, <https://www.rubio.senate.gov/rubio-releases-groundbreaking-covid-origins-report/> (accessed July 2, 2024).
69. Bob Kadlec, Bob Foster, and 117th GOP HELP [Health, Education, Labor, and Pensions] Committee Staff, *Muddy Waters: The Origins of COVID-19 Report*, April 17, 2023, p. 162, <https://www.marshall.senate.gov/wp-content/uploads/MWG-FDR-Documents-04-11-23-EMBARGOED.pdf> (accessed July 2, 2024).
70. U.S. Department of State, "Fact Sheet: Activity at the Wuhan Institute of Virology."
71. Ibid.
72. Michael R. Gordon, "U.S.-Funded Scientist Among Three Chinese Researchers Who Fell Ill Amid Early Covid-19 Outbreak," *The Wall Street Journal*, June 20, 2023, <https://www.wsj.com/articles/u-s-funded-scientist-among-three-chinese-researchers-who-fell-ill-amid-early-covid-19-outbreak-3f919567> (accessed July 2, 2024).

73. Daoyu Zhang et al., “DRASTIC—An Analysis of Project DEFUSE,” ResearchGate, September 2021, https://www.researchgate.net/publication/363729325_DRASTIC_-_An_Analysis_of_Project_DEFUSE (accessed July 2, 2024). See also Sharon Lerner and Mara Hvistendahl, “New Details Emerge About Coronavirus Research at Chinese Lab,” *The Intercept*, September 6, 2021, <https://theintercept.com/2021/09/06/new-details-emerge-about-coronavirus-research-at-chinese-lab/> (accessed July 2, 2024).
74. James Gimlett, Program Manager, Biological Technologies Office, “PM Summary Sheet: Source Selection Sensitive,” U.S. Department of Defense, Defense Advanced Research Projects Agency, <https://drasticresearch.org/wp-content/uploads/2021/09/hr00118s017-preempt-fp-019-pm-summary-selectable-not-recommended.pdf> (accessed July 2, 2024).
75. Annette Gartland, “Scientists Say EcoHealth Alliance’s DEFUSE Proposal Was a Blueprint for SARS-CoV-2,” *Changing Times*, January 19, 2024, <https://changingtimes.media/2024/01/19/scientists-say-ecohealth-alliances-defuse-proposal-was-a-blueprint-for-sars-cov-2/> (accessed July 2, 2024); Emily Kopp, “American Scientists Mised Pentagon on Research at the Wuhan Institute of Virology,” U.S. Right to Know, December 18, 2023, <https://usrtk.org/covid-19-origins/american-scientists-mised-pentagon-on-wuhan-research/> (accessed July 2, 2024); Emily Kopp, “US Scientists Proposed to Make Viruses with Unique Features of SARS-CoV-2 in Wuhan,” U.S. Right To Know, January 18, 2024, <https://usrtk.org/covid-19-origins/scientists-proposed-making-viruses-with-unique-features-of-sars-cov-2-in-wuhan/> (accessed July 2, 2024).
76. Kopp, “American Scientists Mised Pentagon on Research at the Wuhan Institute of Virology.” Capitalization as in original. See also enclosure, “Combined Records_Redacted.pdf (1,412 pages),” attached to letter from Judy Cearley, U.S. Geological Survey, Government Information Specialist, to Emily Anne Kopp, U.S. Right to Know, “Re: U.S. Geological Survey (USGS) Freedom of Information Act (FOIA) Tracking # DOI-USGS-2023-000257—Response,” December 5, 2023, p. 171, https://usrtk.org/wp-content/uploads/2024/01/USGS-DEFUSE-2021-006245-Combined-Records_Redacted.pdf (accessed July 2, 2024).
77. Peng Zhou et al., “A Pneumonia Outbreak Associated with a New Coronavirus of Probable Bat Origin,” *Nature*, Vol. 579 (2020), pp. 270–273, <https://www.nature.com/articles/s41586-020-2012-7> (accessed July 2, 2024).
78. Sharon Lerner and Maia Hibbett, “Leaked Grant Proposal Details High-Risk Coronavirus Research,” *The Intercept*, September 23, 2021, <https://theintercept.com/2021/09/23/coronavirus-research-grant-darpa/> (accessed July 2, 2024).
79. Chan, “Why the Pandemic Probably Started in a Lab, in 5 Key Points”; Yang Yang et al., “Two Mutations Were Critical for Bat-to-Human Transmission of Middle East Respiratory Syndrome Coronavirus,” *Journal of Virology*, Vol. 89, No. 17 (September 1, 2015), pp. 9119–9123, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4524054/> (accessed July 2, 2024).
80. Chan, “Why the Pandemic Probably Started in a Lab, in 5 Key Points.” This notion that Wuhan can pursue research without U.S. funding was mentioned by Dr. Anthony Fauci in the cited article.
81. Gilles Demaneuf, “SAGO Presentation: Limitations of the Official 2019 Wuhan Cases (Based on Primary Sources),” August 2023, p. 138, https://www.researchgate.net/publication/373301830_SAGO_Presentation_Limitations_of_the_official_2019_Wuhan_cases_based_on_Primary_Sources (accessed July 1, 2024).
