

## One Step Closer to the End of COVID

As I sat in the chair and pushed my shirt sleeve as high as possible over my “muscular” deltoid to prepare for my first dose of the Pfizer-BioNTech vaccine, I reflected on the prior two weeks spent on service. Five of the patients I had rounded on were infected with COVID-19. I was thankful to have known their infection status before their arrival on the floor and to have the opportunity to protect myself with PPE. That is not always the case; during the same period, a patient positive for COVID-19 managed to make it past all of our screenings and into an exam room in my outpatient clinic.

As I took the histories and performed the physical examinations of the patients infected with COVID-19, I found myself mentally forming an image of SARS-CoV-2 particles filling the room. I wondered how effective my N95 mask really was, especially in light of the fact that it had probably been worn past its prime in an effort to save PPE. I imagined viral particles clinging to my hair cover, face shield, and gown. One time while doffing my PPE, I am quite sure that I saw virions being tossed back into the air and landing on someone down the hall.

SARS-CoV-2 is a highly infectious virus that has reached people in nearly every country in the world. One early estimate, supported by multiple sources, was that 70% of people needed to be immune to achieve herd immunity. By contrast, the threshold for herd immunity to measles—the world’s most contagious disease—is 95%. The Centers for Disease Control was able to declare measles eliminated from the United States in 2000 (37 years after the vaccine had first been introduced), thanks to high rates of vaccination. I was therefore amazed to read about the multiple outbreaks of measles in regions where the vaccination rates had fallen to below 95% owing to anti-vaxxers. The CDC reported 1282 cases of measles in the United States in 2019, according to its website. The fact that these outbreaks began with cases imported from other countries underscores the importance of a worldwide approach to the control of highly contagious diseases. Failure to vaccinate remains a problem with measles, and it will likely remain a problem with COVID-19 for a very long time. The problems related to resistance to COVID-19 vaccination will be especially daunting if the herd immunity threshold is closer to 90%, which is the percentage that Dr Anthony Fauci cited more recently—a notable moving of the goalposts.

So where does all this leave us? As of late 2020, we have two vaccines approved for emergency use in the United States. We are far from finished with COVID-19, however. I fear that vaccine distribution, both here and

worldwide, will lay bare some dark truths about human nature. In the United States, questions over vaccine distribution arose immediately. Although most people agree that first vaccinating health care providers in contact with patients



infected with COVID-19 makes sense, the next steps are less clear. Do we focus on elderly people, or on those with comorbidities? Do we give priority to essential workers, even if they are young and healthy? In a *New York Times* article from December 24, “People are Dying. Whom Do We Save First With the Vaccine?” five thinkers weighed in on what they believe would be the correct approach. These assessments represent intellectual discourse, however, not practical implementation strategies.

A thoughtful strategy is one that fair and that provides the quickest path to successfully controlling the pandemic. It also needs to be followed. We have already seen reports of a network of health clinics in New York State providing vaccinations to members of the public who are not yet eligible. The consequences will be devastating if large numbers of people, whether through wealth or other privilege, are able to obtain the vaccine before it is their turn. The Black Lives Matter movement has already highlighted the effects of unfair policing procedures on minorities. The vaccine rollout, if mishandled, may lead, rightfully so, to a similar movement. Any deviation from the preplanned procedure will be unacceptable. Given the current questions regarding the US government’s leadership in handling COVID-19, it is critical that Americans have available a trusted source of information. We hope that Dr Fauci and his colleagues in the administration will be up to the task. We as physicians are at risk of getting caught between benefiting the patient in front of us vs those in society at large. This is a burden that should not rest with one individual.

In the meantime, having been one of the lucky ones offered a vaccine early in the process, I do feel an obligation to return the favor and continue to volunteer to cover patients infected with COVID-19. Although this might sound magnanimous on my part, it really is not, as I’m on my way to optimal protection from the vaccine. Because coronavirus immunity tends to not be lifelong, it remains to be seen how long that protection will last.

Sincerely,

Richard R. Furman, MD