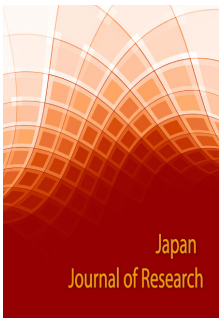
Japan Journal of Research

Original Article



The Dangerous Precedent of Pandemic Censorship: A Narrative Review of Information Control and Scientific Discourse During COVID-19

Mitchell B. Liester

University of Colorado School of Medicine, Colorado, USA

Correspondence

Liester, Mitchell B

University of Colorado School of Medicine, Colorado, USA

Tel: 719-488-0024

Fax: 719-488-6672

- Received Date: 01 Sep 2025
- Accepted Date: 10 Sep 2025
- Publication Date: 15 Sep 2025

Keywords: COVID-19, censorship, scientific discourse, pandemic response, information control

Abstract

Background: *The COVID-19 pandemic created an unprecedented convergence of public health authoritarianism, social media censorship, and information control that fundamentally altered scientific discourse. This review examines the systematic suppression of dissenting scientific voices and the characterization of policy dissent as potential domestic terrorism.*

Methods: *Publicly available documents, declassified government memos, legal proceedings, published scientific literature, and personal communications with physicians and scientists were analyzed. Sources included the Twitter Files, Missouri v. Biden litigation, National Counterterrorism Center documents, and peer-reviewed studies validating initially suppressed viewpoints.*

Results: *Social media platforms systematically removed content challenging official health guidance through coordinated mechanisms involving automated algorithms, fact-checkers, and direct government coordination. A December 2021 National Counterterrorism Center memo characterized criticism of vaccine mandates as a doctrine potentially embraced by violent extremists. Multiple initially suppressed scientific positions were later demonstrated to be supported by evidence, including the lab leak hypothesis, limitations of mask effectiveness, robust natural immunity, vaccine transmission limitations, and myocarditis risks. Prominent physicians and scientists faced professional persecution, including loss of medical licenses, institutional termination, and board certification revocation for supporting dissenting viewpoints.*

Conclusions: *The pandemic established dangerous precedents where social media platforms assumed the role of scientific gatekeepers while national security agencies characterized medical dissent as potential terrorism. The systematic suppression of legitimate scientific discourse, combined with the subsequent vindication of many censored viewpoints, demonstrates the profound risks of abandoning traditional principles of open scientific inquiry during public health emergencies.*

Introduction

The COVID-19 pandemic represents a watershed moment in the history of scientific communication. For the first time in modern history, social media platforms systematically assumed the role of scientific gatekeepers, working in coordination with public health authorities to suppress voices that challenged prevailing medical orthodoxy [1,2]. This unprecedented convergence of corporate power, governmental authority, and information control established dangerous precedents that extend far beyond public health policy.

The principles of scientific inquiry have traditionally relied on open debate, peer review, and the willingness to challenge established thinking [3,4]. The history of medicine is replete with once-accepted therapies that were later proven harmful, from insulin coma therapy and lobotomy to thalidomide and mercury treatments [5-8]. Progress emerged not from silencing dissenting voices, but from allowing them to be heard, tested, and evaluated through rigorous examination. The recognition of bacterial causes of peptic ulcers by Marshall and Warren, initially met with skepticism and ridicule, exemplifies how contrarian ideas can revolutionize medical understanding [9,10]. Similarly, Ignaz Semmelweis faced persecution for advocating handwashing, a practice now recognized as fundamental to infection control [11].

As Lataster and Parry note in their recent analysis of groupthink in medical journals, mainstream medicine has increasingly reflected the growing commercial influence of the pharmaceutical industry over the past half-century [12]. Their work emphasizes how dominant narratives become closely tied to groupthink, to which medical journals are particularly susceptible, and how more "prestigious" medical journals tend to have significant financial conflicts of interest with the pharmaceutical industry [12].

Citation: Liester MB. The Dangerous Precedent of Pandemic Censorship: A Narrative Review of Information Control and Scientific Discourse During COVID-19. Japan J Res. 2025;6(12):163.

During the COVID-19 pandemic, the centuries-old tradition of open scientific inquiry was systematically abandoned. The emergence of what some have termed the "censorship industrial complex" created an environment where certain scientific topics became effectively off-limits for discussion [13,14]. More concerning was the evolution from simple content removal to the characterization of policy dissent as a national security threat, as revealed in declassified government documents [15].

This review examines the mechanisms of pandemic censorship, analyzes the subsequent vindication of multiple suppressed viewpoints, and evaluates the implications for future scientific discourse.

Methods

Data Collection and Sources

This narrative review employed a multi-source approach to systematically document instances of information control and censorship related to COVID-19 scientific discourse. The data collection strategy encompassed four primary categories of sources to ensure comprehensive coverage of the phenomenon under investigation.

Searches were conducted using PubMed/MEDLINE with the terms ("COVID-19" OR "SARS-CoV-2") AND ("censorship" OR "information control" OR "misinformation" OR "scientific discourse"). These searches were complemented by Google Scholar queries using similar terminology, with additional citation tracking to identify relevant studies through forward and backward citation analysis. The Cochrane Library was consulted specifically for systematic reviews addressing information control during the pandemic. To capture emerging research, we also searched preprint repositories including medRxiv and bioRxiv, recognizing that much contemporary discourse on this topic appeared first in preprint form.

Government and legal documentation provided crucial primary source material for understanding institutional responses to COVID-19 information. Federal court records were accessed through PACER (Public Access to Court Electronic Records) to identify litigation related to information suppression or scientific censorship. Government document repositories from key agencies including the Food and Drug Administration, Centers for Disease Control and Prevention, National Institutes of Health, and declassified Federal Bureau of Investigation documents were systematically reviewed. Congressional hearing transcripts and testimony records were examined to capture legislative oversight activities, while Freedom of Information Act releases provided access to previously restricted government communications and policy documents.

Professional and regulatory sources offered insight into disciplinary actions and institutional responses within the medical and scientific communities. State medical board disciplinary records were reviewed to identify cases where healthcare professionals faced sanctions related to their COVID-19 communications. Professional licensing organization decisions were analyzed to understand how regulatory bodies responded to dissenting scientific voices. Academic institutional employment records were examined where publicly available to document cases of faculty discipline or termination related to COVID-19 discourse. Journal retraction databases, particularly Retraction Watch, were systematically searched to identify patterns in the retraction of COVID-19 related research.