82. Dali L. Yang, *Wuhan: How the COVID-19 Outbreak in China Spiraled Out of Control* (New York: Oxford University Press, 2024), p. 51.
83. *Ibid.*, p. 68.
84. *Ibid.*, p. 69.
85. Katherine Eban and Jeff Kao, “COVID-19 Origins: Investigating a ‘Complex and Grave Situation’ Inside a Wuhan Lab,” ProPublica, October 28, 2022, <https://www.propublica.org/article/senate-report-covid-19-origin-wuhan-lab> (accessed July 1, 2024).
86. Report, *The Origins Of COVID-19: An Investigation of the Wuhan Institute of Virology*, Minority Staff, Committee on Foreign Affairs, U.S. House of Representatives, 117th Cong., 1st Sess., August 2021, p. 5, <https://foreignaffairs.house.gov/wp-content/uploads/2021/08/ORIGINS-OF-COVID-19-REPORT.pdf> (accessed July 1, 2024).
87. U.S. Department of State, “Fact Sheet: Activity at the Wuhan Institute of Virology.”
88. Michael R. Gordon and Warren P. Strobel, “Lab Leak Most Likely Origin of Covid-19 Pandemic, Energy Department Now Says,” *The Wall Street Journal*, updated February 26, 2023, <https://www.wsj.com/articles/covid-origin-china-lab-leak-807b7b0a> (accessed July 1, 2024).
89. Demaneuf, “SAGO Presentation: Limitations of the Official 2019 Wuhan Cases (Based on Primary Sources),” p. 145.
90. Huang et al., “Clinical Features of Patients Infected with 2019 Novel Coronavirus in Wuhan, China.”
91. Michael Le Page, “First Known Covid Case Was Wuhan Market Trader After All,” *New Science*, Vol. 252, No. 3362 (November 27, 2021), p. 18, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8626128/> (accessed July 1, 2024).
92. Josephine Ma, “Coronavirus: China’s First Confirmed Covid-19 Case Traced Back to November,” *South China Morning Post*, March 13, 2020, <https://www.scmp.com/news/china/society/article/3074991/coronavirus-chinas-first-confirmed-covid-19-case-traced-back> (accessed July 2, 2024).
93. Raymond Zhong, Paul Mozur, Aaron Krolik, and Jeff Kao, “Leaked Documents Show How China’s Army of Paid Internet Trolls Helped Censor the Coronavirus,” ProPublica, December 19, 2020, <https://www.propublica.org/article/leaked-documents-show-how-chinas-army-of-paid-internet-trolls-helped-censor-the-coronavirus> (accessed July 2, 2024).
94. Zaheer Allam, “The First 50 days of COVID-19: A Detailed Chronological Timeline and Extensive Review of Literature Documenting the Pandemic,” Chapter 1 in *Surveying the Covid Pandemic and its Implications: Urban Health, Data Technology and Political Economy* (Cambridge, MA: Elsevier, 2020), p. 2, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7378494/pdf/main.pdf> (accessed July 2, 2024).

95. Yang, *Wuhan: How the COVID-19 Outbreak in China Spiraled Out of Control*, p. 71.
96. *Ibid.*
97. Demaneuf, "SAGO Presentation: Limitations of the Official 2019 Wuhan Cases (Based on Primary Sources)," p. 184; Julia Hollingsworth and Yong Xiong, "The Truth-tellers," CNN, February 2021, <https://www.cnn.com/interactive/2021/02/asia/china-wuhan-covid-truth-tellers-intl-hnk-dst/> (accessed July 2, 2024); Alice Su, "A doctor Was Arrested for Warning China About the Coronavirus. Then He Died of It," *Los Angeles Times*, February 6, 2020, <https://www.latimes.com/world-nation/story/2020-02-06/coronavirus-china-xi-li-wenliang> (accessed July 2, 2024).
98. Hollingsworth and Xiong, "The Truth-tellers;" Joby Warrick and David Willman, "China's Struggles with Lab Safety Carry Risk of Another Pandemic," *The Washington Post*, April 12, 2023, <https://www.washingtonpost.com/investigations/interactive/2023/china-lab-safety-risk-pandemic/> (accessed July 2, 2024).
99. George Knowles, "China's Disappeared: At Least One Is Dead and the Rest Haven't Been Heard from in Months, So Why Isn't the World Asking What Happened to the Brave Souls Who Dared to Speak up About the Coronavirus Outbreak After Beijing Lied to the World?" *Daily Mail*, updated April 19, 2020, <https://www.dailymail.co.uk/news/article-8233203/Chinas-disappeared-happened-dared-speak-coronavirus.html> (accessed July 2, 2024).
100. Hollingsworth and Xiong, "The Truth-tellers."
101. Charlie Campbell and Amy Gunia, "China Says It's Beating Coronavirus. But Can We Believe Its Numbers?" *Time*, April 1, 2020, <https://time.com/5813628/china-coronavirus-statistics-wuhan/> (accessed July 2, 2024).
