

## APPENDIX 6: PUBMEDGPT 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.

### PUBMEDGPT RESPONSE TO QUERY

#### **Report — Universities, money, networks, promotion & suppression, and ethics around COVID-19 vaccines**

*(synthesizes public records, news reporting, peer-reviewed analyses and court documents — sources cited inline)*

**Scope & approach.** You asked: (1) how much money universities and their personnel made from COVID-19 vaccines (examples: Univ. of Pennsylvania, UBC, MIT, Stanford, UT Austin, Oxford, Harvard); (2) which universities and personnel collaborated (directly or indirectly, inside an Industry–Government–Foundation network) to promote the vaccines and to suppress or censor reporting about efficacy/safety deficiencies; (3) mechanics of those collaborations; and (4) the ethics/conflicts of interest. I searched public university announcements, court filings, major journalism, peer-reviewed literature, and government documents to assemble a concise but evidence-based report. (Limitations and gaps are noted at the end.)

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#### **1) Summary of known money flows to universities (major, documented items)**

Below are the largest, well-documented payments or revenue items to universities or public research institutions connected to COVID-19 vaccine IP, licensing or settlements. These are *publicly reported* figures; many other smaller payments, licensing streams, equity holdings in startups, or donor gifts are not publicly disclosed in full.

- **University of Oxford (AstraZeneca / Vaxzevria)** — reporting shows Oxford received **£143 million (~US\$176M)** in royalties in one academic year tied to its COVID-19 vaccine income; Oxford’s licensing arrangements with AstraZeneca were deliberately structured (no royalties during the declared “pandemic” phase, then commercial royalties afterwards), and vaccine sales generated significant institutional income. [Inside Higher Ed+1](#)

- **University of Pennsylvania (Karikó / Weissman mRNA patents)** — Penn sued BioNTech in 2024 over underpaid royalties; reporting and later settlement documents show BioNTech agreed to pay **\$467 million** to Penn as a settlement (and BioNTech separately agreed to pay the NIH about **\$791.5 million** to resolve NIH claims). These settlements covered royalty disagreements tied to foundational mRNA technologies used in Comirnaty (Pfizer–BioNTech vaccine). (Reuters and other outlets reported the settlement terms.) [Reuters+1](#)
- **U.S. government / NIH** — public analyses and reporting show very large direct public investments in R&D, manufacturing scale-up and procurement for several vaccine candidates; the NIH (and other U.S. public institutions) have been assigned portions of royalty receipts or have been parties in royalty disputes (see NIH settlement above). Peer-reviewed work estimates **tens of billions** of U.S. public dollars supported vaccine development/production/purchase (estimates vary by scope and included items). [PMC+1](#)
- **University of British Columbia / researchers (lipid nanoparticle (LNP) work)** — UBC investigators (notably Dr. Pieter Cullis and colleagues) developed LNP technology that is foundational to mRNA vaccine delivery. UBC and UBC spin-outs (e.g., Acuitas Therapeutics) and the inventors have received awards, licensing income and business value associated with LNP commercialization — but *public, consolidated figures for UBC's COVID-vaccine-specific royalties are not readily available in a single public number*. UBC publicly acknowledges that its work contributed materially to mRNA vaccines and that spinouts and licenses earned value. [UBC Medicine+1](#)
- **Other universities (MIT, Stanford, Harvard, UT Austin, etc.)** — many of these institutions contributed science, personnel, trials, or platforms and benefited indirectly through grants, sponsored research, licensing of platform technologies, spin-outs, or reputational/donor gains. However, public **university-level totals tied specifically to COVID-19 vaccine royalties** are sparse or institution-specific and often embedded in broader IP revenue lines. Independent analyses and commentaries argue that large portions of the foundational work were publicly funded and that universities' technology-transfer offices later licensed IP to companies that commercialized vaccines. Examples of institutional activity (licensing frameworks, public statements, research funding) are documented for Stanford and others. [Penn Center for Innovation+2Office of Technology Licensing+2](#)

**Bottom line on money:** Large, documented university receipts exist (e.g., Oxford's reported royalties, Penn's \$467M settlement and NIH's \$791.5M settlement). For many universities the **exact total receipts** (including personnel compensation, inventor royalties, equity value, and spin-out proceeds) are either distributed over varied accounts, partly private, or tied to confidential licensing terms — so public totals are available for some institutions and incomplete for others. [Inside Higher Ed+1](#)

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## 2) Network: who collaborated (Industry ↔ Government ↔ Foundations ↔ Universities) to promote the vaccines?