Media and investigative sources provided documentation of digital platform policies and their implementation. The Twitter Files releases, as documented by journalists including Taibbi [2], Weiss [16], and Shellenberger [14], were reviewed for evidence of coordination between government entities and social media platforms. Investigative journalism reports containing primary source documentation were included when they provided verifiable evidence of censorship mechanisms. Additionally, platform policy documents and content moderation guidelines from major social media companies were analyzed to understand the formal frameworks employed to control COVID-19 information.

Inclusion and Exclusion Criteria

The scope of this narrative review was defined by specific inclusion and exclusion criteria designed to focus on verifiable instances of information control while maintaining scientific rigor. Materials were included if they documented verifiable instances of content removal or restriction specifically related to COVID-19 scientific discourse on digital platforms, in academic settings, or through other institutional mechanisms. Cases involving professional consequences such as medical license revocation, employment termination, or loss of professional certification were included when these actions were directly connected to the expression of scientific viewpoints during the pandemic period. Government communications that explicitly addressed information control strategies, content moderation policies, or coordination with private platforms during the COVID-19 response were incorporated into the analysis.

The inclusion criteria also encompassed peer-reviewed studies published both during the acute pandemic phase and in subsequent periods that examined topics or findings that had been subject to suppression or restricted discussion. Legal proceedings involving First Amendment claims related to pandemic discourse provided additional documentation of censorship mechanisms and their constitutional implications.

Several categories of materials were excluded from this review to maintain focus and methodological rigor. Anecdotal reports that lacked verifiable documentation or corroborating evidence were excluded. Content restrictions that were unrelated to scientific or medical discourse, such as those concerning purely political commentary or commercial speech, fell outside the scope of this review. Cases involving clearly fraudulent or fabricated claims were excluded, as the focus remained on the suppression of legitimate scientific discourse rather than the removal of demonstrably false information.

Additionally, non-English language sources were excluded unless professional translations were available, due to resource constraints and the need to ensure accurate interpretation of nuanced policy and legal language. Opinion pieces and editorial content were excluded unless they contained primary source documentation or direct evidence of censorship mechanisms.

Results

Mechanisms of Information Control

The censorship that emerged during COVID-19 operated through sophisticated and coordinated mechanisms. Internal documents revealed through the Missouri v. Biden litigation and the Twitter Files demonstrated systematic coordination between social media platforms and government agencies [1,2,14,16]. These systems employed multiple interconnected approaches:

Automated Detection Systems: Platforms developed algorithms that flagged content containing specific keywords

and phrases that deviated from official health guidance, regardless of the scientific credentials of the authors [2].

Fact-Checker Networks: Content moderation relied heavily on fact-checkers with limited scientific expertise who applied rigid standards based on evolving official guidance rather than established scientific principles [17].

Direct Government Coordination: Communications between government officials and platform executives revealed systematic efforts to suppress information contradicting official narratives, even when originating from credentialed scientists and physicians. The Biden administration's pressure on platforms was documented through internal emails and communications [1].

Professional Retaliation Systems: Beyond platform censorship, physicians and scientists who expressed dissenting opinions faced institutional consequences including employment termination, loss of medical license, and board certification revocation [17,18].

The influence of pharmaceutical industry funding on medical discourse during this period was extensively documented. As Lataster and Parry detail, pharmaceutical companies have paid $122 billion in fines since 2000 following criminal trials, yet continue to shape medical narratives through extensive financial relationships with journals, regulators, and medical professionals. Internal pharmaceutical industry documents released in litigation have revealed how companies systematically invest in shaping narratives to dominate medical fields in favor of their products, understating harms and overstating benefits [12].

Escalation to National Security Labeling

A declassified December 13, 2021 memo from the National Counterterrorism Center demonstrated a concerning escalation from content censorship to national security surveillance. The document warned that "Domestic Violent Extremists will threaten to mobilize to violence in opposition to new or expanding COVID-19 related mandates." The memo characterized opposition to vaccine mandates—a position held by millions of Americans—as a doctrine "likely to be embraced by violent extremists" [15].

This shift from censorship to security state scrutiny had profound implications for scientists and physicians who raised legitimate concerns about pandemic policies. The rhetorical framework established by such documents created an environment where scientific dissent carried implicit national security implications.

Patterns of Vindicated "Misinformation"

The systematic suppression of legitimate scientific discourse becomes particularly concerning when examining the subsequent validation of multiple initially censored viewpoints. Recent analysis has highlighted the phenomenon of "reverse misinformation"—claims initially labeled as misinformation but later proven to be true [12].

Laboratory Origin Hypothesis

Scientists and journalists suggesting that SARS-CoV-2 might have originated from a laboratory accident faced systematic content removal and professional ostracization in what became one of the most politically charged scientific debates of the pandemic era. The coordinated suppression of laboratory origin discussions represented a fundamental departure from scientific inquiry principles, with credentialed virologists, epidemiologists, and biosecurity experts facing career-threatening consequences for raising legitimate questions about the virus's origins.

Dr. Li-Meng Yan, a virologist who fled Hong Kong after raising concerns about the virus's origins [19], saw her research systematically suppressed across academic and social media platforms. Her peer-reviewed publications suggesting laboratory modification of SARS-CoV-2 were immediately characterized as "misinformation" and removed from major platforms, despite her credentials as a published virologist with expertise in coronaviruses [20].

Dr. Richard Ebright, a biosecurity expert and professor of chemical biology at Rutgers University, faced sustained attacks from prominent scientists for questioning the natural origin narrative. Despite his decades of expertise in biosafety and laboratory security, Ebright was characterized as spreading misinformation by other scientists for suggesting that gain-of-function research at the Wuhan Institute of Virology could have contributed to the pandemic's origins [21]. His warnings about laboratory safety were systematically marginalized, with major scientific journals refusing to publish his analyses despite his established track record in biocontainment research.

Dr. Robert Redfield, former director of the U.S. Centers for Disease Control and Prevention (CDC), testified before the U.S. Congress about being deliberately excluded from discussions about COVID-19 origins because his views contradicted the preferred natural origin narrative. Redfield revealed that he was told "they wanted a single narrative and that I obviously had a different point of view," adding that "If you really want to be truthful, it's antithetical to science. Science has debate, and they squashed any debate" [22]. His exclusion from scientific discussions despite his position as CDC Director demonstrated how institutional power was used to suppress dissenting views on origins.