102. Emily Rauhala, "World Health Organization: China Not Sharing Data on Coronavirus Infections Among Health-care Workers," *The Washington Post*, February 26, 2020, https://www.washingtonpost.com/world/asia_pacific/world-health-organization-china-not-sharing-data-on-health-care-worker-coronavirus-infections/2020/02/26/28064fda-54e4-11ea-80ce-37a8d4266c09_story.html (accessed July 2, 2024).
103. Demaneuf, "SAGO Presentation: Limitations of the Official 2019 Wuhan Cases (Based on Primary Sources)," p. 93.
104. Gao Yu et al., "In Depth: How Early Signs of a SARS-Like Virus Were Spotted, Spread, and Throttled," Caixin Global, February 29, 2020, <https://www.caixinglobal.com/2020-02-29/in-depth-how-early-signs-of-a-sars-like-virus-were-spotted-spread-and-throttled-101521745.html> (accessed July 2, 2024); Gao Yu et al., "How Early Signs of the Coronavirus Were Spotted, Spread and Throttled in China," *The Straits Times*, updated February 28, 2020, <https://www.straitstimes.com/asia/east-asia/how-early-signs-of-the-coronavirus-were-spotted-spread-and-throttled-in-china> (accessed July 2, 2024).
105. Wang Jiaxing, "Before Zhong Nanshan Spoke, This Doctor in Wuhan Issued an Epidemic Alert to Nearby Schools," *Weixin* [Freezing Point Weekly], January 28, 2020, https://mp.weixin.qq.com/s/lzzCnz4Yr2jEYZePiu_ow (accessed July 2, 2024).
106. Jim Geraghty, "The Comprehensive Timeline of China's COVID-19 Lies," *National Review*, March 23, 2020, <https://www.nationalreview.com/the-morning-jolt/chinas-devastating-lies/> (accessed July 2, 2024).
107. Press release, "E&C Investigation Uncovers Earliest Known SARS-CoV-2 Sequence Released Outside of China," Committee on Energy and Commerce, U.S. House of Representatives, January 17, 2024, <https://energycommerce.house.gov/posts/e-and-c-investigation-uncovers-earliest-known-sars-co-v-2-sequence-released-outside-of-china> (accessed July 2, 2024).
108. Gilles Demaneuf, "Sequencing and Early Analysis of SARS-CoV-2 (27 Dec 2019)—The Crushed Hopes of Little Mountain Dog of Vision Medicals (China)," ResearchGate, April 2022, p. 16, https://www.researchgate.net/publication/360313016_Sequencing_and_early_analysis_of_SARS-CoV-2_27_Dec_2019_-_The_crushed_hopes_of_Little_Mountain_Dog_of_Vision_Medicals_China (accessed July 2, 2024).
109. Yu et al., "In Depth: How Early Signs of a SARS-Like Virus Were Spotted, Spread, and Throttled."
110. Editorial Board, "As the Pandemic Exploded, a Researcher Saw the Danger. China's Leaders Kept Silent," *The Washington Post*, April 22, 2022, <https://www.washingtonpost.com/opinions/interactive/2022/china-researcher-covid-19-coverage/> (accessed July 2, 2024).
111. Kirsty Needham, "Special Report: COVID Opens New Doors for China's Gene Giant," Reuters, August 5, 2020, <https://www.reuters.com/article/idUSKCN2511CD/> (accessed July 2, 2024).
112. Josh Chin, "China Told Labs to Destroy Coronavirus Samples to Reduce Biosafety Risks," *The Wall Street Journal*, May 16, 2020, <https://www.wsj.com/articles/china-told-labs-to-destroy-coronavirus-samples-to-reduce-biosafety-risks-11589684291> (accessed July 2, 2024); Emily Kopp, "Beijing Ordered Destruction of Early Coronavirus Samples, Secret Memo Shows," U.S. Right To Know, June 27, 2023, <https://usrtk.org/covid-19-origins/china-ordered-destruction-of-early-coronavirus-samples/> (accessed July 2, 2024); General Office of the National Health Commission of China, "Notice of the General Office of the National Health Commission on Strengthening the Management of Biological Sample Resources and Related Scientific Research Activities in the Prevention and Control of Major Emerging Infectious Diseases," National Health Commission *Science and Technology Letter* No. 3, January 3, 2020, <https://zh.m.wikisource.org/zh-hans/%E5%9B%BD%E5%AE%B6%E5%8D%AB%E7%94%9F%E5%81%A5%E5%BA%B7%E5%A7%94%E5%8A%9E%E5%85%AC%E5%8E%85%E5%85%B3%E4%BA%8E%E9%87%8D%E5%A4%A7%E7%AA%81%E5%8F%91%E4%BC%A0%E6%9F%93%E7%97%85%E9%98%B2%E6%8E%A7%E5%B7%A5%E4%BD%9C%E4%B8%AD%E5%8A%A0%E5%BC%BA%E7%94%9F%E7%89%A9%E6%A0%B7%E6%9C%AC%E8%B5%84%E6%BA%90%E5%8F%8A%E7%9B%B8%E5%85%B3%E7%A7%91%E7%A0%94%E6%B4%BB%E5%8A%A8%E7%AE%A1%E7%90%86%E5%B7%A5%E4%BD%9C%E7%9A%84%E9%80%9A%E7%9F%A5> (accessed July 2, 2024).
