Moderna and the mRNA Vaccine

Please read this before you willingly consent to being vaccinated with the Covid vaccine.

Roger Golden Brown November 16, 2020 - Updated December 31, 2023

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All bullet pointed excerpts and statements are noted with numbers corresponding to footnotes with linked sources at the bottom of the page. Indented entries preceded by a dash (-) are quoted from the noted source.

The reader is urged to use the footnote links to further explore the material and to get context to what is stated in this PDF and to make up their own mind amidst the nuances of opinion and fact as to what is really going on.

Unless otherwise noted, all dates are the year 2020.

Preface

Moderna is a bio-tech company that has been pioneering research on mRNA vaccines. These experimental vaccines (also being produced by a number of other companies), are being rushed to the public. They are designed to genetically modify cells and are experimental; they have never been used before. I am not a doctor or a bio-geneticist and don't understand the details but feel that concern about these vaccines is warranted. This PDF's intention is not to prove anything but rather to give an overview of Moderna and mRNA vaccines to help see the bigger picture.

This PDF focuses on Moderna but much of the information is applicable to other companies that are developing mRNA vaccines. (See the last section for a brief look at other companies developing vaccines using gene editing.)

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Moderna, the Company, the Vaccine Overview

- Moderna's founder Derrick J. Rossi is a Canadian stem cell biologist who is Associate Professor in the Stem Cell and Regenerative Biology Department at Harvard Medical School and Harvard University.¹
- In March 2020, in a White House meeting between the Trump Administration and pharmaceutical executives, Stéphane Bancel [Moderna CEO] told the President that Moderna could have a COVID-19 vaccine ready in a few months. The next day, the FDA approved clinical trials for the Moderna vaccine candidate, with Moderna later receiving investment of \$483 million from Operation Warp Speed. ²
- In March 2020, the Phase I human study of Moderna's vaccine candidate, mRNA-1273, began in partnership with the US National Institute of Allergy and Infectious Diseases (NIAID Director - Anthony Fauci).²
- On 11 August, 2020 President Trump announced that the United States, as part of Operation Warp Speed, had signed an agreement to buy 100 million doses of Moderna's anticipated vaccine.²

Moderna's Experimental mRNA Vaccine Technology

- In 2010, ModeRNA Therapeutics was formed to commercialize the research of stem cell biologist Derrick Rossi, who developed a method for modifying mRNA, transfecting it into human cells, then dedifferentiating it into stem cells that could then be further redifferentiated into desired target cell types.²
- The Moderna technology being used for the Covid vaccine that they are developing is to insert synthetic mRNA [messenger RNA] into living cells that would reprogram the cells.²
- Moderna explains their novel and experimental technology. From Moderna's website: ³

¹ Wikipedia - <u>Derrick Rossi</u>

² Wikipedia - <u>Moderna</u>

³ Moderna's website - <u>About Us</u>

- Welcome to Moderna. We believe mRNA is the "software of life."

- Every cell in the body uses mRNA to provide real-time instructions to make the proteins necessary to drive all aspects of biology, including in human health and disease.

- Given its essential role, we believe mRNA could be used to create a new category of medicines with significant potential to improve the lives of patients.

- We are pioneering a new class of medicines made of messenger RNA, or mRNA. The potential implications of using mRNA as a drug are significant and far-reaching and could meaningfully improve how medicines are discovered, developed and manufactured.

• Dr. Tal Zaks, Moderna's Chief Medical Officer, in a Ted Talk describes what they do: ⁴

- We are actually hacking the software of life.

- In every cell, there is mRNA that transmits the critical information that determines what a cell will actually do. We think of it like an operating system. If one could introduce a line of code or change a line of code, that has profound implications for everything.

 RNA vaccines can be administered using a number of methods: via needle-syringe injections or needle-free into the skin; via injection into the blood, muscle, lymph node or directly into organs; or via a nasal spray. The optimal route for vaccine delivery is not yet known. ⁵

The mRNA Vaccine is Not Simply the Injection of a Substance

 From a July 29th article on the Forbes website titled, "Moderna's Mysterious Coronavirus Vaccine Delivery System": ⁶

- With the stakes incredibly high, the mystery around a key technological component of Moderna's coronavirus vaccine has only become deeper ... related to the lipid nanoparticle (LNP) technology that is crucial to Moderna's mRNA medicines.

- In order for the approach to work, Moderna needs to safely deliver the mRNA to the body's cells without the payload breaking down in the bloodstream. As a result, any mRNA vaccine or therapeutic consists of two components, the actual sequence mRNA and the delivery mechanism. Moderna has clearly engineered the first component, but there remain

⁴ Ted Talks - <u>The disease-eradicating potential of gene editing</u>

⁵ University of Cambridge website- <u>RNA vaccines: an introduction</u>

⁶ Forbes website- Moderna's Mysterious Coronavirus Vaccine Delivery System

questions about the second. No mRNA vaccine or medicine has ever been approved by U.S. or European regulators.

