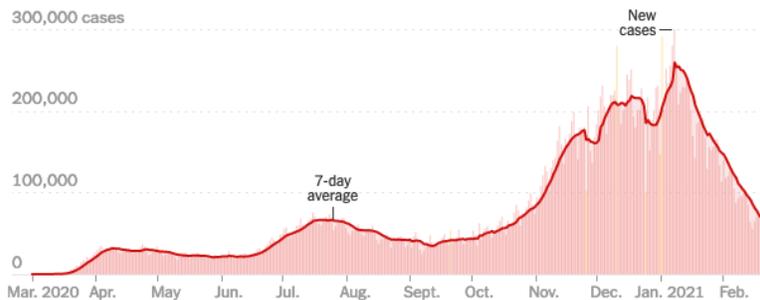


I am pleased to report that the **US has made significant recent progress and the trends for coronavirus infections, hospitalizations and deaths continue to decline.** Furthermore, as temperatures rise, people move outdoors and we enter Spring and Summer seasons, the pandemic is expected to continue to abate. An editorial in the Wall Street Journal last Friday by Dr. Makary, a respected public health expert from Johns Hopkins and personal friend of mine, describes his expectation that the pandemic should be mostly over by end of April. He bases this conclusion on a couple of factors. Despite the table below showing about 28M documented infections, we know our testing system has been very inadequate and many asymptomatic cases are never counted. Dr. Makary believes there are likely 6x as many infections than we know about and Dr. Scott Gottlieb, former FDA commissioner, thinks it is more likely about 4 or 5 times. That would equate to >120-180M infections, almost half of the US population (and more than half of adults). 50% infected is not yet high enough for complete herd immunity (requires about 80%) but it is enough to significantly slow the further spread of COVID-19 as fewer people are susceptible. Plus, about 13% of the population has now received at least one vaccine dose, which some recent studies suggest is about 80% effective, with the 95% efficacy level reached with the 2nd booster dose. At a rate of 1.5M vaccines/day (see graphs below), in another 2 months we should have close to 90M more citizens immunized, which would bring the total percentage of 'safe' individuals to about 75% of the US.

<https://www.wsj.com/articles/well-have-herd-immunity-by-april-11613669731>

Coronavirus in the U.S.: Latest Map and Case Count

Updated February 23, 2021, 2:26 P.M. E.T.
[Leer en español](#)



	TOTAL REPORTED	ON FEB. 22	14-DAY CHANGE
Cases	28.2 million+	59,462	-40% ↘
Deaths	501,044	1,454	-28% ↘
Hospitalized		55,403	-31% ↘

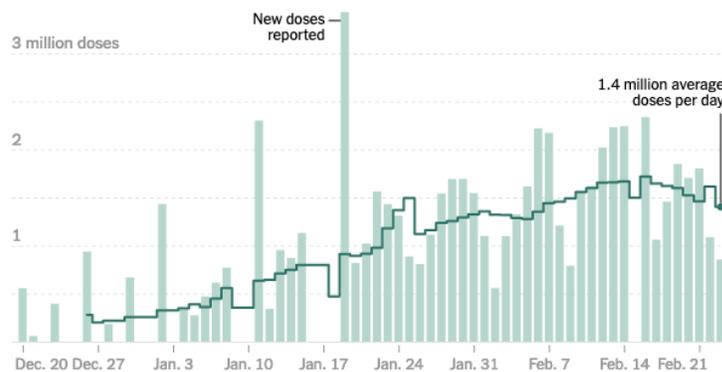
■ Day with reporting anomaly. Hospitalization data from the Covid Tracking Project; 14-day change trends use 7-day averages.

Vaccinations are proceeding well and to date there are **no reported serious adverse side effects following >50M shots administered**. The effectiveness is proving excellent for all the vaccines worldwide and the Johnson & Johnson single dose vaccine will likely be approved this week and available soon. We currently have about 70% of our QDP workforce vaccinated or planning to receive one. We hope the remainder of our teammates see how safe and effective they are and will plan to get vaccinated when available to them. The faster we all help the US reach herd immunity the better our economy will recover and we all can travel, socialize, shop, eat and drink in safety.