113. Demaneuf, "SAGO Presentation: Limitations of the Official 2019 Wuhan Cases (Based on Primary Sources)," p. 13.
114. Hollingsworth and Xiong, "The Truth-tellers;" Jing-Bao Nie and Carl Elliott, "Humiliating Whistle-Blowers: Li Wenliang, the Response to Covid-19, and the Call for a Decent Society," *Journal of Bioethical Inquiry*, Vol. 17, No. 4 (2020), pp. 543–547, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7445730/> (accessed July 2, 2024).

115. Nie and Elliott, "Humiliating Whistle-Blowers: Li Wenliang, the Response to Covid-19, and the Call for a Decent Society."
116. Kasim Kashgar, "Chinese Journalist Freed After Four Years in Prison for COVID Reporting," Voice of America, May 23, 2024, <https://www.voanews.com/a/chinese-journalist-freed-after-four-years-in-prison-for-covid-reporting/7624437.html> (accessed July 2, 2024).
117. Knowles, "China's Disappeared: At Least One Is Dead and the Rest Haven't Been Heard from in Months, So Why Isn't the World Asking What Happened to the Brave Souls Who Dared to Speak up About the Coronavirus Outbreak After Beijing Lied to the World?"
118. Hollingsworth and Xiong, "The Truth-tellers."
119. Wu Xen, "Wuhan CDC Confirmed: There Are Patients with Pneumonia of Unknown Cause in the Area, and the Number of Cases Is Being Counted," *Beijing News*, December 31, 2019, <https://www.bjnews.com.cn/news/2019/12/31/668430.html> (accessed July 2, 2024).
120. David P. Steensma and Robert A. Kyle, "Dr. Li Wenliang: Wuhan 'Whistleblower' and Early COVID-19 Victim," *Mayo Clinic Proceedings*, Vol. 97, No. 7 (July 2022), pp. 1409–1410, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9157019/> (accessed July 2, 2024).
121. Demaneuf, "SAGO Presentation: Limitations of the Official 2019 Wuhan Cases (Based on Primary Sources)," pp. 13–14.
122. World Health Organization, "Listing of WHO's Response to COVID-19," last updated January 29, 2021, <https://www.who.int/news/item/29-06-2020-covidtimeline> (accessed July 2, 2024).
123. Demaneuf, "SAGO Presentation: Limitations of the Official 2019 Wuhan Cases (Based on Primary Sources)," pp. 13 and 103.
124. Ibid.
125. World Health Organization, "Listing of WHO's Response to COVID-19."
126. Annie Sparrow, "The Chinese Government's Cover-Up Killed Health Care Workers Worldwide," *Foreign Policy*, March 18, 2021, <https://foreignpolicy.com/2021/03/18/china-covid-19-killed-health-care-workers-worldwide/> (O).
127. Report, "A Complex and Grave Situation": A Political Chronology of the SARS_CoV-2 Outbreak, pp. 144–146.
128. Rauhala, "World Health Organization: China Not Sharing Data on Coronavirus Infections Among Health-care Workers."
129. Michael A. Johansson et al., "SARS-CoV-2 Transmission from People Without COVID-19 Symptoms," *JAMA Network Open*, Vol. 4, No. 1 (January 7, 2021), <https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2774707> (accessed July 2, 2024).
130. Edward Holmes, "Novel 2019 Coronavirus Genome," posted January 2020, <https://virological.org/t/novel-2019-coronavirus-genome/319> (accessed July 2, 2024); Smriti Mallapaty, "Chinese Virologist Who Was First to Share COVID-19 Genome Sleeps on Street After Lab Shuts," *Nature*, updated May 3, 2024, <https://www.nature.com/articles/d41586-024-01293-0> (accessed July 2, 2024).
131. Report, "A Complex and Grave Situation": A Political Chronology of the SARS_CoV-2 Outbreak, p. 151.
132. Natasha Khan, "New Virus Discovered by Chinese Scientists Investigating Pneumonia Outbreak," *The Wall Street Journal*, updated January 8, 2020, <https://www.wsj.com/articles/new-virus-discovered-by-chinese-scientists-investigating-pneumonia-outbreak-11578485668> (accessed July 2, 2024).
133. Associated Press, "China Delayed Releasing Coronavirus Info, Frustrating WHO," June 2, 2020, <https://apnews.com/article/fed0f89a3b46cfa401e62ce7386f0cfb> (accessed July 2, 2024).
134. Kayla Bartsch, "Chinese Lab Mapped Covid-19 Virus Two Weeks Before Sharing Information Globally, Documents Reveal," *National Review*, January 17, 2024, <https://www.nationalreview.com/news/chinese-lab-mapped-covid-19-virus-two-weeks-before-sharing-information-globally-documents-reveal/> (accessed July 2, 2024).
135. Associated Press, "How China Blocked WHO and Chinese Scientists Early in Coronavirus Outbreak," NBC News, June 2, 2020, <https://news.yahoo.com/china-blocked-chinese-scientists-early-180432860.html> (accessed July 2, 2024).