The suppression campaign was orchestrated through coordinated efforts involving prominent scientists with conflicts of interest. The influential Lancet letter characterizing laboratory origin theories as "conspiracy theories" was organized by Dr. Peter Daszak, who had direct financial ties to the Wuhan Institute of Virology through EcoHealth Alliance funding [23,24]. This letter, signed by 27 scientists, was used repeatedly to dismiss laboratory origin discussions without revealing Daszak's conflicts of interest, effectively weaponizing scientific authority to suppress legitimate inquiry.

Nicholas Wade, former science editor at The New York Times and former editor of Science and Nature, documented how Dr. Anthony Fauci and Dr. Francis Collins led a systematic campaign to discredit the laboratory leak theory. Wade testified that scientists "kept in line with the natural origin camp led by Drs. Fauci and Collins because of their dependence on government grants" and that "the media failed to challenge the forced narrative" [22].

Dr. Alina Chan, a molecular biologist at the Broad Institute, faced sustained attacks for co-authoring studies that challenged the natural origin theory and provided evidence supporting a laboratory origin [25]. Her research documenting the virus's unique adaptation to human infection was characterized as promoting a "conspiracy driven agenda" [26] despite being published in peer-reviewed publications. The systematic targeting of Chan demonstrated how early-career scientists faced particularly severe consequences for challenging official narratives, with implications for their future funding and career prospects.

Dr. Steven Quay and other scientists who published analyses supporting laboratory origins faced coordinated efforts to have their research retracted or marginalized [27]. Quay, a physician-scientist with over 360 publications and 87 patents, conducted a comprehensive Bayesian analysis in 2021 concluding with 99.8% probability that SARS-CoV-2 came from a laboratory [28]. Despite his credentials and rigorous methodology, Quay reported that mainstream media outlets ignored his findings, and his research was rejected by peer-reviewed journals. Meanwhile, the scientific establishment publicly claimed there was no peer-reviewed data supporting laboratory origins [27].

The vindication of laboratory origin concerns became evident when multiple U.S. intelligence agencies, including the FBI and Department of Energy, concluded that a laboratory origin was the most probable explanation for the pandemic's emergence [29,30]. The 2024 White House report on COVID-19 origins stated that a lab incident involving gain-of-function research is the most likely origin of COVID-19. A comprehensive two-year Congressional investigation concluded that scientific evidence pointed to a laboratory leak, vindicating many of the scientists who had been censored for raising identical concerns years earlier [30].

Natural Immunity Recognition

Discussions of natural immunity—protection gained from previous COVID infection—became one of the most heavily censored topics despite being a well-established immunological principle supported by decades of research [31]. The systematic suppression of natural immunity discourse represented a fundamental departure from established immunological science, with multiple credentialed physicians and scientists facing censorship for discussing peer-reviewed research findings.

Dr. Martin Kulldorff of Harvard Medical School experienced censorship after he posted his view challenging CDC vaccine policy. At the encouragement of the U.S. government, Kulldorff was censored by Twitter, LinkedIn, Facebook, and YouTube, for suggesting that people with natural immunity did not require vaccination, despite his status as a world-renowned epidemiologist specializing in vaccine safety surveillance [32,33].

Dr. Brett Giroir, former U.S. Food & Drug Administration (FDA) Commissioner, experienced censorship when he accurately posted about natural immunity research. Internal communications revealed that Dr. Scott Gottlieb, a Pfizer board member and former FDA head, personally lobbied Twitter executives to censor Giroir's post that said natural immunity was superior to vaccine immunity. Gottlieb characterized the scientifically accurate post as "misleading" as well as "false and inflammatory" [34]. This incident demonstrated the direct involvement of pharmaceutical industry board members in suppressing accurate scientific information about natural immunity.

Dr. Martin Makary of Johns Hopkins University faced attempts to discredit his advocacy for natural immunity recognition, with his posts about research findings being flagged and restricted across social media platforms [35]. When major studies validating natural immunity were published, Makary's scientifically accurate statements were suppressed.

The coordinated nature of this censorship extended to journalists like Alex Berenson, who was banned from Twitter for sharing natural immunity research, with internal documents revealing pharmaceutical industry influence in his suspension [36]. Berenson sued Twitter, and he was later reinstated.

This suppression occurred despite mounting peer-reviewed evidence demonstrating natural immunity's superiority to vaccine immunity. Multiple large-scale studies published in prestigious journals confirmed that natural immunity provided robust, long-lasting protection [37]. A landmark Israeli study involving hundreds of thousands of individuals demonstrated that natural immunity provided longer lasting and stronger protection against infection, symptomatic disease, and hospitalization caused by the Delta variant of SARS-CoV-2, compared to two doses of the BNT162b2 vaccine [38].

Yet physicians and scientists who cited this peer-reviewed research were systematically censored, demonstrating how platform policies prioritized pharmaceutical industry interests over established scientific evidence.

Vaccine Effectiveness and Transmission Limitations

Early claims about COVID vaccine effectiveness in preventing transmission were rigorously protected from questioning despite limited supporting data and the fact that clinical trials were never designed to test transmission prevention [39,40]. From the outset, the Pfizer/BioNTech [39] and Moderna [40] phase 3 trials focused exclusively on preventing symptomatic disease, not transmission, yet public health authorities and media outlets promoted the vaccines as tools to stop the spread of the disease without acknowledging this fundamental limitation. Scientists and physicians who questioned these transmission claims faced systematic content removal and professional consequences [33].

By August 2021, the scientific reality became undeniable when CDC Director Rochelle Walensky acknowledged that vaccines were not effective at preventing transmission of the Delta variant, stating that vaccinated people could carry similar viral loads and transmit the virus to others [41]. This admission validated the concerns of numerous physicians who had been censored for raising identical questions months earlier, demonstrating how official narratives had been protected from legitimate scientific scrutiny through coordinated information control mechanisms.

Myocarditis and Cardiac Safety Concerns

Dr. Peter McCullough, a prominent cardiologist with over 970 peer-reviewed publications [42], became one of the most heavily censored physicians during the pandemic for raising concerns about COVID-19 vaccine-induced myocarditis. McCullough co-authored a study published in Current Problems in Cardiology in October 2021 examining the U.S. Vaccine Adverse Events Reports System (VAERS) database, which found that myocarditis rates were significantly higher than expected following COVID-19 vaccination. This study was retracted within two weeks of publication, with McCullough attributing the retraction to pressure from the "Biopharmaceutical complex" [43].