**Overview:** vaccine development and rollout involved complex multi-actor collaboration. The major components were:

- **Public funders and agencies** — NIH (and its institute NIAID), BARDA, CEPI (Coalition for Epidemic Preparedness Innovations), the UK's government and others provided foundational research funding, platform support, clinical trial support and procurement guarantees. Peer-reviewed studies and investigative reporting document that public and charitable financing accounted for the overwhelming share of identifiable funding for certain vaccine platforms (e.g., ChAdOx/Oxford). [PMC+1](#)
- **Pharmaceutical/biotech industry** — Moderna, Pfizer/BioNTech, AstraZeneca/Oxford, and others handled product development at scale, manufacturing, distribution, and global commercialization. They licensed IP or used publicly funded science and partnered with universities or spun-out companies for platform technologies. Industry also funded clinical trials (or ran them) and engaged in public communications about vaccine efficacy/safety. [Stanford Graduate School of Business+1](#)
- **Foundations and donors** — e.g., Bill & Melinda Gates Foundation, CEPI donors, Wellcome Trust, philanthropic consortia provided major funding for platform research, vaccine manufacturing scale-up, and distribution programs — and often held seats on advisory boards or funded public-facing information campaigns aimed at global uptake. Peer-review and reporting document Gates Foundation involvement in funding vaccine R&D and distribution initiatives. [BMJ Global Health+1](#)
- **Universities and spin-outs** — provided foundational science, platform IP, personnel who moved to or collaborated with industry, and institutional tech-transfer offices that licensed IP or took equity in startups. Some academic inventors became company founders or board members. Examples include Penn inventors Karikó & Weissman (mRNA modification patents), UBC/LNP inventors and spinouts, and Oxford's partnership with AstraZeneca (via Vaccitech and related entities). [Penn Center for Innovation+2UBC Medicine+2](#)
- **Government communication & platform coordination** — governments (notably the U.S. administration) engaged with social-media platforms, public-health agencies (CDC, FDA), and academic experts to coordinate public messaging on vaccination and to counter misinformation. Public briefings acknowledged interaction between government and platforms about misinformation moderation. Courts have also considered the degree of government-platform interaction (cases such as *Missouri v. Biden* raised questions of pressure/coordination). [Reuters+1](#)

#### **How this network promoted uptake (mechanics):**

- Funding + procurement guarantees accelerated industry scale-up and ensured supply (e.g., Operation Warp Speed/advance purchase agreements). This created incentives for rapid development. [PMC](#)
- Universities and investigators published trial results, filed regulatory dossiers, and provided experts for media appearances and government advisory bodies (e.g., expert panels, advisory committee roles). Their public communications (press releases, op-eds, interviews) amplified vaccine efficacy and safety messaging. [innovations.stanford.edu+1](#)

- Foundations and public agencies funded public-information programs, supported global vaccine access initiatives, and partnered with NGOs to encourage uptake. [BMJ Global Health](#)
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### 3) Allegations and documented instances of *censorship/suppression* (what is documented, and what is disputed)

**Important caution:** claims that particular universities or named *individuals* engaged in deliberate censorship of reporting on safety/efficacy weaknesses are serious. Public record supports that governments, public-health agencies and platforms coordinated to combat misinformation and pressured platforms to remove or downrank content; there are documented examples where platform content moderation affected reporting (including instances where major journals such as *The BMJ* had their reporting labelled or restricted by platform fact-checkers). Court filings and congressional documents discuss records of White House-platform interactions. However, direct, provable examples of a university-level, organized campaign that both (a) *promoted* vaccines and (b) *systematically censored* legitimate reporting about safety/efficacy in order to preserve institutional profits — require case-by-case evidence and often remain contested. Below I summarize what is documented and the contested areas.

#### Documented items (examples):

- **Government ↔ Platform coordination to fight misinformation:** multiple media reports and government statements (White House press briefings) show the Biden administration engaged with social media firms and encouraged stronger moderation of vaccine misinformation; *some* critics characterized this as coercion; defenders said it sought to reduce demonstrably false, dangerous claims. Congressional and court records examined these interactions (e.g., emails and testimony summarized in committee documents). [KIMA+1](#)
- **Platform fact-checking impacted academic reporting:** *The BMJ* reported its investigations being labelled as “missing context” and restricted on Facebook; BMJ pushed back publicly. This shows moderation systems sometimes flagged mainstream journal content in ways that were controversial. [BMJ+1](#)
- **Legal disputes over IP and royalties** (e.g., Penn v. BioNTech) and settlements (BioNTech’s payments to NIH and Penn) are fully documented — they show universities pursued contractual enforcement rather than covert suppression. Those legal actions are public record. [Reuters+1](#)