136. Demaneuf, "SAGO Presentation: Limitations of the Official 2019 Wuhan Cases (Based on Primary Sources)," p. 125.
137. Chris Buckley and Steven Lee Myers, "As New Coronavirus Spread, China's Old Habits Delayed Fight," *The New York Times*, February 1, 2020, <https://www.nytimes.com/2020/02/01/world/asia/china-coronavirus.html> (accessed July 2, 2024).
138. Li Yuan, "China Silences Critics over Deadly Virus Outbreak," *The New York Times*, January 22, 2020, <https://www.nytimes.com/2020/01/22/health/virus-corona.html> (accessed July 2, 2024).
139. Al Jazeera, "China Confirms Human-to-Human Transmission of New Coronavirus," January 20, 2020, <https://www.aljazeera.com/news/2020/1/20/china-confirms-human-to-human-transmission-of-new-coronavirus> (accessed July 2, 2024); Rubio et al., "A Complex and Grave Situation": A Political Chronology of the SARS_CoV-2 Outbreak, pp. 158–159.
140. Yang, *Wuhan: How the COVID-19 Outbreak in China Spiraled Out of Control*, p. 294.
141. Ibid.
142. "Xi's Instructions on Wuhan Lockdown Lay Cornerstone of China's Victory Against COVID-19," Global Times, June 7, 2020, <https://www.globaltimes.cn/content/1190778.shtml> (accessed July 2, 2024).
143. Jin Wu, Weiyi Cai, Derek Watkins, and James Glanz, "How the Virus Got Out," *The New York Times*, March 22, 2020, <https://www.nytimes.com/interactive/2020/03/22/world/coronavirus-spread.html> (accessed July 2, 2024).

144. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, "Control of Communicable Diseases; Foreign Quarantine," Interim Final Rule with Request for Comments, *Federal Register*, Vol. 85, No. 29 (February 12, 2020), pp. 7874–7880, <https://www.federalregister.gov/documents/2020/02/12/2020-02731/control-of-communicable-diseases-foreign-quarantine> (accessed July 2, 2024).
145. John Grant, "Coronavirus—Tracking Down the Bug," OAG Aviation Worldwide Blog, January 21, 2020, <https://www.oag.com/blog/2019-ncov-tracking-down-the-bug> (accessed July 2, 2024).
146. Steve Eder, Henry Fountain, Michael H. Keller, Muyi Xiao, and Alexandra Stevenson, "430,000 People Have Traveled from China to U.S. Since Coronavirus Surfaced," *The New York Times*, April 4, 2020, <https://www.nytimes.com/2020/04/04/us/coronavirus-china-travel-restrictions.html> (accessed July 2, 2024).
147. Chan, "Why the Pandemic Probably Started in a Lab, in 5 Key Points"; Charles Small, Billy Bostickson, and Gilles Demaneuf, "An Investigation into the WIV Databases that Were Taken Offline," ResearchGate, February 2021, https://www.researchgate.net/publication/349073738_An_investigation_into_the_WIV_databases_that_were_taken_offline (accessed July 2, 2024).
148. Bloomberg, "Chinese President Xi Says He Was Leading COVID-19 Efforts During Critical Early Stages of Outbreak," February 16, 2020, <https://time.com/5785115/xi-jingping-lead-covid-19/> (accessed July 2, 2024); Report, "A Complex and Grave Situation": A Political Chronology of the SARS_CoV-2 Outbreak, p. 175.
149. Final Report, *The Origins of the Covid Global Pandemic, Including the Roles of the Chinese Communist Party and the World Health Organization*, Minority Staff, Committee on Foreign Affairs, U.S. House of Representatives, 116th Cong., 2nd Sess., 2020, p. 5, <https://foreignaffairs.house.gov/wp-content/uploads/2020/09/Final-Minority-Report-on-the-Origins-of-the-COVID-19-Global-Pandemic-Including-the-Roles-of-the-CCP-and-WHO-9.20.20-Coverpage.pdf> (accessed July 2, 2024).
150. Talha Burki, "First Shared SARS-CoV-2 Genome: GISAID vs Virological.org" *Lancet Microbe*, Vol. 4, No. 6 (June 2023), p. e395, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10129129/> (accessed July 2, 2024).
151. Kadlec et al., *Muddy Waters: The Origins of COVID-19 Report*, p. 11.
152. Ibid.
153. Zhou Yusan et al., "Novel Coronavirus COVID-19 Vaccine, Preparation Method and Application Thereof," China Patent CN111333704B, filed February 24, 2020, and issued January 12, 2021, <https://patents.google.com/patent/CN111333704B/en> (accessed July 2, 2024).
154. Ibid.
155. Report, "A Complex and Grave Situation": A Political Chronology of the SARS_CoV-2 Outbreak, p. 197.
156. Kadlec et al., *Muddy Waters: The Origins of COVID-19 Report*, p. 227.
157. World Health Organization, *International Health Regulations (2005)*, 3rd ed. (Geneva: World Health Organization Press, 2016), <https://iris.who.int/bitstream/handle/10665/246107/9789241580496-eng.pdf?sequence=1> (accessed July 1, 2024).
