

## APPENDIX 9: PERPLEXITY AI RESPONSE TO QUERY

### QUERY

How much money did universities (and their personnel) who helped develop the Covid-19 vaccines (including, but not limited to, University of Pennsylvania, UBC (Canada), MIT, Stanford University, UT Austin, Oxford University, Harvard University) make from the Covid-19 vaccines? Which universities and their personnel collaborated directly or indirectly as part of an Industry, Government, Foundation network to 1) promote the Covid-19 vaccine and 2) censor any reporting of its efficacy and safety deficiencies, and what were the mechanics of this direct and indirect collaboration? Please assemble your responses to all the above questions in the form of a comprehensive report addressing the above broad topical issues of compensation to the universities/personnel for their role in Covid-19 vaccine development, collaborating directly or indirectly as part of an Industry, Government, Foundation network to 1) promote the Covid-19 vaccine and 2) censor any reporting of its efficacy and safety deficiencies, and the ethics/conflicts of communicating scientific information to the public while essentially doing marketing for a vaccine from which your institution/yourself will profit.

### PERPLEXITY AI RESPONSE TO QUERY

Universities and some of their researchers earned very large but highly variable sums from COVID-19 vaccine–related intellectual property, with the clearest published figures for the University of Pennsylvania and the University of Oxford. Evidence also shows that some universities and affiliated centers participated in coordinated “misinformation” and “virality” projects with governments, major platforms, and foundations that affected how COVID-19 vaccine information (including some accurate but inconvenient content) was amplified or suppressed, although proving intent to “censor” in a legal or moral sense is more complex and contested.

#### University revenue from COVID-19 vaccines

- University of Pennsylvania: Penn licensed key mRNA modification technology used in the Pfizer-BioNTech and Moderna vaccines via a licensing structure that included Cellscript and related entities. Public reporting indicates Penn has received at least about 2 billion dollars in royalties from the Pfizer-BioNTech COVID-19 vaccine through 2023, and a 2024 settlement with BioNTech added roughly 467 million dollars (about 400 million in back royalties plus additional research and investment commitments), with a continuing low-single-digit royalty on future licensed product sales.
- Oxford University: Oxford’s adenoviral-vector vaccine developed with AstraZeneca generated 143 million pounds (about 176 million dollars) in royalties for the university in a single academic year, with net income of about 76 million pounds after payments to third parties, and total IP royalties of about 216.7 million pounds in that year. Earlier reporting noted that Oxford took no royalties “during the pandemic” under its agreement with AstraZeneca but could earn substantial royalties after the emergency phase via a web of patents, including those held by Vaccitech, in which Oxford and key scientists held significant equity stakes.
- Personal stakes and spin-offs: In the Oxford–AstraZeneca case, a major vehicle for personal upside is Vaccitech, a spin-off company partially owned by Oxford and by leading vaccine researchers (such as Sarah Gilbert and Adrian Hill, who each held several-percent equity stakes),

positioning them to share in post-pandemic royalty or licensing value. At Penn, mRNA pioneers Katalin Karikó and Drew Weissman are named inventors on patents licensed to BioNTech and Moderna, but detailed individual royalty distributions are not publicly itemized; typical U.S. university IP policies allocate a portion of royalty income to inventors, labs, and departments, so it is reasonable to infer substantial personal and institutional gains even though exact figures are not disclosed.

- Other universities (MIT, Harvard, Stanford, UBC, UT Austin): Public documentation on exact COVID-19 vaccine royalty totals for these institutions is far less specific. Many of them held background IP (for example, delivery systems, lipid nanoparticles, or prior mRNA or adenoviral technologies) that fed into broader licensing ecosystems, but open-source summaries to date do not provide comprehensive, university-by-university vaccine revenue tallies comparable to the detailed numbers available for Penn and Oxford. As a result, for several universities named in the question (MIT, Stanford, Harvard, UBC, UT Austin), there is not yet a single, authoritative public accounting that quantifies “how much money” they made specifically from COVID-19 vaccine IP, even though their technology transfer offices and associated spin-offs likely received some related revenue.

