# The Alarming Consequences of COVID-19 Vaccines for Children

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Data from a recent study suggest that COVID-19 vaccines have a detrimental long-term effect on children's immune systems regardless of prior infection.

[Note: The AP has published a relevant so-called "fact check" about the study discussed in this article. The AP denies that the study shows that unvaccinated children with natural immunity are better protected than children who were vaccinated after recovering from infection, but the AP simply fails to address the data that does in fact show this. See the update at the end of this article for a detailed discussion of the "fact check" counterclaims.]

#### Introduction

The <u>findings of a study</u> reported in a letter to the editor of the *New England Journal of Medicine* (NEJM) on September 7 include alarming data that belies the authors' conclusion that children between the ages of five and eleven should receive booster doses of a COVID-19 vaccine in addition to the primary two-dose series. The authors expressed the view that even children who have already acquired natural immunity should get fully vaccinated plus boosted.

"The rapid decline in protection against omicron infection that was conferred by vaccination and previous infection", the study authors concluded, "provides support for booster vaccination."

However, that conclusion does not follow logically from their study findings, which provide yet further evidence of <u>the problem of "original antigenic sin"</u>.

Briefly, original antigenic sin is an immunologic phenomenon in which the first encounter with a pathogen or vaccine imprints the immune response against that pathogen such that, when later encountering a different strain of that pathogen, the immune responses remain fixated *suboptimally* on the original strain rather than adapting to be more specific to the new strain.

Furthermore, while the "public health" establishment has maintained that COVID-19 vaccines confer an additional benefit for children who have already acquired natural immunity from a previous infection, the data from this study further suggest that this practice has a *detrimental* long-term effect on their immune systems.

#### **Rapid Waning into Negative Vaccine Effectiveness**

The data are presented in four graphs in the main paper. The first one shows the effectiveness by date in children aged five to eleven years of the Pfizer-BioNTech mRNA COVID-19 vaccine against infection with different variants of SARS-CoV-2, with effectiveness expressed as a function of the date of infection:



#### A Effectiveness of BNT162b2 against Infection, According to Date of First Dose

The data show that children vaccinated in November 2021, at a time when the Delta variant was predominant, resulted in a peak effectiveness of 77.2 percent at four weeks since administration of the first dose. In comparison, effectiveness in children vaccinated in December 2021 peaked at 59.3 percent at four weeks. In those vaccinated in January 2022, peak effectiveness was 66.4 percent at four weeks. In those receiving the shot in February to May 2022, effectiveness reached 57.1 percent at four weeks.

As the study authors note, these findings accord with data from many other studies showing that mRNA COVID-19 vaccines are less effective against Omicron than against earlier variants.

The authors highlighted that conclusion but curiously offered no comment about the same data also showing that vaccine-induced immunity wanes to *no significant effectiveness* within several months and plummets into *significantly negative* effectiveness thereafter.

For children vaccinated in November, there was no statistically significant effectiveness at 18 weeks. Thereafter, there was significant negative effectiveness: negative 8.2 percent at 19 weeks and negative 15.1 percent at 20 weeks. The study authors do not report data beyond that point for those children.

For children vaccinated in December, there remained no significant effectiveness from 21 weeks through 24 weeks, which was the extent of the reported data.

Thus, while the study only followed children vaccinated in January for about 4 months, given numerous previous studies likewise <u>showing negative vaccine effectiveness</u> in both adults and children, we can anticipate that the more recently children vaccinated also will have lost all significant protection within about 5 months since vaccination, and that thereafter they will have been at a *higher* risk of infection with SARS-CoV-2 than children who remained unvaccinated.

In other words, the data suggest that the cost of the short-term protective benefit afforded by vaccination is a *long-term detriment* to children's immune systems.

# The Effect of Vaccinating Children with Pre-existing Natural Immunity

The US Centers for Disease Control (CDC) has from the start *unscientifically* pushed for vaccination of people who have already recovered from infection and who thus have acquired <u>superior natural immunity</u>. The CDC's justifications for this recommendation have notably evolved.

At first, the CDC lied that natural immunity was weak and short-lived. That was contrary to the available evidence at the time, which showed that natural immunity was robust, broad, and durable. Studies subsequently proved that infection induces long-term immunologic memory. The CDC nevertheless continued to maintain that natural immunity was insufficient and that naturally immune people should get vaccinated on the grounds that it will provide them with an additional benefit.

