Every Picture Tells a Story: Pandemic to Endemic?

By Chuck Dinerstein, MD, MBA — February 22, 2021

How will the COVID-19 pandemic end? Will it burn itself out, find an equilibrium more like the seasonal flu, or will it continue to rage despite all we try?

“Nature asked more than 100 immunologists, infectious-disease researchers and virologists working on the coronavirus whether it could be eradicated. Almost 90% of respondents think that the coronavirus will become endemic.”
CORONAVIRUS: HERE TO STAY?

SARS-CoV-2 has spread so far around the world that it is very unlikely to be eradicated. Here are some of the key factors that are likely to lead to it becoming endemic.

1. Does immunity (from vaccines or infections) wane?
   - No
   - Yes: Will the virus evolve to escape the immune system?
     - No
     - Yes: Vaccines might need to be reformulated regularly
     - Yes: Can the virus persist in animal reservoirs?
     - No
2. Can vaccines block transmission?
   - Yes
   - No: Is vaccine coverage wide enough to reach herd immunity?
3. Can vaccines prevent severe illness?
   - Yes: the virus will continue to circulate. But once people are protected from severe illness, it might cause only mild to moderate disease.
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Yes: rather like measles, the virus might be eliminated in regions that reach herd immunity, with the threat of re-introduction from other regions.

Yes: the virus could spill back into people and cause future outbreaks.

No: might be eradicated.
90% thought it might end as an endemic disease. For a deeper dive, here is the full story [2]