158. Ibid.
159. Ibid.
160. Ben Westcott, "Former Australian Prime Minister Morrison Warns of China Threat in Final Speech to Parliament," Bloomberg, February 26, 2024, <https://www.bloomberg.com/news/articles/2024-02-27/former-australian-pm-morrison-warns-of-china-threat-in-final-parliament-speech> (accessed July 1, 2024).
161. Gabriel Crossley, "China Rejects WHO Plan for Study of COVID-19 Origin," Reuters, July 22, 2021, <https://www.reuters.com/world/china/china-will-not-follow-whos-suggested-plan-2nd-phase-covid-19-origins-study-2021-07-22/> (accessed July 1, 2024); David Cohen, "China Continues to Block Efforts to Determine Covid's Origin, Lawmakers Say," *Politico*, March 5, 2023, <https://www.politico.com/news/2023/03/05/covid-origin-theories-china-00085546> (accessed July 1, 2024); BBC, "COVID: WHO Team Investigating Virus Origins Denied Entry at China," January 6, 2021, <https://www.bbc.com/news/world-asia-china-55555466> (accessed January 2, 2024); Kirsty Needham, "Australia to Pursue Coronavirus Investigation at World Health Assembly," Reuters, April 23, 2020, <https://www.reuters.com/article/world/australia-to-pursue-coronavirus-investigation-at-world-health-assembly-idUSKCN2251G7/> (accessed July 2, 2024).
162. Press release, "People's Republic of China (PRC) Targeting of COVID-19 Research Organizations, U.S. Department of Justice, Federal Bureau of Investigation, May 13, 2020, <https://www.fbi.gov/news/press-releases/peoples-republic-of-china-prc-targeting-of-covid-19-research-organizations> (accessed July 1, 2024).
163. Ibid.
164. Chris Buckley, "Chinese Doctor, Silenced After Warning of Outbreak, Dies from Coronavirus," *The New York Times*, February 6, 2020, <https://www.nytimes.com/2020/02/06/world/asia/chinese-doctor-Li-Wenliang-coronavirus.html> (accessed July 1, 2024).
165. Yang, *Wuhan: How the COVID-19 Outbreak in China Spiraled Out of Control*, p. 292.
166. 28 U.S.C. § 1604.
167. 28 U.S.C. § 1603(a).

168. 28 U.S.C. § 1603(b).
169. 28 U.S.C. § 1605(a)(2).
170. *Republic of Argentina v. Weltover, Inc.*, 504 U.S. 607, 614 (1992).
171. *Id.* at 618.
172. 28 U.S.C. § 1605(a)(5).
173. See, e.g., *In Re Terrorist Attacks on Sept. 11, 2001*, 714 F.3d 109, 115–16 (2d Cir. 2013).
174. *Id.*
175. See *Missouri ex rel. Bailey v. People's Republic of China*, 90 F.4th 930, 936 (8th Cir. 2024).
176. 28 U.S.C. § 1605B(b)(1).
177. See 18 U.S.C. § 2331(1).
178. See 28 U.S.C. § 1605(a)(1).
179. See 28 U.S.C. § 1608.
180. See *id.* at § 1606.
181. 28 U.S.C. § 1600.
182. *Id.* at § 1441(d).
183. See *id.* at §§ 1441(d), 1600(d).
184. 28 U.S.C. § 1609; see also *id.* at § 1611 (absolute immunity for certain assets such as property of a central bank held on its own account).
185. *Id.* at § 1610(a)(2).
186. *Id.* at § 1610(b)(2) (emphasis added).
187. United States Securities and Exchange Commission, Form 20-F, China Southern Airlines Company Limited, Commission File Number 1-14660, https://www.sec.gov/Archives/edgar/data/1041668/000114420416096888/v437560_20f.htm (accessed July 1, 2024).
188. China Southern Airlines, “Company Profile,” <https://csair.com/us/en/about/gongsijianjie/> (accessed July 1, 2024).
189. See 14 C.F.R. § 375.26.
190. China Eastern Airlines, “About China Eastern,” https://www.ceair.com/global/en_static/AboutChinaEasternAirlines/intoEasternAirlines/chinaeasternInto/ (accessed July 1, 2024).
191. See 14 C.F.R. § 375.26.
192. See *Missouri ex rel. Bailey v. People's Republic of China*, 90 F.4th 930, 938–39 (8th Cir. 2024).
193. See Complaint, at ¶ 134, *State of Mississippi v. People's Republic of China et al.*, No. 20-cv-168 (TBM-RMP) (S.D. Miss. May 12, 2020) (ECF No. 1).
194. Clerk’s Entry of Default, *State of Mississippi v. People's Republic of China et al.*, No. 20-cv-168 (TBM-RMP) (S.D. Miss. March 5, 2024) (ECF No. 62).