#### Contested or less-substantiated claims:

- Assertions that universities and their personnel were part of a centrally coordinated “**censorship network**” to suppress legitimate safety/efficacy reporting (motivated by profit to the institution) are **not** uniformly supported by public, verifiable evidence naming specific university units or named personnel engaging in covert suppression. There are documented instances where government and platform moderation removed or limited content; there are also academic critiques documenting concerns about suppression of dissenting scientific voices; but these are distinct claims and must be evaluated with sources on a case-by-case basis. (See academic

papers about suppression of heterodox views and public documents on government-platform coordination.) [PMC+1](#)

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#### 4) Mechanics: *how* did promotion and (alleged) suppression happen — the channels and instruments

##### Promotion channels and instruments (documented):

1. **Public funding + procurement:** Government grants, BARDA/CEPI funding and advance purchase agreements created supply and messaging advantages (created expectation of safety via regulatory processes and enabled large public campaigns). [PMC+1](#)
2. **Regulatory reviews & press releases:** Companies and universities released trial results and regulatory submissions; high-profile press releases and peer-reviewed publications (NEJM, Lancet, etc.) shaped public perceptions of vaccine efficacy and safety. [innovations.stanford.edu](https://innovations.stanford.edu)
3. **Expert spokespeople & advisory roles:** University faculty served on advisory bodies, testified publicly, appeared in media and wrote op-eds supporting vaccination — these are standard science-to-public pathways. [Stanford Medicine](#)
4. **Public-private partnerships for communications:** Foundations and governments funded public information campaigns (ads, community outreach), often leveraging academic experts. [BMJ Global Health](#)

##### Suppression/moderation channels and instruments (documented or reported):

1. **Platform moderation and third-party fact-checkers:** Platforms removed or downranked posts marked false or misleading; third-party fact-checkers (often news orgs or NGOs) applied labels that sometimes suppressed circulation. Academic reporting documents controversies when legitimate journalism was caught by those filters. [BMJ+1](#)
2. **Government-platform communications:** Governments provided lists, guidance and pressure to platforms about misinformation; internal emails and testimony show sustained interactions. Critics argue this crossed into coercion; defenders argue it was appropriate public-health action. Court records in some cases analyze the degree of pressure. [Congress.gov+1](#)
3. **Journal editorial decisions & retractions:** Scientific journals, exercising editorial judgement, sometimes rejected or retracted manuscripts; critics argue that such editorial gatekeeping can suppress heterodox scientific views (and there is literature documenting such concerns). However, editorial decisions are different from coordinated public censorship and typically follow peer-review/ethics processes. [BMJ Blogs+1](#)

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#### 5) Conflicts of interest and ethics: universities communicating science while holding IP/financial stakes

##### Main ethical tensions (documented in literature & commentary):

- **Dual roles:** universities both *produce* public-good knowledge (with heavy public funding) and *commercialize* it via technology transfer. When the same institution or its personnel have

financial interests (royalties, equity, licensing income), they may have incentives that could bias communication. Academic commentary warns that tech-transfer incentives can skew priorities and communication. [PMC+1](#)

- **Transparency & disclosure:** Best practices call for clear, timely disclosure of financial interests when faculty speak to media or serve on advisory panels. Universities vary in how proactively they disclose revenue flows from licensing or inventor royalties. Where disclosure is absent or opaque, public trust can erode. [Penn Center for Innovation](#)
- **Public funding vs. private profit:** Numerous researchers and commentators have argued that because much vaccine R&D was publicly funded, resulting private profits and exclusive licensing raise questions about equitable returns to the public. This tension underlies debates on IP sharing (e.g., WHO TRIPS waiver discussions) and university licensing strategies. [BMJ Global Health+1](#)

#### Concrete ethical critiques & recommendations (from peer-review & policy literature):

- Universities should adopt **transparent licensing** rules for pandemic technologies (e.g., non-exclusive licensing, fair pricing clauses, access commitments). Several universities published COVID-era licensing frameworks (e.g., Stanford's COVID-19 Technology Access Framework). [Office of Technology Licensing](#)
- Conflict-of-interest (COI) rules should require **public disclosure** when faculty hold paid roles with companies commercializing university IP, and when those faculty speak in public health contexts. [PMC](#)

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#### 6) What is known about specific universities you asked about

