Acceptance speech

16 June of 2022

Drew Weissman, awardee in the Biology and Biomedicine category (14th Edition)

Those who know me, know that I'm more comfortable in my lab than I am in front of an audience. And no offense intended, but I would much prefer to be *there* than in front of a camera right now.

My wife, Mary Ellen, and children Rachel and Allison, are often frustrated by my disinterest in celebrating success. When research indicated that the BioNTech/Pfizer and Moderna mRNA vaccines surpassed 90 percent effectiveness at preventing COVID-19 and almost 100 percent effectiveness at preventing hospitalizations from COVID-19, my family wanted to do something special to mark the occasion. Once we were fully vaccinated, I said, "alright, if you really want to celebrate, I guess we can go have a nice dinner or something." I just wanted to get back to work.

I am, however, truly grateful that work I was involved in has helped the world. That is the hope of every physician-scientist. I am incredibly honored to be the recipient of a BBVA Foundation Frontiers of Knowledge Award and be counted among a remarkable group of recipients, which includes my colleague and long-time scientific partner, Dr. Katalin Karikó.

At Penn, Dr. Karikó and I investigated mRNA as a medical intervention. We have had 25 years of collaboration. While our personalities are very different, we are both open-minded and were excited by the promising possibilities of an area of medicine we did not feel had been sufficiently explored. So, we conducted experiments. Each spark of something interesting, whether a finding we expected – or even more exciting, the ones we didn't – motivated us to continue. Working together, we designed and conducted experiments, often trading emails into the early hours – unable to wait until the next day to share particular findings or ideas. We just kept working.

Although the investigations that we began over two decades ago have culminated in significant discoveries and a vaccine against a pandemic-causing virus, the work left to do, and the potential of mRNA vaccines, therapeutics, and gene therapies, continue. I'm thrilled to say that my lab at

the University of Pennsylvania is working on creating new mRNA vaccines to guard against a host of infectious diseases, like influenza, malaria, and HIV, and even a pan-coronavirus vaccine that could offer prevention from all viruses that fall into the "coronavirus" category.

Equally important to making the discoveries is ensuring everyone is able to realize the benefits. We are working closely with researchers in other countries to help them create their own mRNA vaccines for COVID-19 to increase the global supply for people in low- and middle-income countries. And we are taking opportunities to educate people on the science behind this often misunderstood vaccine.

Scientists know the work is never over because, as much as it's black and white when looking at data on the page, the implementation and utilization of these discoveries is open ended and contains infinite possibilities. Our work is never over because our fellow human beings need scientific breakthroughs. They need the continuous toil of scientists. They need them not just for health disasters reaching pandemic proportions but for diseases and maladies that have plagued our world for hundreds and even thousands of years. They need them for infectious diseases, autoimmune diseases, neurologic diseases, and rehabilitation after trauma. They need knowledge, teachers, therapeutics, techniques, and access. They need results that come from millions of people around the world who *every day* use their skills and talents to investigate the unknown.

Tonight, I will take a second to appreciate how fortunate I am that work we conducted has, simply, helped millions of people around the world. And I will take a second to appreciate the great honor the BBVA Foundation has given me. But I also want to recognize the scientists who are "at home" in their own labs right now, fueling the engine of progress, doing the work that may lead to something amazing. I'll join you back home in my lab in the morning… or if I get antsy, maybe in a few hours. Together, we'll see what the future holds.

Thank you!