McCullough faced additional censorship when his former employer, Baylor Scott & White Health, obtained a restraining order against him for continuing to reference his institutional affiliations while discussing vaccine safety concerns [44]. His media appearances discussing myocarditis risks, including on the Joe Rogan Experience, were labeled as promoting "debunked conspiracy theories" by medical authorities [45].

On May 21, 2025, the FDA issued a directive requiring COVID vaccine manufacturers Pfizer and Moderna to update their warnings about myocarditis and pericarditis risks—validating the exact concerns that had been systematically censored, and

their proponents vilified [46]. Multiple peer-reviewed studies have since confirmed elevated myocarditis risks, particularly in young males, following mRNA COVID-19 vaccination [47,48].

Social Distancing and Mask Effectiveness

The ubiquitous six-foot social distancing rule became rigidly enforced despite lacking scientific justification, representing one of the most widely implemented yet scientifically unsupported interventions of the pandemic. Dr. Anthony Fauci later acknowledged in congressional testimony that the rule "just sort of appeared" without solid scientific backing [49]. This admission vindicated numerous physicians and scientists who had been systematically censored for questioning the arbitrary nature of social distancing mandates.

Dr. Jay Bhattacharya of Stanford University, Dr. Martin Kulldorff of Harvard University, and Dr. Sunetra Gupta of Oxford University faced unprecedented censorship and professional persecution for challenging lockdown policies and questioning mask mandates for children in their October 2020 Great Barrington Declaration [50]. The Declaration called for focused protection of high-risk populations while allowing lower-risk individuals to return to normal life, but was immediately characterized as "fringe epidemiology" and "dangerous" by NIH Director Francis Collins, who called for a "quick and devastating published takedown" of their scientific proposal [51]. Despite being authored by distinguished epidemiologists from three of the world's most prestigious universities, their evidence-based approach was systematically suppressed across media and academic platforms.

Dr. Scott Atlas, former White House COVID advisor and Stanford radiologist, faced systematic content removal and platform censorship for questioning universal mask mandates, particularly for children [52]. When Atlas participated in a Florida COVID-19 roundtable in April 2021 alongside Bhattacharya, Kulldorff, and Gupta to discuss mask effectiveness in children, YouTube removed the entire discussion for allegedly promoting "misinformation." The experts had discussed how masking for children was not supported by data as protection for them or others from COVID-19 transmission, yet this scientifically accurate statement resulted in platform censorship [53].

The systematic suppression of mask effectiveness research was particularly concerning given the subsequent vindication of many censored viewpoints. Scientists and politicians who questioned universal masking policies, particularly for children, faced widespread content removal across social media platforms [17,54], despite mounting evidence of limited effectiveness [55,56].

A 2023 Cochrane Review, the gold standard of systematic reviews, found that pooled results of randomized controlled trials did not show a clear reduction in respiratory viral infection with the use of medical/surgical masks [55]. This vindicated the concerns of numerous censored scientists who had questioned mask mandates based on the lack of high-quality evidence.

A 2024 systematic review specifically examining child mask mandates found that "there were no randomised controlled trials in children assessing the benefits of mask wearing to reduce SARS-CoV-2 infection or transmission" and concluded that "real-world effectiveness of child mask mandates against SARS-CoV-2 transmission or infection has not been demonstrated with high-quality evidence" [56].

Professional Consequences for Dissenting Scientists

Pandemic censorship extended beyond platform restrictions to professional retaliation against dissenting voices. This persecution occurred despite recent Congressional findings that dissenting perspectives on many aspects of public health messaging during the pandemic have been demonstrated to be true [12,30].

Dr. Martin Kulldorff

Co-author of the Great Barrington Declaration and Harvard Medical School professor since 2003, Kulldorff was terminated from Mass General Brigham in November 2021 for refusing COVID-19 vaccination despite possessing natural immunity. His subsequent termination from Harvard in March 2024 effectively ended a distinguished academic career based on adherence to established immunological principles. Beyond these employment consequences, Kulldorff faced suppression across multiple platforms and professional venues. He was censored by Twitter for contravening CDC policy, and was also censored by LinkedIn, Facebook, and YouTube, despite his status as a world-renowned epidemiologist specializing in vaccine safety surveillance [33].

Dr. Paul Marik

A distinguished critical care physician with over 400 peer-reviewed publications, Marik faced escalating consequences for advocating alternative COVID treatments [57]. The persecution of Marik began when Sentara Norfolk General Hospital, where he served as Director of the ICU, implemented policies specifically prohibiting him from prescribing ivermectin as a treatment for COVID. Marik sued the hospital, and was then suspended by the hospital on November 18, 2021, which was the same day he was scheduled for a court hearing on his lawsuit [58]. Then, in December 2021, Marik was forced to resign from Eastern Virginia Medical School. In August 2024, the American Board of Internal Medicine revoked Marik's board certifications in internal medicine and critical care, effectively ending his ability to practice at major institutions [59].

Dr. Pierre Kory

Co-founder of the Front Line COVID-19 Critical Care Alliance (now known as the Independent Medical Alliance), Dr. Pierre Kory faced systematic suppression of his research regarding potential treatments for COVID-19 such as corticosteroids and ivermectin, despite mounting peer-reviewed evidence supporting the efficacy of these treatments [60]. His congressional testimony advocating for novel treatments for COVID-19 [61] was removed from YouTube within hours of posting [62]. Kory faced severe criticism for his advocacy of ivermectin as a treatment for COVID-19 despite multiple randomized controlled trials and meta-analyses demonstrating significant efficacy in reducing COVID-19 mortality and hospitalizations [63-65]. In August 2024, the American Board of Internal Medicine revoked his board certifications in internal medicine, pulmonary disease, and critical care medicine [18].

Dr. Peter McCullough

Beyond the myocarditis concerns mentioned earlier, McCullough published a paper in 2021 recommending the use of hydroxychloroquine and other medicines as early treatments for COVID-19 [66]. The American Board of Internal Medicine subsequently revoked his board certifications in cardiology and internal medicine [67]. This revocation occurred despite his status as one of the most published cardiologists in history. McCullough was also terminated from his editor-in-chief roles of two different journals, Reviews in Cardiovascular Medicine

and Cardiorenal Medicine [68].

Dr. Shankara Chetty

Dr. Shankara Chetty, a family general practitioner in Port Edward, South Africa, treated thousands of COVID-19 patients during the pandemic with a 100% success rate—none required hospitalization, oxygen support, or died. Despite his remarkable clinical success, Dr. Chetty faced systematic persecution. In 2023, another physician lodged a formal complaint with the Health Professions Council of South Africa (HPCSA) accusing Dr. Chetty of "practicing pseudo-science" and using "unproven remedies." Charges brought against Dr. Chetty by the HPCSA include allegations of mischaracterizing COVID-19 and spike protein toxicity. The HPCSA disciplinary hearings began in April 2024, but the prosecution subsequently deferred the start of Dr. Chetty's hearing until May 2026 [69].