In August 2021, the CDC explicitly claimed that natural immunity is inferior to that induced by COVID-19 vaccines, which was yet another lie. In fact, that claim from the CDC was subsequently <u>falsified by the CDC's own data</u> reported by its own researchers in its own journal.

The data recently presented in the *New England Journal of Medicine* also contradict the CDC's claim that vaccinating children who already have natural immunity will provide them with an additional benefit beyond the protection acquired from prior infection.

This is not obvious at first glance because the authors do not provide a graph directly comparing (a) natural immunity, (b) vaccine-induced immunity, (c) "hybrid" immunity resulting from infection plus vaccination, and (d) "hybrid" immunity resulting from vaccination plus infection.

The next graph presented by the study authors instead compares vaccine effectiveness for children who were either immunologically naïve or who already had acquired natural immunity prior to getting vaccinated. It thus compares vaccine-induced immunity with so-called "hybrid" immunity from prior infection plus vaccination:



B Effectiveness of BNT162b2 against Infection, According to Previous Infection Status

Immunologically naïve children who were vaccinated saw a peak vaccine effectiveness of 63.2 percent at 4 weeks, which was not a statistically significant difference from the 69.6 percent observed in children with "hybrid" immunity. Thus, there was no significant benefit of vaccination for previously infected children in terms of peak effectiveness.

Furthermore, immunity after vaccination rapidly waned in *both* groups of children so that the statistical significance of estimated vaccine effectiveness was lost at 18 weeks. For children without prior infection, effectiveness was significantly negative thereafter: *negative* 6.9 percent at 19 weeks and *negative* 15.6 percent at 20 weeks. For children with prior infection, effectiveness became significantly negative at 22 weeks with an estimated *negative* 20.7 percent effectiveness.

What is most striking about this is that it suggests that children who *had* natural immunity but then were vaccinated *lost* the benefit of the superior protection afforded by natural immunity, which certainly does not become *negative* within several months of recovery from an acute infection.

#### The Superiority of Natural Immunity

The superiority of natural immunity is illustrated in the third graph presented by the study authors, which shows estimates of the effectiveness of natural immunity against reinfection by date of reinfection. This allows for comparison of immunity as a function of the infecting variant as opposed to being strictly a function of waning protection against infection.



### C Effectiveness of Previous Infection against Reinfection among Unvaccinated Children

As with vaccine-induced immunity, these data show that Omicron significantly "escapes" the immune protection against reinfection afforded by prior infection with an earlier variant. However, unlike with either vaccination or "hybrid" immunity, and even though those with natural immunity were followed for a longer duration, significant protection remains for the duration of the study period for those with natural immunity.

For children infected with earlier variants, effectiveness of natural immunity against reinfection at 4 months was 93.2 percent. At 17 months, with Delta having come and gone and Omicron having become predominant, natural immunity remained 47.4 percent effective at preventing reinfection.

For children infected with Delta, effectiveness against reinfection waned from 67.6 percent at 4 months to 53.1 percent at 9 months.

That compares with a peak vaccine effectiveness of 77.2 percent at 4 weeks among children vaccinated in November, which protection rapidly waned to 41.8 percent by 9 weeks (about 2 months), to a mere 4.4 percent effectiveness after 17 weeks (about 4 months), and into significantly negative effectiveness thereafter.

Natural immunity was thus more protective even after 17 months of waning than vaccineinduced immunity after just 9 weeks—and, of course, unlike either vaccine-induced or "hybrid" immunity, the protection afforded by prior infection certainly does not result in a relatively *increased* risk of infection at any point in time for the duration of the study period.

Belying the CDC's claim of an additional protective benefit of vaccination, children with natural immunity who remained *unvaccinated* had much more durable protection than those who recovered from an infection and then got vaccinated.

That is the key unique finding of this study, yet the authors curiously declined to offer any comment about it.

For unvaccinated children infected with earlier variants, protection remained at 89.8 percent at 5 months, which was about the time when Delta started becoming predominant. For those infected with Delta, protection remained at 65.1 percent at 5 months, by which time Delta had been replaced with Omicron. For those infected with Omicron, protection remained at 51 percent at 5 months.

These estimates compare to the *total loss of significant protection* observed with "hybrid" immunity by 18 weeks (about 4 months) and the *negative effectiveness* observed by 22 weeks (about 5 months).