• From an article published on the Pub Med website: 7

- Among potential nonviral vectors, lipid nanoparticles are particularly promising. Indeed, lipid nanoparticles can be synthesized with relative ease in a scalable manner, protect the mRNA against degradation, facilitate endosomal escape, can be targeted to the desired cell type by surface decoration with ligands, and as needed, can be codelivered with adjuvants.

• From an article by Whitney Webb (with links to her sources): ⁸

- Since at least last fall, 2019, Moderna has sought to resolve the issue of failing to succeed with previous vaccines by adding "nanoparticles" to its mRNA vaccine, a modification financed by the Pentagon's Defense Advanced Research Projects Agency (DARPA). [DARPA is a research and development agency of the United States Department of Defense responsible for the development of emerging technologies for use by the military.]

Safety Concerns, Fast-tracking the Process

- The traditional vaccine timeline is 15 to 20 years. ⁹
- Moderna received fast-track approval from the FDA in May. From Time magazine: ¹⁰

- On May 12, Moderna Therapeutics, based in Cambridge, Mass., received fast-track approval from the U.S. Food and Drug Administration (FDA) for its COVID-19 vaccine candidate, mRNA-1273. Days earlier, the FDA gave the company the green light to proceed to Phase 2 testing of the vaccine, which is expected to begin shortly.

• Moderna is skipping the traditional animal testing phase. From the Stat News website: ⁹

- As they race to test an experimental coronavirus vaccine, researchers aren't waiting to see how well it prevents infection in animals before trying it in people, breaking from the usual protocol.

⁷ PubMed website- <u>mRNA vaccine delivery using lipid nanoparticles</u>

⁸ Whitney Webb - <u>As Moderna's Covid-19 Vaccine Takes The Lead, Its Chief Medical Officer's Recent Promotion of</u> <u>"Gene-Editing Vaccines" Comes to Light</u>

⁹ Stat News website - <u>Researchers rush to test coronavirus vaccine in people without knowing how well it works in animals</u>

¹⁰ Time magazine website - <u>Moderna's COVID-19 Vaccine Moves to Phase 2 Testing, and Gets Fast-Track Approval</u> <u>From the U.S. Government</u>

- "I don't think proving this in an animal model is on the critical path to getting this to a clinical trial," said Tal Zaks, chief medical officer at Moderna, a Cambridge, Mass.-based biotech that has produced a Covid-19 vaccine candidate at record speed.

- That isn't how vaccine testing normally happens. Regulators require that a manufacturer show a product is safe before it goes into people, and while it isn't enshrined in law, researchers almost always check that a new concoction is effective in lab animals before putting human volunteers at potential risk.

• Moderna has never produced an approved vaccine or run a large trial. ¹¹

Moderna Connections and Corruption

- Moderna's Strategic Collaborators listed on their website: AstraZeneca, Merck, Vertex, BARDA (Biomedical Advanced Research and Development Authority, a division of HHS), Bill & Melinda Gates Foundation, DARPA, Karolinska, Institute Pasteur. ¹²
- From the Key Milestones page on Moderna's website: ¹³
 - In 2016 Moderna received a grant from the Bill & Melinda Gates Foundation for "up to" \$100M.
 - In 2013 Moderna received a grant from DARPA for "up to" \$25M.
 - In 2017, in collaboration with DARPA, Moderna introduced its first

infectious disease therapeutic development candidate, mRNA-1944.

- As Moderna's stock price soared, in May five top executives sold off \$89 million dollars worth of shares, which led to about \$80 million in profits. ¹⁴
- Using an insider trading mechanism two Moderna executives made out like bandits when Moderna's stock soared after they announced promising early vaccine results. From the CNN Business website: ¹⁵

- Moderna's stock price skyrocketed as much as 30% on Monday [May 18] after the biotech company announced promising early results for its coronavirus vaccine. As ordinary investors piled in, two insiders were quietly heading for the exits.

¹¹ Reuters website - Exclusive: Moderna spars with U.S. scientists over COVID-19 vaccine trials

¹² Moderna's website - <u>Strategic Collaborators</u>

¹³ Moderna's website - Key Milestones

¹⁴ Stat News website - <u>Moderna executives have cashed out \$89M in shares this year, as stock price has soared on</u> <u>vaccine hopes</u>

¹⁵ CNN Business website - <u>Moderna unveiled encouraging coronavirus vaccine results. Then top execs dumped</u> <u>nearly \$30 million of stock</u>

- Lorence Kim, Moderna's chief financial officer, exercised 241,000 options for \$3 million on Monday, filings show. He then immediately sold them for \$19.8 million, creating a profit of \$16.8 million.

- The next day, Tal Zaks, Moderna's chief medical officer, spent \$1.5 million to exercise options. He immediately sold the shares for \$9.77 million, triggering a profit of \$8.2 million.

 In an obvious conflict of interest Moncef Slaoui, a member of Moderna's corporate board, stepped down in May in order to head up "Operation Warp Speed". From the ABC website: ^{16 17}

- The Trump administration's decision to hire its new "vaccine czar" as a private contractor, rather than a government employee, has alarmed some ethics experts who say the designation will involve him in programs that could channel millions of federal dollars into the development of coronavirus vaccine and treatments without requiring he disclose financial holdings or potential conflicts.

