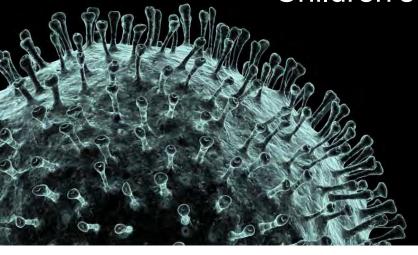
## **COVID-19 Conversations**



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## SARS-CoV-2 Vaccine Strategies

- Whole, killed virus (like IPV, HAV, rabies)
- Live, attenuated virus (like measles, mumps, rubella)
- Purified viral protein (like HPV, HBV)
- Vectored vaccine (like dengue, Ebola)
- Replication defective adenovirus (no existing platform)
- mRNA (no existing platform)
- DNA (no existing platform)

## Typical vaccine development

- Animal model studies to prove concept.
- Safety, immunogenicity, and dose-ranging studies in hundreds to thousands of people (Phase 1,2).
- Phase 3, pre-FDA licensure safety/efficacy study.
  - RotaTeq—70,000
  - RotaRix—60,000
  - HPV—30,000
  - PCV-7—35,000