- **University of Pennsylvania (Penn):** Foundational mRNA modification patents by Karikó & Weissman were sublicensed; Penn has publicly stated it is receiving royalties and is allocating them to research. Penn sued BioNTech claiming underpaid royalties and reached a **\$467M** settlement (reported Dec 2024/Jan 2025). Penn's inventors received recognition (and some inventor compensation structures vary by university policy). [Reuters+1](#)
- **University of British Columbia (UBC):** UBC researchers developed lipid nanoparticle delivery technologies; UBC spinouts (Acuitas, others) commercialized LNPs. UBC publicly acknowledges its contributions; however, there is **no single public figure** like Penn's settlement or Oxford's royalties that clearly states UBC's COVID-vaccine-specific receipts in a single number. [UBC Medicine+1](#)
- **University of Oxford:** Oxford's ChAdOx platform was licensed to AstraZeneca; Oxford reported substantial royalty receipts in at least one year (e.g., **£143M** reported for a recent academic year), with licensing structured to allow no royalties "during the pandemic" and royalties thereafter. Several studies document the high share of public/charitable funding for ChAdOx research. [Inside Higher Ed+1](#)

- **MIT, Stanford, Harvard, UT Austin:** These institutions contributed personnel, trial leadership, platform research, or experts to public discussions. Publicly available disclosures show various grants and collaborations; however, consolidated, vaccine-specific royalty totals comparable to Oxford or Penn are not widely published. Stanford published a COVID-19 licensing/technology access framework; Harvard faculty participated in advisory roles and public health communications. [Office of Technology Licensing+1](#)
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## 7) Conclusions — what is supported, what is uncertain

- **Supported:** Large, documented payments to some institutions exist (Oxford's royalties, Penn's settlement; NIH also received settlements). Public funding played a very large role in vaccine R&D. Universities, governments, foundations and industry were deeply intertwined in funding, development, communications and distribution. Governments communicated with platforms about misinformation; platforms used moderation mechanisms that sometimes affected academic content. Peer-review literature documents both the public-private network and concerns about tech-transfer incentives and access. [BMJ+3Inside Higher Ed+3Reuters+3](#)
  - **Uncertain / contested:** The claim that specific universities and named personnel orchestrated a coordinated censorship network solely to protect institutional profits is **not** uniformly supported in public, verifiable sources. There is evidence of government-platform coordination aimed at misinformation, and of editorial/platform moderation that sometimes suppressed or limited content — but proving a covert, profit-driven censorship conspiracy involving particular universities requires specific corroborating evidence beyond the broader, documented interactions. Academic literature raises concerns about suppression of heterodox views; that subject remains debated and needs case-by-case evidence. [PMC+1](#)
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## 8) Recommendations & safeguards (policy & ethical responses)

1. **Greater transparency:** universities should publish clear accounting for pandemic-related licensing revenues and inventor payouts, and require prominent COI disclosures when faculty advise policy or speak to media. (Supported by tech-transfer critiques.) [PMC](#)
  2. **Pandemic-era licensing norms:** adopt non-exclusive, globally equitable licensing for pandemic technologies (or explicit access commitments) as many scholars have recommended. [Office of Technology Licensing](#)
  3. **Separation of roles & disclosure:** when university inventors hold equity or advisory roles in companies commercializing university IP, institutions should ensure neutral, independent spokespeople handle public health messaging to avoid real or perceived conflict. [Penn Center for Innovation](#)
  4. **Independent audits:** where public funding is large, independent audits of licensing deals and payments can bolster public trust. [PMC](#)
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## 9) Limitations of this report

- Many licensing deals, inventor payout schedules and spin-out equity holdings are confidential (or released piecemeal), so a full dollar-by-dollar accounting for every university and every researcher is not possible from public sources alone.
  - Allegations of coordinated censorship often rely on patchwork public records (emails, leaks, testimony) and partisan narratives; I restricted conclusions to what is documented in reputable reporting, court filings and peer-reviewed literature. Where claims are contested, I flagged them as such and cited sources representing both documentation and critique. [House Judiciary Committee Republicans+1](#)
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## Key sources (representative, not exhaustive)

- Reuters reporting on BioNTech/Nih/Penn settlements. [Reuters](#)
  - Inside Higher Ed on Oxford royalties. [Inside Higher Ed](#)
  - UBC reporting on LNP work and Pieter Cullis. [UBC Medicine](#)
  - Peer-review on public funding of vaccine R&D (NIH/public investments). [PMC](#)
  - Analyses of university tech transfer and IP/access debates. [PMC+1](#)
  - White House/platform interaction reporting and congressional/court documents (e.g., Psaki statements, *Missouri v. Biden* materials). [KIMA+1](#)
  - BMJ reporting and controversies about fact-checking moderation. [BMJ+1](#)
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## Final note & offer

This report aims to balance documented facts (payments, settlements, public funding, documented coordination) with careful caveats where the evidence is contested or incomplete (especially allegations of deliberate profit-driven censorship by particular universities or named personnel).