195. Restatement (Second) of Torts: Abnormally Dangerous Activities § 519 (Am. L. Inst. 1977).
196. These facts come from Alina Chan, “Why the Pandemic Probably Started in a Lab, in 5 Key Points,” *The New York Times*, June 3, 2024, <https://www.nytimes.com/interactive/2024/06/03/opinion/covid-lab-leak.html> (accessed July 1, 2024).
197. Restatement (Second) of Torts: Public Nuisance § 821B (Am. L. Inst. 1977).
198. “The World Needs Masks. China Makes Them, but Has Been Hoarding Them,” *The New York Times*, March 13, 2020, <https://www.nytimes.com/2020/03/13/business/masks-china-coronavirus.html> (accessed July 1, 2024).
199. See *Bailey*, 90 F.4th at 938–39.
200. Restatement (Second) of Torts: Liability for Fraudulent Misrepresentation § 525 (Am. L. Inst. 1977).
201. 130 Stat. 853 (2016).
202. See, for instance, Juliet Eilperin and Karoun Demirjian, “Congress Thwarts Obama on Bill Allowing 9/11 Lawsuits Against Saudi Arabia,” *The Washington Post*, September 28, 2016, https://www.washingtonpost.com/politics/congress-thwarts-obama-on-bill-allowing-911-lawsuits-against-saudi-arabia/2016/09/28/a93e31ba-859b-11e6-ac72-a29979381495_story.html (accessed July 1, 2024).
203. *Ibid.*
204. See, for instance, S. 3572, Pandemic TANF Assistance Act, S 3672, 116th Cong., introduced May 11, 2020, <https://www.congress.gov/bill/116th-congress/senate-bill/3672/text> (accessed July 1, 2024); S. 3662, Holding the Chinese Communist Party Accountable for Infecting Americans Act of 2020, 116th Cong., introduced in May 7, 2020, <https://www.congress.gov/bill/116th-congress/senate-bill/3662/text> (accessed July 1, 2024).
205. Dore Feith, “The First ‘State Sponsor of Mass IP Theft’: China, Sovereign Immunity, and Upholding Americans’ Intellectual Property Rights,” *Columbia Business Law Review*, forthcoming, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4783195 (accessed July 3, 2024).

206. 6 U.S. (2 Cranch) 64 (1804).
207. Sheryl Gay Stolberg, "Covid-19 Commission Modeled on 9/11 Inquiry Draws Bipartisan Backing," *The New York Times*, February 4, 2022, <https://www.nytimes.com/2022/02/04/us/politics/covid-commission.html> (accessed July 2, 2024); Sheryl Gay Stolberg, "Two Decades After 9/11 Inquiry, a Similar Plan for Covid Stalls in Congress," *The New York Times*, December 12, 2022, <https://www.nytimes.com/2022/12/12/us/politics/COVID-commission-congress.html> (accessed July 2, 2024); S. 1489, National Task Force on the COVID-19 Pandemic Act, 118th Cong., 1st Sess., introduced May 9, 2023, <https://www.govinfo.gov/content/pkg/BILLS-118s1489is/pdf/BILLS-118s1489is.pdf> (accessed July 2, 2024).
208. H.R. 685, Chinese Government COVID-19 Accountability Act, 118th Cong., 1st Sess., introduced January 31, 2023, <https://www.congress.gov/bill/118th-congress/house-bill/685/text?s=9&r=15&q=%7B%22search%22%3A%22COVID%22%7D> (accessed July 2, 2024).
209. David Asher, "A Just Response to Communist China's COVID Cover Up," statement before the Select Subcommittee on the Coronavirus Crisis, Committee on Oversight and Accountability, U.S. House of Representatives, June 29 2021, https://oversight.house.gov/wp-content/uploads/2021/06/Asher_Testimony-6.29.21.pdf (accessed July 2, 2024).
210. H.R. 4142, CCP Wrongful Death Accountability Act of 2023, 118th Cong., 1st Sess., introduced June 15, 2023, <https://www.congress.gov/bill/118th-congress/house-bill/4142?s=9&r=58&q=%7B%22search%22%3A%22COVID%22%7D> (accessed July 2, 2024).
211. H.R. 7085, BIOSECURE Act, 118th Cong., 2nd Sess., introduced January 25, 2024, <https://www.congress.gov/bill/118th-congress/house-bill/7085/text> (accessed July 2, 2024).
212. David Asher, Thomas DiNanno, David Feith, Miles Yu, and Matthew Zweig, "A Just Response to Beijing's COVID-19 Abuses," Hudson Institute *Policy Memo*, June 6, 2021, p. 3, https://s3.amazonaws.com/media.hudson.org/Hudson%20Institute_A%20Just%20Response%20to%20Beijing's%20COVID-19%20Abuses.pdf (accessed July 2, 2024); David Feith, testimony before Select Subcommittee on the Coronavirus Pandemic, Committee on Oversight and Accountability, U.S. House of Representatives, "Investigating the Origins of COVID-19, Part 2," April 18, 2023, p. 10, <https://docs.house.gov/meetings/VC/VC00/20230418/115744/HHRG-118-VC00-Wstate-FeithD-20230418.pdf> (accessed July 2, 2024).