In sum, whereas natural immunity continued to reduce the risk of reinfection by about half even after nearly a year-and-a-half of waning, vaccination of previously infected children resulted in the children having an *increased* risk of infection in less than half a year since becoming vaccinated.

Thus, the data suggest that vaccinating children who have already recovered from infection, far from conferring an additional protective benefit beyond that afforded by natural immunity, results in their naturally acquired immune protection somehow being wiped out.

This demands further research to determine an explanation for this alarming result. It is the key unique finding of this study, yet the authors curiously declined to comment on it much less to suggest possible explanations.

#### More Evidence for 'Original Antigenic Sin'

The fourth graph presented in the study shows evidence that original antigenic sin is occurring with vaccinated children.

Previous studies have shown that natural immunity is adaptive, so that the immune system learns to generate responses more specific to the newly infecting variant rather than remaining fixated on suboptimal responses to the spike protein of the ancestral Wuhan strain of the virus as seen in vaccinated individuals.

One might think that when vaccinated people experience a "breakthrough" infection that it would serve as a natural booster resulting in the individuals acquiring essentially the equivalent of natural immunity. Instead, the initial priming of the immune system by vaccination appears to *impair* the ability of vaccinated individuals to generate immune responses characteristic of natural immunity.

Evidence of this impairment is suggested by the next graph presented in the study, which shows the effectiveness of an infection among vaccinated children in preventing subsequent reinfection. In other words, this graph also shows a type of "hybrid" immunity, but in this case it shows the result of infection after vaccination as opposed to vaccination after infection:



#### D Effectiveness of Previous Infection against Reinfection among Vaccinated Children

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Among vaccinated children who became infected with Delta, the effectiveness of this second type of "hybrid" immunity was 74.7 percent at 4 months post-infection. At 5 months, the statistical significance of this protection is lost, with confidence intervals on either side of zero, suggesting that the immune boosting from infection results in a transiently high level of high protection that, like the protection conferred by vaccination alone, is rapidly lost.

Among vaccinated children infected with Omicron, the effectiveness of this hybrid immunity against reinfection with Omicron was 79.4 percent at 4 months, which dropped to 60.9 percent at 5 months, which is the maximum duration of the data presented for this group. If the data from vaccinated children infected with Delta is any indication, we can anticipate a similar rapid waning thereafter, resulting in protection that is statistically indistinguishable from 0 percent effectiveness.

Comparing this again with children who recovered from infection and who then got vaccinated, estimated effectiveness of this first type of hybrid immunity waned in these children to 16.5 percent at about 4 months and was significantly negative by about 5 months.

Thus, whereas the data suggest that vaccination after infection essentially wipes out the immune protection afforded by natural immunity, resulting in rapid waning of "hybrid" protection against reinfection compared to the durableness of natural immunity, infection with SARS-CoV-2 after vaccination does appear to serve as a natural booster, resulting in greater protection than vaccination alone. However, this immune protection still appears to be *suboptimal* relative to natural immunity.

The way the authors present the data in this study makes it difficult to visualize the comparative effectiveness of natural immunity, vaccine immunity, "hybrid" immunity resulting from infection plus vaccination, and "hybrid" immunity resulting from vaccination plus infection. So, I graphed the data at one-month time intervals to enable better visualization of the varying effectiveness of these different exposures. Here is the result:





And here is the explanation of the terms I used in the graph's key:

- "Natural Immunity 1", the dark green line, represents children who were infected with SARS-CoV-2 prior to the emergence of the Delta variant and who remained unvaccinated. This represents the effectiveness of natural immunity over time as Delta came and went and Omicron came into predominance. Despite waning, the result is durable long-term protection against infection even with the highly contagious Omicron variant.
- "Natural Immunity 2", the green line, represents children who were infected with Delta and who remained unvaccinated, once again showing effectiveness over time as Delta was replaced by Omicron. The result is continued protection against reinfection through 9 months.
- "Natural Immunity 3", the light green line, represents children who were infected with the original Omicron variant (BA.1) and who remained unvaccinated, showing effectiveness over time as the original Omicron was replaced by a subvariant (BA.2). The result is evident immune escape of the subvariant, similar to the immune escape of the original Omicron variant to immunity acquired from infection with earlier variants. Nevertheless, the resulting immunity continued to reduce the risk of reinfection by approximately half at 5 months.
- "Vaccine Immunity 1", the dark orange-red line, represents children who were vaccinated during November 2021, showing effectiveness over time during periods of Delta and then Omicron predominance. The result is significantly *negative* effectiveness within 5 months.
- **"Vaccine Immunity 2"**, the orange line, represents children who were vaccinated during December 2021. The result is loss of significant effectiveness by 5 months.