Discussion

The COVID-19 pandemic revealed fundamental weaknesses in how our society handles scientific uncertainty and divergent medical opinions. The convergence of social media censorship with national security surveillance created an unprecedented threat to scientific inquiry and discourse.

The Role of Financial Conflicts of Interest

Lataster and Parry [12] have document how the influence of pharmaceutical industry funding permeated every level of the pandemic response and information control. The authors note that pharmaceutical companies provide the majority of funding to the regulators tasked with considering clinical trial evidence and granting licensure, creating inherent conflicts of interest. Furthermore, major medical journals have been characterized by their own chief editors as effectively part of Big Pharma's marketing departments, with editors, peer reviewers, and physicians receiving extensive payments from pharmaceutical companies [70-73].

These financial relationships created powerful incentives to suppress information that challenged official narratives, particularly when those narratives aligned with pharmaceutical industry interests. The systematic persecution of physicians advocating for off-patent treatments such as ivermectin and hydroxychloroquine exemplifies how economic conflicts shaped information control policies.

Implications for Scientific Progress

The systematic suppression of legitimate scientific questions fundamentally undermined the self-correcting mechanisms that drive medical progress [74]. When research into natural immunity, alternative treatments, and intervention effectiveness were discouraged or suppressed, scientific understanding was inevitably impaired. The pattern of vindicated "misinformation" demonstrates that many suppressed viewpoints contained valuable insights that could have informed better policy decisions.

As Lataster and Parry emphasize, contrarian ideas are vital to the expansion of knowledge. They note that "the search for truth is akin to carving a marvelous sculpture out of a block of marble. Much must be discarded, but that is part of the process" [12]. The homogenization of medical practice through enforced protocol compliance contradicted traditional approaches emphasizing clinical judgment and individualized care, preventing the clinical innovation that has historically driven medical advancement.

Beyond Political Divisions

The mechanisms of control established during the pandemic transcend traditional political boundaries. While conservatives were targeted for challenging the safety and efficacy of vaccines and questioning government mandates, progressive voices contesting pharmaceutical industry practices or advocating alternative public health approaches found themselves subject to the same censorship mechanisms. The infrastructure for suppressing dissent was directed against any group whose views fell out of favor with the pharmaceutical industry/government-approved narrative.

Thus, the real divide is not between political ideologies but between those who support open inquiry and those who prefer managed information environments enforced through corporate and state power.

Systemic Vulnerabilities

The pandemic revealed how quickly emergency powers can be expanded beyond their intended scope. The progression from initial content moderation to systematic persecution and implicit national security surveillance occurred with minimal public debate or institutional resistance.

The concentration of information control among a small number of technology platforms created single points of failure for scientific and medical discourse. When these platforms coordinated with government agencies to suppress dissent, citizens lost access to the diverse information sources necessary for informed decision-making.

The role of pharmaceutical industry influence in shaping these information control mechanisms represents a particularly concerning development. As Lataster and Parry [12] note, the ubiquitous disclosed and undisclosed financial conflicts of interest mandate "healthy skepticism" regarding claims made by "Science's gatekeepers," particularly when such claims are quickly refuted.

Lessons from History

The historical parallel with Ignaz Semmelweis is particularly instructive. Semmelweis was considered a "misinformation merchant in his own time" for suggesting that doctors wash their hands, yet is now recognized as "an icon of medical science, innovation, and courage" [12]. His persecution by the medical establishment demonstrates the tragic consequences of suppressing contrarian ideas that challenge established orthodoxy.

Similarly, Barry Marshall faced ridicule and professional ostracism for proposing that peptic ulcers were caused by bacterial infection rather than stress and spicy food, ultimately proving his theory by infecting himself with H. pylori [10]. The initial rejection of his work by the medical establishment, followed by vindication and a Nobel Prize, illustrates the danger of prematurely closing scientific debates.

The Imperative for Justice and Restoration

The persecution of physicians and scientists documented in this review represents not only historical injustice, but also an ongoing crisis that demands immediate corrective action. The vindication of numerous initially suppressed viewpoints—from natural immunity to myocarditis risks, from laboratory origins to treatment alternatives—demonstrates that many of the physicians who lost their licenses and board certifications were advocating for scientifically sound positions that have since been validated by peer-reviewed research and regulatory acknowledgments.

The scale of professional destruction visited upon dissenting physicians is unprecedented in modern medical history.

Physicians with decades of exemplary service, thousands of peer-reviewed publications, and proven clinical success rates were stripped of their ability to practice medicine for adhering to established scientific principles. The current system that allows such persecution to stand uncorrected represents a fundamental threat to medical progress and patient care.

Medical licensing boards and certification organizations must acknowledge their role in this suppression and take immediate steps toward restoration. The reinstatement of medical licenses and board certifications for physicians who were sanctioned for expressing views that have since been validated is not merely a matter of individual justice—it is essential for restoring public trust in medical institutions and ensuring that future physicians will have the courage to challenge official narratives when patient welfare demands it.

The Imperative for Individual and Organizational Accountability

Beyond institutional reform and professional restoration, the persecution of physicians and scientists during the COVID-19 pandemic demands comprehensive accountability for those who orchestrated and participated in these suppression campaigns [75]. The documented coordination between government agencies, pharmaceutical companies, medical boards, academic institutions, and social media platforms represents one of the most extensive assaults on scientific freedom in modern history.

Organizational Accountability and Transparency

Professional medical organizations, licensing boards, academic institutions, and regulatory agencies that participated in the systematic suppression of dissenting voices must face formal accountability processes. These organizations wielded their institutional authority to silence legitimate scientific discourse while protecting pharmaceutical industry interests over patient welfare and scientific integrity.

Medical licensing boards that revoked licenses and certifications for physicians whose views have since been vindicated must undergo external review of their disciplinary processes. The American Board of Internal Medicine's systematic revocation of board certifications for physicians like Dr. Peter McCullough, Dr. Paul Marik, and Dr. Pierre Kory—despite their extensive credentials and subsequent vindication—demonstrates how professional organizations abandoned evidence-based decision-making in favor of narrative compliance.