### **Networks promoting vaccines and shaping online discourse**

- Stanford’s Virality Project and Election Integrity Partnership: Documents and reporting describe the Stanford Internet Observatory’s Virality Project (VP) and Election Integrity Partnership (EIP) as multi-stakeholder collaborations linking academia, social media companies, and government or quasi-government actors to monitor and label online content related to COVID-19 and vaccines. According to released communications, the Virality Project coordinated with major platforms (Twitter, Google/YouTube, Facebook/Instagram, TikTok, Pinterest, and others) to flag content deemed to be vaccine misinformation, including some material that was factually accurate but considered likely to “fuel hesitancy,” such as reports of post-vaccination adverse events or discussions of vaccine passports and transmission limitations.
- Government and platform involvement: Descriptions of these initiatives indicate that U.S. government entities and contractors shared “tickets” or reports of content with these academic–platform collaborations, which then passed recommendations or risk assessments back to platforms. Congressional and legal documents discussing the Stanford-linked projects state that they “tracked and analyzed purported COVID-19 vaccine misinformation,” while Stanford’s own explanations emphasize that they did not themselves “censor” content but rather provided analysis and recommendations, with platforms making final decisions on downranking, labeling, or removal.
- Promotional ecosystem: Beyond Stanford, many universities whose researchers were involved in vaccine development or trials also participated in public communication campaigns—press conferences, media appearances, institutional web content, and collaborations with health agencies—encouraging uptake of authorized vaccines. These activities often blended scientific explanation and public-health messaging, sometimes with explicit coordination with government health authorities but without a single centralized “industry–government–foundation” command structure that has been publicly documented in detail.

## **Mechanics of collaboration and “censorship”**

- Information-flow mechanics: The Stanford-centered projects operated as hubs where academic analysts collected posts and narratives about COVID-19 and vaccines, categorized perceived risks, and circulated lists or dashboards to participating platforms and sometimes government partners. Platforms then chose among several responses: no action, fact-checking labels, algorithmic downranking, or removal, and were “onboarded” into shared workflows that normalized this continuous triage of COVID-related speech.
- Treatment of true but negative information: Leaked communications and commentary on the Virality Project specify that even “true stories that could fuel hesitancy” (for example, legitimate reports of adverse events or policy debates) were sometimes recommended for treatment as standard vaccine misinformation in platform policies. Critics argue this effectively suppressed open discussion of vaccine safety signals and policy trade-offs, while proponents frame it as a harm-reduction strategy aimed at preventing disproportionate amplification of rare adverse events or misleading framings.
- Legal and ethical dispute: Court filings in cases such as *Murthy v. Missouri* and related litigation cite these collaborations as evidence of unconstitutional government-induced suppression of speech, including speech by scientists and physicians who challenged aspects of COVID-19 policy. Stanford and other institutional participants counter that their role remained advisory, that platforms retained editorial control, and that the projects sought to protect public health while respecting lawful expression. The evidentiary record therefore documents coordination and influence, but whether it amounts to “censorship” in a strict legal or normative sense remains disputed.

## **Conflicts of interest and ethics**

- Financial conflicts and disclosure: When universities and their personnel hold patents, receive royalties, or own equity in firms that profit from vaccines, they have clear financial conflicts of interest in public communications about those products. Standard research-ethics and medical-journal guidance requires such conflicts to be disclosed in publications, talks, and advisory roles, but disclosure quality and visibility vary, and institutional press outreach often highlights scientific leadership while downplaying financial upside.
- Blurring of science and marketing: In the COVID-19 context, prominent academic scientists often served simultaneously as investigators, inventors, public communicators, and, through their institutions or spin-offs, financial beneficiaries of vaccine success. When those same institutions or affiliated centers participate in content-moderation collaborations that systematically downgrade or suppress critical or skeptical vaccine information—including some accurate but inconvenient data—this can reasonably be perceived as a troubling blending of scientific authority, financial interest, and narrative control.
- Ethical considerations going forward: Ethically robust practice would require: clear, prominent disclosure of institutional and personal financial ties whenever experts speak publicly about products from which they benefit; independent oversight of content-moderation partnerships involving financially interested institutions; and structural separation between marketing or

advocacy functions and scientific risk–benefit assessment. It also argues for more transparent, publicly accessible accounting of vaccine-related royalties and equity stakes at major universities so that the public can better evaluate potential conflicts when consuming health advice.