- "Vaccine Immunity 3", the light orange line, represents children who were vaccinated during January 2022. The result is rapid waning to below 30 percent by 4 months, which we can anticipate would continue into negative effectiveness with additional follow-up data.
- **"Vaccine Immunity"**, the red line, represents overall effectiveness of vaccination of children as a function of time since vaccination. The result is statistically significant negative effectiveness within 5 months.
- "Hybrid Immunity 1", the yellow line, represents children who recovered from infection but then got vaccinated. The result is rapid waning of immunity into significantly negative effectiveness within 5 months, *similar to the result observed in the vaccination of immunologically naïve children*. This suggests that vaccinating previously infected children effectively wipes out the superior protection from natural immunity from which they otherwise would have continued to benefit had they never been vaccinated.
- "Hybrid Immunity 2", the blue line, represents vaccinated children who had an infection with Delta. The result of this third antigen exposure is a boosting of immunity to similar levels as observed in unvaccinated children with natural immunity from a single antigen exposure, *but with a rapid waning into statistical non-significance at 5 months*. This accords with other studies confirming that the initial priming of the immune system by vaccination has a *detrimental* effect on immunity relative to the priming of the immune system infection.
- "Hybrid Immunity 3", the light blue line, represents vaccinated children who had an infection with Omicron. Given the data from children with a Delta breakthrough infection, the anticipated result would be rapid waning and loss of significant protection against reinfection.

#### Protection Against Severe Disease

The rapid waning of "sterilizing" immunity from neutralizing antibodies induced by COVID-19 vaccines is an acknowledged fact. However, the "public health" establishment maintains that children should still be vaccinated to be protected against severe disease. The study recently reported in the *New England Journal of Medicine* usefully also provides data on effectiveness of natural immunity versus vaccination against severe disease as measured by hospitalization.

Here is the graph the authors present showing the effectiveness against hospitalization of being fully vaccinated:

# E Effectiveness of BNT162b2 against Hospitalization



And here is the graph they present of the effectiveness of natural immunity against hospitalization:



### F Effectiveness of Previous Infection against Hospitalization Due to Reinfection

Notice that the protection afforded by vaccination is measured in *weeks* whereas the protection from natural immunity is measured in *months*. So, to make the data more readily comparable, I once again graphed the data for visualization using consistent one-month intervals for both. Here is the result:



As you can see, the data from this study show that natural immunity is vastly superior to being fully vaccinated not only in terms of protection against infection but also protection against being hospitalized for COVID-19. Whereas vaccine effectiveness against hospitalization falls below 80 percent within four months, natural immunity remains over 90 percent effective even at 9 months.

### Conclusion

To conclude, it is not at all obvious from this study's findings that the right approach moving forward is to ensure that children receive the full primary series plus booster doses of COVID-19 vaccines.

On the contrary, given the very low risk to children from SARS-CoV-2, the superiority of natural immunity, and confirmations in the literature that original antigenic sin is a problem with the vaccines, natural immunity must be considered *an opportunity cost* of vaccination.

Relative to natural immunity, the data show that COVID-19 vaccines have a *detrimental* effect on children's long-term immunity. The conclusion that follows is that vaccinating children will make them *more* susceptible to COVID-19 throughout their lifetimes.

Although additional follow-up data would be required to draw any firm conclusions, the data from this study are *suggestive* that the immune boosting from a breakthrough infection among vaccinated children is transient, so that while the resulting protection from this third antigen exposure reaches levels similar to that observed in naturally immune children after a single exposure, there still appears to be rapid waning as observed in children with only vaccine-induced immunity. This accords with studies showing that the initial priming of the immune system by vaccination results in a *detrimental* fixation of immune responses relative to natural immunity, known in the literature as original antigenic sin or immune imprinting.

Furthermore, while the CDC has maintained that naturally immune children, too, should be vaccinated, the data from this study suggest that this has a detrimental effect, resulting somehow in a *loss* of the durable protection afforded by their previous infection, with rapid waning into *negative* effectiveness the same as observed with children vaccinated without prior infection.