Individual Accountability for Suppression Campaigns

While organizational accountability is essential, individual decision-makers within these institutions must face personal consequences for their role in systematic censorship campaigns. Medical board members who voted to revoke licenses and certifications based on ideological compliance rather than scientific evidence must be identified and held personally accountable.

Academic administrators who terminated faculty members for expressing dissenting scientific views must face personal professional consequences for abandoning principles of academic freedom. Government officials who coordinated with private platforms to suppress scientific discourse must face investigation and potential legal action for violating First Amendment protections.

Limitations

This narrative review has several limitations. The analysis relies heavily on publicly available documents and does not capture the full scope of censorship activities or their coordination. The selection of cases examining professional retaliation are not representative of all affected individuals. Additionally, the evolving nature of pandemic policies and their scientific evaluation means that some assessments may require revision as additional evidence emerges.

The review focuses primarily on the United States experience and does not fully represent international variations in pandemic information control. Different countries employed varying approaches to manage pandemic discourse, and comparative analysis could provide additional insights.

The methodology, while comprehensive, may be subject to selection bias toward cases where suppressed viewpoints were later vindicated. A complete analysis would also examine instances where content restrictions may have been appropriately applied, though distinguishing between legitimate misinformation and suppressed scientific discourse remains challenging.

Conclusions

The COVID-19 pandemic established dangerous precedents for information control that extend far beyond public health policy. The systematic suppression of legitimate scientific discourse, combined with the characterization of policy dissent as potential domestic terrorism, represents one of the most significant threats to scientific progress in recent memory.

The pattern of vindicated "misinformation"—from the laboratory leak hypothesis to myocarditis concerns, from the recognition of natural immunity to vaccine transmission limitations—demonstrates the profound costs of abandoning traditional principles of open scientific inquiry. The destruction of careers of distinguished physicians and scientists for challenging official protocols illustrates how quickly emergency powers can be weaponized against dissenting voices.

The role of pharmaceutical industry financial conflicts in shaping information control mechanisms represents a particularly concerning development that requires immediate attention. As demonstrated by extensive documentation of industry influence on medical journals, regulators, and professional organizations, these conflicts created powerful incentives to suppress information that challenged official narratives aligned with industry interests.

Moving forward, we must reject the notion that any authority possesses exclusive rights to determine scientific truth or that policy disagreement constitutes a national security threat. The mechanisms of corporate censorship and government surveillance established during the pandemic must be dismantled to preserve scientific integrity. Medical journals must adopt more open policies toward manuscripts encompassing contrarian perspectives while still adhering to rigorous scientific standards.

The stakes could not be higher. Future crises will inevitably emerge, and when they do, our response must be guided by the principles of open inquiry, civil discourse, and respect for both informed consent and individual rights that have driven human progress for centuries. The alternative—managed consensus enforced through corporate censorship and state surveillance—represents a fundamental threat to the foundations of free society and the evolution of medicine and science.

The vindication of numerous initially suppressed viewpoints should serve as a sobering reminder that scientific truth cannot be determined by authoritative decree or enforced through censorship. As the distinguished scientists who faced persecution during the pandemic demonstrated, the courage to question official narratives in service of scientific truth remains essential to human progress, even when such questioning carries

significant personal and professional costs.

If we are to emerge from the current crisis with scientific integrity intact, we must establish robust protections for dissenting voices, ensure accountability for those who participated in suppression campaigns, and restore the careers of physicians and scientists who were persecuted for upholding scientific principles. Only through such comprehensive reform can we prevent the recurrence of systematic censorship in future public health emergencies and preserve the open scientific discourse essential to medical progress.

Conflicts of Interest

The author reports no conflicts of interest.

References

1. Missouri v. Biden. No. 3:22-CV-01213 (W.D. La.). 2023. Accessed September 11, 2025. https://ago.mo.gov/wp-content/uploads/missouri-v-biden-ruling.pdf
2. Taibbi M. The Twitter Files. December 9, 2022. Accessed September 11, 2025. https://x.com/mtaibbi/status/1601352083617505281
3. Kuhn TS. The Structure of Scientific Revolutions. University of Chicago Press; 1962.
4. Popper K. The Logic of Scientific Discovery. Hutchinson; 1959.
5. Freudenthal R, Moncrieff J. "A landmark in psychiatric progress"? The role of evidence in the rise and fall of insulin coma therapy. Hist Psychiatry. 2022;33(1):65-78.
6. Miller A. The lobotomy patient—a decade later: a follow-up study of a research project started in 1948. Can Med Assoc J. 1967;96(15):1095-1103.
7. Vargesson N. Thalidomide-induced teratogenesis: history and mechanisms. Birth Defects Res C Embryo Today. 2015;105(2):140-156.
8. Gelpi A, Tucker JD. After Venus, mercury: syphilis treatment in the UK before Salvarsan. Sex Transm Infect. 2015;91(1):68.
9. Marshall BJ, Warren JR. Unidentified curved bacilli in the stomach of patients with gastritis and peptic ulceration. Lancet. 1984;323(8390):1311-1315.
10. Marshall BJ. Helicobacter connections. ChemMedChem. 2005;1(8):783-802.
11. Paul S, Salunkhe S, Sravanthi K, Mane SV. Pioneering hand hygiene: Ignaz Semmelweis and the fight against puerperal fever. Cureus. 2024;16(10).
12. Lataster R, Parry P. Amid growing evidence of conflicts of interest and obdurate groupthink in medical journals, researchers must entertain contrarian ideas. Cureus. 2025;17(1):e77895.
13. Taibbi M. Free Speech for People. Farrar, Straus and Giroux; 2023.
14. Shellenberger M. The Twitter Files. Published on Twitter, December 2022–March 2023.
15. National Counterterrorism Center. DVEs and foreign analogues may react violently to COVID-19 mitigation mandates. Declassified Intelligence Product. December 13, 2021. Accessed September 11, 2025. https://www.dni.gov/files/ODNI/documents/DIG/DIG-Declassified-Biden-Administration-Documents-Labeling-COVID-Dissenters-Others-as-Domestic-Violent-Extremists.pdf
16. Weiss B. Twitter Files supplemental. December 8, 2022. Accessed September 11, 2025. https://x.com/bariweiss/status/1601008766861815808
17. Shir-Raz Y, Elisha E, Martin B, Ronel N, Guetzkow J. Censorship and suppression of Covid-19 heterodoxy: tactics and counter-tactics. Minerva. 2022;61(3):407-433.
18. Ault A. ABIM revokes certification for two physicians accused of COVID misinformation. Medscape. August 15, 2024. Accessed September 11, 2025. https://www.medscape.com/viewarticle/abim-revokes-certification-two-physicians-accused-covid-2024a1000f0w
19. Yan LM, Kang S, Guan J, Hu S. Unusual features of the SARS-CoV-2 genome suggesting sophisticated laboratory modification rather than natural evolution and delineation of its probable synthetic route. Zenodo. 2020. doi:10.5281/zenodo.4028830
20. Yan LM, Kang S, Hu S. SARS-CoV-2 is an unrestricted bioweapon: a truth revealed through uncovering a large-scale, organized scientific fraud. Zenodo. 2021. doi:10.5281/zenodo.4650821
21. Kaiser J. "Lab-leak" proponents at Rutgers accused of defaming and intimidating COVID-19 origin researchers. ScienceInsider. March 15, 2024. Accessed September 11, 2025. https://www.science.org/content/article/lab-leak-proponents-rutgers-accused-defaming-and-intimidating-covid-19-origin
22. House Committee on Oversight and Accountability. COVID origins hearing wrap up: facts, science, evidence point to a Wuhan lab leak. March 8, 2023. Accessed September 11, 2025. https://oversight.house.gov/release/covid-origins-hearing-wrap-up-facts-science-evidence-point-to-a-wuhan-lab-leak
23. Calisher C, Carroll D, Colwell R, et al. Statement in support of the scientists, public health professionals, and medical professionals of China combatting COVID-19. Lancet. 2020;395(10226):e42-e43.
24. Wade N. Origin of Covid—following the clues. Medium. May 5, 2021. Accessed September 11, 2025. https://nicholaswade.medium.com/origin-of-covid-following-the-clues-6f03564c038
25. Chan A, Ridley M. Viral: The Search for the Origin of COVID-19. HarperCollins; 2021.
26. Alwine J, Goodrum F, Banfield B, et al. The harms of promoting the lab leak hypothesis for SARS-CoV-2 origins without evidence. J Virol. 2024;98(9):e01240-24.
27. Schemmel A. Research linking COVID-19 to lab ignored by mainstream media, medical journals, scientist says. KATV. March 21, 2023. Accessed September 11, 2025. https://katv.com/news/nation-world/research-linking-covid-19-to-lab-ignored-by-mainstream-media-medical-journals-scientist-says-dr-steven-quay-china-wuhan-leak
28. Quay S. A Bayesian analysis concludes beyond a reasonable doubt that SARS-CoV-2 is not a natural zoonosis but instead is laboratory derived. Zenodo. 2021. doi:10.5281/zenodo.4477081
29. Gordon MR, Strobel WP. Lab leak most likely origin of Covid-19 pandemic, energy department now says. Wall Street Journal. February 26, 2023. Accessed September 11, 2025. https://www.wsj.com/articles/covid-origin-china-lab-leak-807b7b0a