- When it was announced two weeks ago that Moncef Slaoui would head up "Operation Warp Speed" to find and distribute a vaccine, the administration described him as "chief advisor," but did not explicitly say he would not be a formal government employee. As a private contractor, he is not bound to the same disclosure regulations and criminal ethics laws as many formal executive branch employees, ethics experts told ABC News.

• More conflict of interest. From the Axios website: ¹⁸

- The NIH [National Institutes of Health] and Moderna have researched coronaviruses, like MERS, for several years, and signed a contract this past December [2019] that stated "mRNA coronavirus vaccine candidates [are] developed and jointly owned" by the two parties. The contract was not specific to the novel coronavirus, and it was signed before the new virus had been sequenced.

 On July 7, 2020 Reuters reported that Moderna has squabbled with government scientists over the process, delayed delivering trial protocols and resisted experts' advice on how to run the study, according to three sources familiar with the vaccine project. ¹⁹

¹⁶ ABC website - Ethics groups call on coronavirus 'vaccine czar' to disclose potential conflicts

¹⁷ Moderna's website - Board Committee and Members

¹⁸ Axios website- The NIH claims joint ownership of Moderna's coronavirus vaccine

¹⁹ Reuters website - Exclusive: Moderna spars with U.S. scientists over COVID-19 vaccine trials

 Moderna, like all makers of vaccines, is indemnified against lawsuits. From an article on the RT website, concerning the Covid vaccines specifically: ²⁰

- Vaccine makers are completely protected, or indemnified, against lawsuits from people who are injected with their vaccine and experience negative effects, regardless of how severe or long-lasting they are.

- Who pays? Because there is a virtual guarantee that in a major vaccination programme some people will be harmed or even killed by the vaccine, some countries have set up special public funds to pay compensation to those affected.

How Badly Do We Need The Vaccine? Is Such An Experiment On Such A Grand Scale Warranted?

 From the September 24, 2023 final update of the CDC website page, Deaths by Select Demographic and Geographic Characteristics, in a section titled, "Comorbidities and Other Conditions": ²¹

- Table 3 shows the types of health conditions and contributing causes mentioned in conjunction with deaths COVID-19.... For over 5% of the deaths, COVID-19 was the only cause mentioned on the death certificate. For deaths with conditions or causes in addition to COVID-19, on average, there were 4.0 additional conditions or causes per death.

Some of the Other Biotech Companies Developing Vaccines Using Gene Editing

Pfizer, BioNtech, CanSino Biologics, Johnson & Johnson, AstraZeneca, and Vaccitech are all among the companies that are developing gene editing Covid vaccines.

• From a May 21st article on the Quartz website: ²²

- With its latest funding agreement, announced today, BARDA [Biomedical Advanced Research and Development Authority, a division of HHS], awarded a \$1.2 billion grant to UK-based AstraZeneca, not just to speed up the research and development of a vaccine, but to reserve 400 million doses of it for the US.

²⁰ RT website - Bubble indemnity: Big Pharma firms will NOT be held accountable for side effects of Covid vaccine

²¹ CDC Website - Weekly Updates by Select Demographic and Geographic Characteristics

²² The Quartz website - The US just bought 400 million doses of a coronavirus vaccine that may never exist

- Altogether, BARDA has invested in four coronavirus vaccines under development. By far the largest investment is in AstraZeneca, followed by over \$456 million invested in US-based Johnson & Johnson's Janssen Research & Development, then by about \$430 million given to Moderna, also in the US. The investment to Sanofi is the smallest in BARDA's vaccine portfolio so far.

- US firm Pfizer and German BioNtech are collaborating on a vaccine. Pfizer and BioNTech were granted an FDA fast-track for two of their investigational vaccines, BNT162b1 and BNT162b2. The BNT162b1 vaccine is an mRNA vaccine. ²³
- The CanSino Biologics, Johnson & Johnson, and the Oxford / AstraZeneca / Vaccitech vaccines are using the new adenovirus vector platform. ^{24 25}
- The adenovirus vector platform differs from the mRNA method but is also gene editing. The way the adenovirus vector platform works is that researchers take the genome of the adenovirus and cut out the section that allows it to reproduce. Then they splice in a section of DNA that codes for the spike protein, turning the adenovirus into a recombinant vector. Once in the nucleus, the DNA coding for the spike protein is transcribed into mRNA and then transported out of the nucleus into the cell's cytoplasm, where it's translated into protein. ²⁴ ²⁵

Relevant Links

The Science Behind Vaccine Research and Testing

Moderna: A Company "In Need Of A Hail Mary" - Article by Whitney Webb, October 7, 2021.

COVID-19: Moderna Gets Its Miracle - Article by Whitney Webb, October 28, 2021

²³ MSN News website - Oxford-AstraZeneca, Pfizer-BioNtech & Moderna – how the 3 potential Covid vaccines stack up

²⁴ Vox website - These Covid-19 vaccine candidates could change the way we make vaccines - if they work

²⁵ Chemical and Engineering News website - <u>Adenoviral vectors are the new COVID-19 vaccine front-runners. Can</u> <u>they overcome their checkered past?</u>