In sum, the accumulating data continue to point to the conclusion that vaccinating children confers a short-term protective benefit at the long-term cost of making them *more* susceptible to COVID-19 throughout their lifetimes.

#### The AP's "Fact Check"

**Update, September 22, 2022:** I was not the first observer to write about the findings of this study. Igor Chudov published an article about it on September 11 titled "<u>Yes, Covid Vaccines</u> <u>UNSET and ERASE Natural Immunity</u>". Will Jones wrote an article published in *The Daily Sceptic* on September 12 titled "<u>Covid Vaccine Destroys Natural Immunity</u>, <u>NEJM Study</u> <u>Shows</u>". The AP then published a "Fact Check" article by Josh Kelety on September 15 titled "<u>Study finds Pfizer vaccine boosts, not destroys, immunity from past COVID-19 infection</u>", which rates the *Daily Sceptic* article as "False".

I was unaware of the "Fact Check" article at the time I published my above analysis so was eager to take into account any contradictory information from that AP article after a peer made me aware of it. I was prepared to correct or even retract this article if the AP were to demonstrate that I had somehow erred in my analysis.

However, the AP article in fact does not even *address* the data that *does* show *negative* effectiveness after several months among children who recovered from infection and then were vaccinated, whereas protection was durable for the duration of observation among unvaccinated children with natural immunity. This is an easily verifiable fact that anyone can see, yet the AP as well as the study's lead author attempt to obfuscate that reality.

So, let's address the AP's ostensible "fact check".

Here is the "CLAIM" that the AP article rates as "False":

A study published in the New England Journal of Medicine found that the effectiveness of Pfizer's COVID-19 vaccine becomes "negative" within five months and destroys immunity garnered from prior infection with COVID-19.

However, while asserting that this statement is "False", the AP acknowledges in passing twelve paragraphs into the nineteen-paragraph article that it is *true* that the data showed "the vaccine's effectiveness going negative over time".

The AP cites the lead author, Dr. Dan-Yu Lin, "a biostatics professor at the University of North Carolina at Chapel Hill", asserting that "that portion of the curve" showing shows negative effectiveness on the graphs "is highly uncertain and unreliable, as the study lacked sufficient data."

In other words, Dr. Lin is arguing that the *negative* effectiveness observed in the data *was not statistically significant*. However, *that is untrue*. As I have noted above, the data show *statistically significant negative vaccine effectiveness* according to the study authors' own 95 percent confidence intervals.

Anyone can confirm that by looking at the confidence intervals for the data shown in the graph, which are represented by the shaded bars on either side of the curve in the graphs and are specifically provided in tables provided in the supplement. Results where both the upper and lower confidence intervals were on either side of "0" were not statistically significant. Anyone can verify by looking at the supplementary tables that the negative effectiveness in fact reached statistical significance, with the *upper* confidence interval as well as the lower being *below zero*.

For the lead author to deny that fact is simply dishonest. The AP had the opportunity to set the record straight by checking Dr. Lin's suggestion that the negative effectiveness was not statistically significant but *failed* to do that elementary fact-checking of its own key source.

Still paraphrasing Lin, the AP adds, "The study did not determine that the vaccine itself makes children more susceptible to COVID-19, only that its protection waned over time."

Again, it is simply false that the data show "only" waning protection over time and not *statistically significant negative effectiveness*.

It is true that these data do not demonstrate that the vaccine was the *cause* of the negative effectiveness, as I have myself indicated above. It would have been a legitimate criticism of the respective articles by Chudov and Jones that they claimed the data show causality, but that is not the approach that the AP took with its ostensible "fact check".

It is, however, highly alarming that vaccination has been *repeatedly* associated in studies with significant negative effectiveness. To look at these data and draw the conclusion that all children should be vaccinated plus boosted is simply irrational.

So, first, the AP "fact check" itself misinforms the public on the key point that the data *do* show *statistically significant* negative vaccine effectiveness. Moving on to AP's second key assertion, the article again paraphrases Lin as having said that "the study also determined that vaccination actually boosted the immunity of children who had previously been infected with COVID-19, compared to those who had only been infected".

Further down the page, the AP directly quotes Lin saying, "The evidence we have supports the finding that natural immunity is boosted by vaccination rather than being destroyed by vaccination as claimed."