30. House Committee on Oversight and Accountability. After action review of the COVID-19 pandemic. 118th Congress Final Report. December 4, 2024. Accessed September 11, 2025. https://oversight.house.gov/wp-content/uploads/2024/12/2024.12.04-SSCP-FINAL-REPORT-ANS.pdf
31. Krammer F. A correlate of protection for SARS-CoV-2 vaccines is urgently needed. Nat Med. 2021;27(7):1147-1148.
32. Institute for Data, Democracy & Politics. Did the battle against "misinformation" go too far? Columbian College of Arts & Sciences. January 8, 2024. Accessed September 11, 2025. https://iddp.gwu.edu/did-battle-against-misinformation-go-too-far
33. Kulldorff M. Harvard tramples the truth. City Journal. March 11, 2024. Accessed September 11, 2025. https://www.city-journal.org/article/harvard-tramples-the-truth
34. Children's Health Defense. Pfizer board member urged Twitter to censor posts on natural immunity, low COVID risk for kids. January 11, 2023. Accessed September 11, 2025. https://childrenshealthdefense.org/defender/pfizer-scott-gottlieb-censor-twitter-natural-immunity-covid-risk-et/
35. Makary M. Natural immunity to Covid is powerful. Policymakers seem to be ignoring it. Washington Post. September 15, 2021.
36. Berenson v. Twitter. No. 3:21-cv-09818 (N.D. Cal.). 2022. Accessed September 11, 2025. https://www.courtlistener.com/docket/61630076/berenson-v-twitter-inc/
37. Altarawneh HN, Chemaitelly H, Hasan MR, et al. Protection against the Omicron variant from previous SARS-CoV-2 infection. N Engl J Med. 2022;386(13):1288-1290.
38. Gazit S, Shlezinger R, Perez G, et al. Comparing SARS-CoV-2 natural immunity to vaccine-induced immunity: reinfections versus breakthrough infections. medRxiv. Preprint posted online 2021. doi:10.1101/2021.08.24.21262415
39. Polack FP, Thomas SJ, Kitchin N, et al. Safety and efficacy of the BNT162b2 mRNA Covid-19 vaccine. N Engl J Med. 2020;383(27):2603-2615.
40. Baden LR, El Sahly HM, Essink B, et al. Efficacy and safety of the mRNA-1273 SARS-CoV-2 vaccine. N Engl J Med. 2021;384(5):403-416.
41. Walensky RP. Statement from CDC Director Rochelle P. Walensky, MD, MPH on today's MMWR. Centers for Disease Control and Prevention. July 27, 2021. Accessed September 11, 2025. https://stacks.cdc.gov/view/cdc/108440
42. ResearchGate. Peter A McCullough's research while affiliated with The University of Texas at Dallas and other places. 2025. Accessed September 11, 2025. https://www.researchgate.net/scientific-contributions/Peter-A-McCullough-38989664
43. Rose J, McCullough P. A report on myocarditis adverse events in the U.S. vaccine adverse events reporting system (VAERS) in association with COVID-19 injectable biological products. Curr Probl Cardiol. 2021. [Retracted]
44. Medscape. Baylor gets restraining order against COVID vaccine skeptic doc. September 21, 2021. Accessed September 11, 2025. https://www.medscape.com/viewarticle/958916
45. Sharp R. Joe Rogan podcast hosts doctor known for pushing debunked claims about Covid-19. Independent. December 16, 2021. Accessed September 11, 2025. https://www.independent.co.uk/news/world/americas/joe-rogan-covid-podcast-doctor-b1977603.html
46. US Food and Drug Administration. FDA approves required updated warning in labeling of mRNA COVID-19 vaccines regarding myocarditis and pericarditis following vaccination. May 21, 2025. Accessed September 11, 2025. https://www.fda.gov/vaccines-blood-biologics/safety-availability-biologics/fda-approves-required-updated-warning-labeling-mrna-covid-19-vaccines-regarding-myocarditis-and
47. Karlstad Ø, Hovi P, Husby A, et al. SARS-CoV-2 vaccination and myocarditis in a Nordic cohort study of 23 million residents. JAMA Cardiol. 2022;7(6):600-612.
48. Patone M, Mei XW, Handunnetthi L, et al. Risks of myocarditis, pericarditis, and cardiac arrhythmias associated with COVID-19 vaccination or SARS-CoV-2 infection. Nat Med. 2022;28(2):410-422.
49. House Select Subcommittee on the Coronavirus Pandemic. Transcript of Dr. Anthony Fauci transcribed interview. US House of Representatives. June 3, 2024. Accessed September 11, 2025. https://www.congress.gov/118/chrg/CHRG-118hhrg55830/CHRG-118hhrg55830.pdf#page=5.00
50. Bhattacharya J, Kulldorff M, Gupta S. Great Barrington Declaration. 2020. Accessed September 11, 2025. https://gbdeclaration.org/
51. Harrigan JR, Magness PW. Fauci, emails, and some alleged science. The Daily Economy. December 19, 2021. Accessed September 11, 2025. https://thedailyeconomy.org/article/fauci-emails-and-some-alleged-science/
52. Atlas S. A Plague Upon Our House: My Fight at the Trump White House to Stop COVID from Destroying America. Bombardier Books; 2021.
53. Knight V. Censorship or misinformation? DeSantis and YouTube spar over COVID roundtable takedown. PolitiFact. April 21, 2021. Accessed September 11, 2025. https://www.politifact.com/article/2021/apr/21/censorship-or-misinformation-desantis-and-youtube-/
54. Talpos S. Undark. January 8, 2024. Accessed September 11, 2025. https://undark.org/2024/01/08/covid-misinformation-censorship/
55. Jefferson T, Dooley L, Ferroni E, et al. Physical interventions to interrupt or reduce the spread of respiratory viruses. Cochrane Database Syst Rev. 2023;1:CD006207.
56. Jung J, Hong MJ, Kim EO, et al. Child mask mandates for COVID-19: a systematic review. Arch Dis Child. 2024;109(2):107-114.
57. Marik PE, Kory P, Varon J, Iglesias J, Meduri GU. MATH+ protocol for the treatment of SARS-CoV-2 infection: the scientific rationale. Expert Rev Anti Infect Ther. 2021;19(2):129-135.
58. 13News Now Staff. Doctor gets letter of suspension just after suing Sentara Healthcare for chance to use ivermectin on COVID-19 patients. 13News Now. 2021. Accessed September 11, 2025. https://www.13newsnow.com/article/news/health/doctor-suing-sentara-to-use-ivermectin-gets-letter-suspension/291-14ba50c4-506f-4177-adb4-

