COVID-19: Who Is Infectious?

The current approach in this country is to screen people who are sick. At a time of limited testing capacity, we are doling out the tests to a chosen few, with a focus on those with symptoms. We are focusing a lot on identifying, testing, and sequestering those who are sick.

For example, many health systems are surveilling their health care workers and want to know – who has symptoms? Who has a fever? The emphasis is on telling people to stay home if they are sick because they may spread the virus. Many others are doing the same - those that have not yet closed down. But I think this approach to focus on those with symptoms is folly if we think it will break the chain of virus transmission.

It’s not that we should stop encouraging people who are sick to stay home – to stay away from crowded places – and, for goodness sakes, to stay off planes and trains. We should. They should stay home for their own benefit – to rest and recover. They should also stay home not to infect others – whether they have COVID-19 or not.
But we should not delude ourselves to think that is an effective strategy to stop the chain of virus transmission. What is clear is that people can be infected without symptoms. For example, the NBA player, Christian Wood of the Detroit Pistons, tested positive – and had no symptoms. In fact, in the days before testing, he had a career high 32 points. He presumably was infected several days before that in contact with Rudy Gobert of the Utah Jazz, who was the first NBA player to test positive.

Evidence from South Korea and Italy is reinforcing how our testing strategy can lead us astray. Italy, like the United States, has focused on testing people who are ill. South Korea has taken a more national surveillance approach, making testing widely available. In Italy the distribution of people testing positive is skewed toward older age. This distribution makes us think that mostly the older population is infected. But in South Korea, the distribution is quite different, with a skew toward younger people and a peak around 20-29-year olds, the groups that may be socializing the most. Even many children were testing positive at much higher rates than Italy. The implication is that there are a lot of people out and about who are positive, but not overtly sick – and are vectors for spread.

In an article published in medRxiv, a preprint server that posts studies before peer review, scientists from Europe using public data, estimated that about half the cases or more in Singapore and Tianjin, China are from transmission from people without symptoms.

The fact that many people without symptoms are walking around has important implications not because of their contact with others, but because of indirect spread. Indirect spread occurs, in part by contamination of common objects. The CDC reported about indirect COVID-19 transmission in a shopping mall in Wenzhou, China. Experts from the US, again in medRxiv, reported that the virus causing COVID-19, can survive on many common surfaces for many hours or even days.

So what does this mean? We should all consider ourselves infectious. We may carry the virus and can be a threat to others even if we feel well.
This is the strong justification for the social distancing. We should particularly not be visiting elderly people. We should be avoiding crowds. We should be washing our hands and wiping surfaces with disinfectants.

We should also know that we cannot be sure who might infect us – or what surfaces might transmit the virus. COVID-19 spreads quickly through a population – and this asymptomatic spread is likely a reason. And with scarce testing in this country, we have no real idea where it is and who has it.

This information is not meant to scare you or cause anxiety. It is intended to convey why the social distancing is so important. It is also to make clear why we cannot just focus on how people feel as a barometer of whether they might be infected. We are not containing the virus by just sequestering the people with symptoms. We all need to practice good habits in keeping a distance. We need to test more. And we need to all act as if we could be infectious... of those around us could be.

If we are to slow the spread, flatten the curve and protect the most vulnerable – we must consider ourselves infectious - as well as those around us. We might be. They might be. We must do this, as part of our citizenship in the world – as part of our responsibility to each other – to protect each other – and break the chain of transmission. We can make a difference.

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