But that again is simply not what Lin's own data show. Here again are the relevant data:

As explained above, the three green-shaded lines represent the effectiveness of *natural immunity*, with variable effectiveness depending on the infecting variant (pre-Delta, Delta, and Omicron, respectively).

The red line represents *vaccine-induced* immunity with its *statistically significant negative effectiveness* within five months.

Obviously, natural immunity is superior to vaccine-induced immunity. Neither the AP nor the study's lead author deny that fact. Instead, they are disputing the yellow line, which represents "hybrid" immunity: the protection against infection for children who had previously acquired natural immunity *but who then got vaccinated*.

Now, I welcome both the AP and Dr. Lin to explain to us all how they interpret the yellow line as showing that "natural immunity is boosted by vaccination rather than being destroyed by vaccination". By what possible reasoning do they arrive at *that* conclusion? It is an absurdity.

Dr. Lin's data are Dr. Lin's data, whatever Dr. Lin himself has to say about it. The AP simply failed to actually examine that data and instead relied on the word of Dr. Lin that the data (a) do not show statistically significant vaccine effectiveness and (b) show that children with "hybrid" immunity are better protected than unvaccinated children with natural immunity.

But Dr. Lin is himself simply misleading about his own study's findings, obviously to defend his fallacious conclusion that the findings support full vaccination plus booster doses *even for children who already have natural immunity*. The negative vaccine effectiveness *is* statistically significant, and his data *do* show that unvaccinated children with natural immunity have much stronger and more durable protection than previously infected and vaccinated children.

The AP, for its part, claims to have fact-checked the "claim" that the study's data show that children who were vaccinated after recovering from an infection experienced negative effectiveness within five months whereas natural immunity proved durable. But the AP did no such thing. The AP simply did *not* fact-check this information. Instead, the AP mindlessly parroted claims made by the lead author *that are belied by his own study's data*.

So how can we explain Dr. Lin's demonstrable misrepresentation of his own study's data? How can we explain the fallacious conclusion that the study findings support vaccination plus booster doses even for naturally immune children?

Well, perhaps it has something to do with four of the eight authors being affiliated with the North Carolina Department of Health and Human Services, which of course has an interest in <u>defending its own policy</u> of recommending COVID-19 vaccines plus booster doses for everyone eligible. It is hardly surprising that these authors would *not* look at their own data and publicly admit, "We are very sorry, but we really messed up our recommendation and are now responsible for having screwed up the immune systems of all these children who didn't need the shots because they already had superior natural immunity. We are therefore withdrawing out recommendation for previously infected children to get vaccinated."

The AP "fact checker" evidently never considered that obvious conflict of interest in assessing the bias of the relevant sources.

Another potentially explanatory factor is <u>the large amount of funding</u> that the University of North Carolina Chapel Hill has received from the US National Institutes of Health (NIH), which is <u>literally partnered with Moderna</u>, the manufacturer of an mRNA COVID-19 vaccine. Dr. Dan-Yu Lin himself <u>has received</u> hundreds of thousands of dollars in grant funds from the NIH, according to the NIH's database. The AP "fact checkers" evidently never thought to consider how the need to procure continued funding from the government might effectively preclude the publication of research that doesn't align with the policy goal of achieving high vaccine uptake. It also helps to explain the common phenomenon of study authors drawing conclusions that aren't actually supported by their own findings.

One of the authors, Yu Gu, affiliated with the Chapel Hill university, disclosed having received a grant from the NIH, as did Gu's colleague Donglin Zeng. Dr. Lin, by contrast, declared no conflicting interests despite also receiving much funding from the NIH for various projects. None of the researchers from the state health department disclosed that they had a conflict in working for an agency responsible for making the public health recommendation to get vaccinated plus boosted, nor any other conflict of interest.

Oh, and <u>the AP itself is a member</u> of the "International Fact-Checking Network" (IFCN), a project of the Poynter Institute, which received funding for that project from the Bill and Melinda Gates Foundation, which is in Bill Gates' own words "the biggest funder of vaccines in the world". This includes a partnership with Moderna in the development of the mRNA technology used in its COVID-19 vaccine.

In conclusion, having reviewed the AP "fact check" article, I find that it fails to support its own counterclaims. The article fails to produce any evidence contrary to what I have reported above, and I therefore stand by my analysis. The AP's failure is another useful example, though, of how truth is being censored in favor of government-sanctioned disinformation.