

Monday, July 27, 2020

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**COMMENTARY** 

## If We All Get COVID Anyway, Should We Just Get It Over With?

F. Perry Wilson, MD, MSCE

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If We All Get COVID Anyway, Should We Just Get It Over With?

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This transcript has been edited for clarity.

Welcome to Impact Factor, your weekly dose of commentary on a new medical study. I'm Dr F. Perry Wilson at the Yale School of Medicine.

In the early days of the coronavirus pandemic, the phrase "flatten the curve" got into the national zeitgeist.

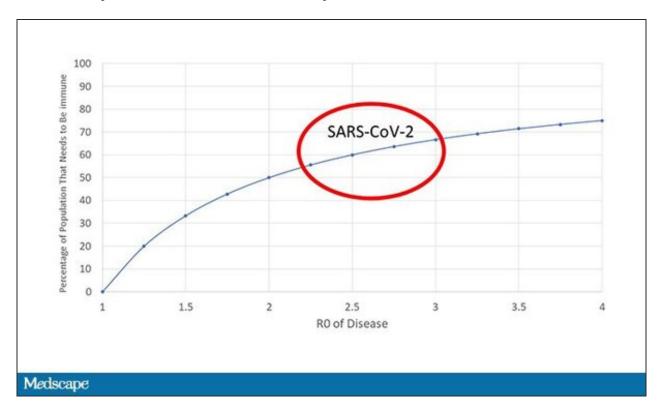
By shutting down large aspects of society and implementing social distancing and other public health measures, we would slow the spread of the coronavirus to avoid overwhelming our hospital system. Grim stories from Italy of triaging ventilators and patients dying in corridors made the problem that much more real.

And so far, it seems we *have* flattened the curve. We have not had to deny life-saving treatments because ventilators or ICU beds were not available. This was due in no small part to herculean efforts by healthcare workers to expand capacity, but also to the efforts of everyday Americans who took the precautions seriously.

But one question has been sitting in the back of my mind since the talk of curve-flattening started: Does everyone get the coronavirus eventually?

It's an important question. This is a novel virus for which none of us are likely to have any existing immunity. We are ripe for infection, and the rate of spread (without social distancing) is rapid. The presence of asymptomatic spread makes the situation even worse.

Of course, the more people get it, the more people become immune and the harder it is for the virus to continue to spread. The equation to calculate the percentage of the population that needs to be immune to confer broad herd immunity is pretty straightforward: it's 1 - 1/R0. If each person with the disease infects three others, then once two out of three people are immune, the disease doesn't have enough targets to keep spreading. I made a graph showing the relationship between the R0 and the population percentage necessary to confer herd immunity here.



For COVID-19, we probably have to have 65%-70% of the population immune before the thing dies out. I'll just point out that we are nowhere close to that. Even in New York City, the American epicenter of the disease, seroprevalence studies suggest that only about 25% of the population is

## immune.

If our battle against coronavirus is a baseball game, we're somewhere in the second inning.

But if 65% of us are going to get it eventually, then you can make a particularly utilitarian and somewhat strange argument about our public health measures: Maybe we should flatten the curve *just enough* to avoid overwhelming our hospitals, but no more.

Get through this as quickly as possible without leading to excess deaths.

It even gives a quantifiable metric to score the government's response: As long as a single person doesn't get denied care because of hospital overcrowding, it's a victory.

There's a lot that's appealing about this argument.

But I want to deconstruct it a bit from a practical, epidemiologic, and ethical perspective.

First, the practical. Delaying the spread of the disease doesn't *only* help hospitals cope with surges; it also buys us time to do medical research, identify treatments, and find vaccines. And I want to point out that this isn't all pie-in-the-sky, maybe we'll have a large randomized clinical trial of a new drug. This is highly practical stuff as we figure out how to treat COVID-19.

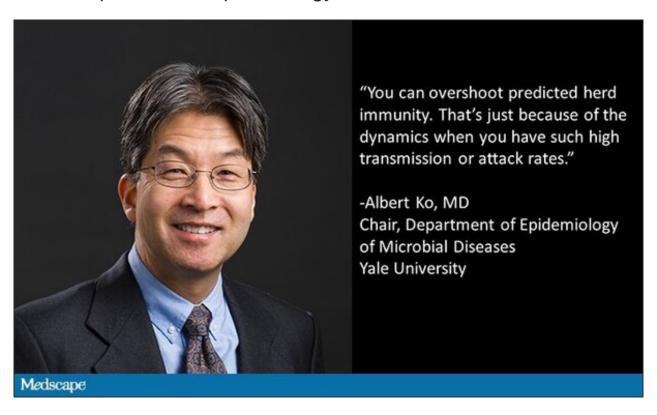
Think of how much we've learned in these few months—about the utility of proning, about delay of intubation, about the risk of thrombosis—that are changing how we care for these patients.

You're way better off getting sick from coronavirus now than you were in March.

Another practical issue is that there is really no way to skirt *just* under overwhelming our hospitals. We can't just dial up and dial down the disease spread; it is different in different places and substantially lags policy choices. There's also a stochastic element here: Outbreaks will happen and they will

not be predictable.

Second, the epidemiologic. It turns out that outbreaks don't just stop when you reach herd immunity. They have inertia. Here's Dr Albert Ko, chair of Yale's Department of Epidemiology of Microbial Diseases:



Finally, the ethical. Even if we assume that the total death rate is the same (which I hope at this point that I've convinced you is not the case), compressing those deaths into a shorter period of time still robs people of life. I mean, look—100% of people die eventually. As physicians, the war against death is one we will always lose. But we fight the battle to push that day as far into the future as possible. I think we need to keep that in mind as we continue to struggle with COVID-19. Every day is a victory.

F. Perry Wilson, MD, MSCE, is an associate professor of medicine and director of Yale's Program of Applied Translational Research. His science communication work can be found in the Huffington Post, on NPR, and here on Medscape. He tweets @methodsmanmd and hosts a repository of his communication work at www.methodsman.com.

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