Can we have safe vaccines for COVID-19 in the near future?

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Ezekiel J. Emanuel et al. wrote an article entitled "An ethical framework for global vaccine allocation" (1). However, based on the past lessons from SARS and MERS, as of Today, there are no vaccines for SARS and MERS respectively. In other words, we may have no chance to have safe COVID-19 vaccines in the near future. The followings are short stories of no vaccines for SARS and MERS.

SARS was first recognized in Guangdong Province, China in November of 2002. It then spread extremely rapidly to other regions within China, Hong Kong, Vietnam, Singapore, Taiwan, and Toronto, Canada in the early half of 2003 (2). Altogether, more than 8,000 people were documented to have been infected with SARS-CoV and over 800 died (2). Despite the large amount of knowledge that has been gained about SARS-CoV following the outbreak, there are still no vaccines or antivirals approved for preventing or treating SARS-CoV infections (2,3). Because of the mysterious disappearance of the first SARS virus, in July 2003, the WHO declared the threat over (4).

MERS remains centered in Saudi Arabia. A sharp uptick in cases occurred in the spring of 2014, tripling the number of cases and deaths since the end of 2013 (2). As of Today, there is no vaccine or specific treatment for MERS (2,3). 858 MERS-CoV associated deaths have occurred since September 2012 (5).

## References:

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