Why would we intentionally infect people?

Scientists at Oxford University raised hopes this week when they announced plans to expand testing for a potential coronavirus vaccine that if proven effective could be ready for emergency use as soon as September. Most vaccines take a decade or longer to make, and none has ever been developed in less than four years.

But last week, the Congress proposed an extraordinary practice that some scientists think could compress the timeline even further: deliberately infecting volunteers. The idea is known as human challenge.

Who in the world would volunteer to get infected?

Actually, a lot of people. Scientists argue that the idea is not as radical as it sounds: According to one study, the coronavirus's fatality rate for 20- to 29-year-olds in China was 3 in 10,000 — the same as that of kidney donation surgery and roughly twice that of childbirth in the United States.

Would it be ethical?

We already allow people to risk their lives for the collective good. Firefighters, for example, are routinely called upon to rush into burning buildings. The question, then, is whether the study's potential cost would be low enough to *warrant its potential benefit*. Besides recruiting only healthy, young volunteers and guaranteeing them the best care, the authors delineate four ways in which the study would minimize risk:

- The vaccine may protect some of those who receive it.
- *Absent an effective vaccine*, a high proportion of the general population is likely to get Covid-19, so some volunteers may simply be *pushing their illnesses forward.*
- Only people who already have an especially high risk of exposure would be recruited (e.g., New Yorkers).
- Volunteers would get priority for any treatments that may become available.

But many researchers and bioethicists *frown at* the idea of coronavirus human-challenge trials. For one thing, the risks are hard to measure since the virus is so new that we don't know how often people get seriously ill or what its long-term complications are.

There are also thorny ethical questions beyond risks and benefits. Justice considerations also matter, such as whether the risks are fairly distributed. There are also other criteria: community engagement, fair selection of participants, *informed consent*, and payment that compensates for time and inconveniences.

Would it be worth it?

It's possible that human-challenge trials wouldn't actually speed up the process. Infections are still climbing rapidly in many places, so conventional trials could reveal a vaccine's efficacy on the same timeline.

The benefit would also depend upon *getting a lot of administrative ducks in a row*. For example, researchers would need to coordinate globally to ensure consistency across trials and to ascertain whether the Food and Drug Administration would even accept the results. And even if all goes well, more studies might be needed to prove the vaccine is safe and effective for older populations.