

# Coronavirus Research-Need of the Moment

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## Commentary

A novel coronavirus (nCoV) has been identified to be cause of outbreak of respiratory illness in Wuhan City, China in 2019. This Novel Coronavirus Disease (Covid-19) has almost affected public health and economy all over the world. Hence, the research to find the sources of cause and developing stable vaccine and covid-19 health products to contain wide spread of virus and to extend help to the already infected has become a need of the moment. To fast track the Covid-19 research, World Health Organization (WHO) is bringing together renowned scientists and health professionals from across the globe and steps taken to mobilize diagnostics, vaccines and therapeutics for the coronavirus pandemic. WHO is in the process of gathering knowledge gained from Covid-19 research being done at multiple nations. This will serve as up-to-date exclusive literature on the topic. Apart from WHO, there are other resources also available for giving latest information on Covid-19 research. They are BMJ, Cambridge University Press, Chinese Medical Association, Centers for Disease Control and Prevention, European Centre for Disease Prevention and Control (ECDC), JAMA Network, Oxford University Press, Science etc.

Coronavirus investigators who have been involved in research from past 30 years are familiar with many features of coronavirus biology, genetics and pathogenesis. This has led to the great understanding of their adaptations to new environments and emergence of new diseases. Advances in cellular and molecular biology techniques and with the availability of reverse genetics methods from past 5 years is helping scientists in gaining increased understanding of replication of virus inside the cell. Identification of the unique properties of coronavirus infection and interpreting critical points which can be

targets for antivirals or vaccines is now possible with the recent technical advancements.

From across the globe, more than 160 vaccines are under development for novel coronavirus. As per reports from WHO, 25 vaccine candidates are in human clinical trials stage and 139 are under pre-clinical stage. Some of the companies are showing great promise and excited the world with their research so far. Moderna Therapeutics is one such company whose Phase-I trials started very early in Mid-march 2020. Now, it successfully finished Phase-I and Phase-II trials and planning to conduct phase-III trials with 30000 volunteers.

Many private Indian pharmaceutical and biotechnology companies are now involved in laboratory research and field trials. Currently in India, two vaccines are being tested and many more are to come. India is involved majorly in Covid-19 research for global supply of vaccine. The nation would play a major role in vaccine production and marketing. Serum Institute of India being a largest manufacturer of vaccines in the world collaborated with Oxford University and AstraZeneca in developing and production of Coronavirus vaccine. This vaccine candidate will surely bet other investigators and is currently undergoing Phase-III trials. Indian companies, Bharat Biotech and Zydus are also involved in developing vaccine. Their vaccine candidates are currently under one of the three stages of human clinical trials. Gennova Biopharmaceuticals is currently conducting pre-clinical trials for its mRNA vaccine candidate and about to start phase-I clinical trials in coming October 2020. India is likely to produce large amounts of vaccine irrespective of who develops vaccine first.