How Quickly Are Shots Going in Arms?

Providers are administering about 1.4 million doses per day on average.

New reported doses administered by day



Source: Centers for Disease Control and Prevention | Note: Line shows a seven-day average. Data not updated on some weekends and holidays.

5.6%

Total US population
fully vaccinated
(56,083 per million)

13.0%

Total US population
having received
at least 1 dose
(129,663 per million)

Fully vaccinated people are persons who have received all doses required per vaccine

Vaccination is also critically important to reduce transmission and prevent new variants from arising.

Covid-19 vaccination delays could bring more virus variants.

Scientists say the world has reached a precarious point in the pandemic, one where conditions are ripe for the rise of more new coronavirus variants that could [complicate efforts](#) to control the disease. The virus continues to spread rapidly in many parts of the world, even as segments of the population have gained some degree of immunity as a result of having been infected or vaccinated. Scientists say that combination—high rates of viral transmission and a partially immunized population—encourages the emergence of variants that are potentially more transmissible or more lethal. More transmission means more opportunities for the virus to evolve.

So far the variants from UK, South Africa and Brazil seem to be more easily transmitted, but not necessarily more deadly or severe. Our current vaccines show very good effectiveness against these variants in preventing serious illness and death, even if not completely preventing mild

infection. Experts predict that if we can reduce transmissions through vaccination then fewer variants will arise and they will be easier controlled. Booster shots may be needed next fall or winter, but this would be similar to annual flu shots that are developed to combat the current strain(s) circulating in the community.

Vaccines 101 – How the different vaccines work and how our immune system responds

After infection, your immune system produces antibodies to fight the virus.

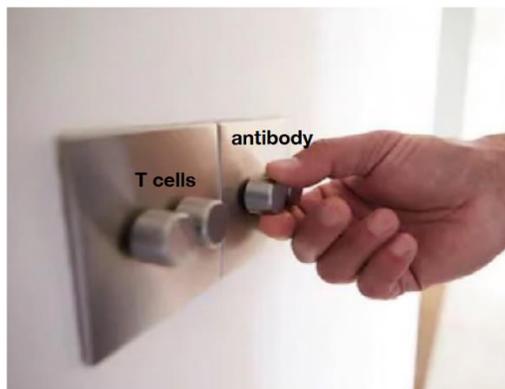
**Antibody response
to infection/vaccination
is not ON/OFF**



More like a dimmer switch



Or a panel of dimmer switches



The immune system includes antibodies and other responses like T-cells that have a 'memory' of a prior infection or vaccine.

Q: Should I get a vaccine if the virus is changing?

No vaccine

The switch is "off"



With vaccine

Perfect match



YES, if you get infected with a typical coronavirus you should have excellent protection – [the room is as brightly lit as a completely sunny summer day](#)

BUT, if you get infected with a variant/mutation, you still get very good protection and likely enough that you won't get seriously sick, go to the hospital, or die – [the room is bright like an overcast fall afternoon, but plenty bright enough to read](#)

No vaccine

The switch is "off"



With vaccine

Perfect match



Mutation cluster



Moderna: "No reduction with UK. 6-fold reduction for South African, but still above level expected to be effective."

Finally, here is an **excellent Question and Answer column** from the Washington Post that responds to many of the concerns and issues I have read about, thought about or been asked about myself.

https://www.washingtonpost.com/opinions/2021/02/18/covid-questions-coronavirus-leana-wen/?utm_campaign=wp_week_in_ideas&utm_medium=email&utm_source=newsletter&wpisrc=nl_ideas&carta-url=https%3A%2F%2Fs2.washingtonpost.com%2Fcar-ln-tr%2F2fa1323%2F60324b819d2fda4c88ecc964%2F5ea7adecae7e8a43601e5b39%2F10%2F74%2F60324b819d2fda4c88ecc964

While there is much good news and optimism, we still have suffered an enormous loss of life, health and prosperity. 500,000 COVID-19 deaths should serve as a warning not to let down our guard yet. **We still need to remain cautious and diligent, committed to our safety protocols and personal efforts to mask, distance, wash our hands and stay home if sick.**

Stay well and safe,

Dr. A