4c95535e3104

59. Weber L, Beard M. Doctors accused of spreading misinformation lose certifications. Washington Post. August 13, 2024. Accessed September 11, 2025. https://www.washingtonpost.com/politics/2024/08/13/doctors-accused-spreading-misinformation-lose-certifications/
60. Kory P, Meduri GU, Varon J, Iglesias J, Marik PE. Review of the emerging evidence demonstrating the efficacy of ivermectin in the prophylaxis and treatment of COVID-19. Am J Ther. 2021;28(3):e299-e318.
61. Senate Homeland Security and Governmental Affairs Committee. Dr. Pierre Kory's testimony. December 8, 2020. Accessed September 11, 2025. https://www.c-span.org/program/senate-committee/medical-response-to-covid-19/585951
62. Johnson R. YouTube cancels the US senate. Wall Street Journal. February 2, 2021. Accessed September 11, 2025. https://www.wsj.com/opinion/youtube-cancels-the-u-s-senate-11612288061
63. Bryant A, Lawrie TA, Dowswell T, et al. Ivermectin for prevention and treatment of COVID-19 infection: a systematic review, meta-analysis, and trial sequential analysis to inform clinical guidelines. Am J Ther. 2021;28(4):e434-e460.
64. Hariyanto TI, Halim DA, Rosalind J, Gunawan C, Kurniawan A. Ivermectin and outcomes from Covid-19 pneumonia: a systematic review and meta-analysis of randomized clinical trial studies. Rev Med Virol. 2022;32(5):e2265.
65. Kory P, McCarthy J. War on Ivermectin: The Medicine That Saved Millions and Could Have Ended the Pandemic. Simon and Schuster; 2023.
66. McCullough PA, Kelly RJ, Ruocco G, et al. Pathophysiological basis and rationale for early outpatient treatment of SARS-CoV-2 (COVID-19) infection. Am J Med. 2021;134(1):16-22.
67. Fiore K. ABIM revokes certification of another doctor who made controversial COVID claims. MedPage Today. January 2, 2025. Accessed September 11, 2025. https://www.medpagetoday.com/special-reports/features/113624
68. Kirsch S. Dr. Peter McCullough is being progressively stripped of his medical credentials. Substack. October 29, 2022. Accessed September 11, 2025. https://kirschsubstack.com/p/dr-peter-mccullough-is-being-progressively
69. McMillan P, McMillan J. Day 8 doctor: one South African physician's fight against medical orthodoxy and big pharma. Vejon Health. January 31, 2025. Accessed September 11, 2025. https://vejonhealth.com/covid-19/day-8-doctor-one-south-african-physicians-fight-against-medical-orthodoxy-and-big-pharma/
70. Horton R. The dawn of McScience. New York Review of Books. 2004;51(4):7-9.
71. Angell M, Reading K. The Truth About the Drug Companies: How They Deceive Us and What to Do About It. Random House Trade Paperbacks; 2005.
72. Liester M, Ashraf S, Callisperis P, et al. A narrative review of the COVID-19 infodemic and censorship in healthcare. Secrecy and Society. 2025;3(2):3.
73. Smith R. Medical journals are an extension of the marketing arm of pharmaceutical companies. PLoS Med. 2005;2(5):e138.
74. Merton RK. The Sociology of Science: Theoretical and Empirical Investigations. University of Chicago Press; 1973.
75. Hart J. We must have accountability. Brownstone Institute. November 2, 2022. Accessed September 11, 2025. https://brownstone.org/articles/we-must-have-accountability/