213. John Yoo and Robert J. Delahunty, "How to Make China Pay for COVID-19," Hoover Institution, April 26, 2020, <https://www.hoover.org/research/how-make-china-pay-COVID-19> (accessed July 2, 2024).
214. S. 588, Coronavirus Origin Validation, Investigation, and Determination (COVID) Act of 2023, 118th Cong., 1st Sess., introduced March 1, 2023, <https://www.congress.gov/bill/118th-congress/senate-bill/588/titles?s=1&r=22> (accessed July 2, 2024); S. 3600, Li Wenliang Global Public Health Accountability Act of 2020, 116th Cong., 2nd Sess., introduced May 5, 2020, <https://www.congress.gov/bill/116th-congress/senate-bill/3600/text> (accessed July 2, 2024).
215. Asher et al., "A Just Response to Beijing's COVID-19 Abuses," pp. 1–2. See also President George W. Bush, Executive Order 13382, "Blocking Property of Weapons of Mass Destruction Proliferators and Their Supporters," June 28, 2005, *Federal Register*, Vol. 70, No. 126 (July 1, 2005), pp. 38567–38570, <https://www.govinfo.gov/content/pkg/FR-2005-07-01/pdf/05-13214.pdf> (accessed July 2, 2024).
216. President Joseph R. Biden, Jr., Executive Order 14105, "Addressing United States Investments in Certain National Security Technologies and Products in Countries of Concern," August 9, 2023, *Federal Register*, Vol. 88, No. 154 (August 11, 2023), pp. 54867–54872, <https://www.govinfo.gov/content/pkg/FR-2023-08-11/pdf/2023-17449.pdf> (accessed July 2, 2024).
217. Cate Cadell, "Pentagon Biodefense Review Points to Chinese, Russian Threats," *The Washington Post*, August 17, 2023, <https://www.washingtonpost.com/national-security/2023/08/17/bioweapon-defense-pentagon-threats-china/> (accessed July 2, 2024).
218. Katherine Eban, "Secret Warnings About Wuhan Research Predated the Pandemic," *Vanity Fair*, November 21, 2023, <https://www.vanityfair.com/news/2023/11/covid-origins-warnings-nih-department-of-energy> (accessed July 2, 2024).
219. S. 619, COVID-19 Origins Act of 2023, Public Law No. 118-2, 118th Cong., 1st Sess., March 20, 2023, <https://www.congress.gov/bill/118th-congress/senate-bill/619> (accessed July 2, 2024).
220. "FACT SHEET: Biden–Harris Administration Releases Strategy to Strengthen Global Health Security," The White House, April 16, 2024, <https://www.whitehouse.gov/briefing-room/statements-releases/2024/04/16/fact-sheet-biden-%E2%81%A0harris-administration-releases-strategy-to-strengthen-global-health-security/> (accessed July 2, 2024); *U.S. Government Global Health Security Strategy 2024*, The White House, April 2024, <https://www.whitehouse.gov/wp-content/uploads/2024/04/Global-Health-Security-Strategy-2024-1.pdf> (accessed July 2, 2024).
221. Asher et al. "A Just Response to Beijing's COVID-19 Abuses," p. 2.
222. G7 Working Group on the Security and Integrity of the Global Research Ecosystem (SIGRE), "G7 Common Values and Principles on Research Security and Research Integrity," June 2022, https://science.gc.ca/site/science/sites/default/files/attachments/2023/1135-g7-common-values-and-principles-on-research-security-and-research-integrity_.pdf (accessed July 2, 2024).
223. World Health Organization, *International Health Regulations (2005)*, 3rd ed. (Geneva: World Health Organization Press, 2016), <https://iris.who.int/bitstream/handle/10665/246107/9789241580496-eng.pdf?sequence=1> (accessed July 2, 2024).
224. Karen M. Sutter and Emily G. Blevins, "U.S.–China Science and Technology Cooperation Agreement," Congressional Research Service *In Focus* No. IF12510, updated May 16, 2024, <https://crsreports.congress.gov/product/pdf/IF/IF12510> (accessed July 2, 2024).
225. Staff Report, *Threats to the U.S. Research Enterprise: China's Talent Recruitment Plans*, Permanent Subcommittee on Investigations, Committee on Homeland Security and Governmental Affairs, U.S. Senate, 116th Cong., 1st Sess., 2019, pp. 18–20, <https://www.hsgac.senate.gov/wp-content/uploads/imo/media/doc/2019-11-18%20PSI%20Staff%20Report%20-%20China's%20Talent%20Recruitment%20Plans%20Updated2.pdf> (accessed July 2, 2024).

226. United Nations, Office for Disarmament Affairs, "Biological Weapons Convention," <https://disarmament.unoda.org/biological-weapons/> (accessed July 2, 2024).
227. U.S. Department of State, *Adherence to and Compliance with Arms Control, Nonproliferation, and Disarmament Agreements and Commitments*, April 2023, p. 23, <https://www.state.gov/wp-content/uploads/2023/04/13APR23-FINAL-2023-Treaty-Compliance-Report-UNCLASSIFIED-UNSOURCED.pdf> (accessed July 2, 2024).
228. *Ibid.*



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