# How Did We Get COVID-19 Vaccines So Fast?

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Less than a year since the beginning of the COVID-19 pandemic, several vaccines have already been developed and approved. This bulletin explains how this happened so quickly. **The information in this bulletin has been verified by doctors and researchers.**

## 1. Scientists, governments and international agencies were preparing for a pandemic.

- Scientists, governments and international agencies from different countries have been expecting a pandemic for many years and had already created partnerships to speed up the process of developing vaccines.
- COVID-19 is not a completely new type of virus. It is similar to other coronaviruses such as the SARS virus, which has been extensively studied.
- The mRNA technology that has been used to produce the two vaccines available in Canada (Pfizer-BioNTech and Moderna) had already been developed and investigated for other infectious diseases. Thus, this technology could be utilized very quickly once the COVID-19 virus was identified.

## 2. Everyone was working efficiently at the same time.

- The genetic material from the virus was identified very quickly and was made public.
- Increased global funding was dedicated to COVID-19 vaccine research.
- Tests and research were going on at the same time in different centres.
- Researchers working on the development of the vaccines used electronic methods to collect and share their data in efficient ways.

## 3. Many people volunteered for testing.

Vaccines cannot get approved until they have been tested on a large number of humans. These are called “clinical trials”. There was a lot of public support for the COVID-19 clinical trials and thousands of people of all backgrounds volunteered quickly to participate in the trials. So the size of the clinical trials to develop the COVID-19 vaccines was much larger than what is typical of such trials.

## 4. High infection rates helped with vaccine testing.

- High rates of COVID-19 infections made it easier to see whether the vaccines provide protection against COVID-19. Within a short period of time, there was a significantly higher number of people getting sick from COVID-19 in the group that did not receive the vaccine compared to the group that received the vaccine. This demonstrated that the vaccine was effective.
- Often, researchers have to try several times before they create a vaccine that is effective. But the first COVID-19 vaccines worked well during testing.

## 5. Review and regulation processes started early.

In the past, governments and other regulatory bodies began their vaccine review processes only after research and testing had been completed. But this time, they reviewed research data during each stage of research, which made the review process more efficient. No safety steps were skipped. Administrative processes were performed simultaneously with the research process, which saved a tremendous amount of time.

We have been very fortunate to have COVID-19 vaccines produced and distributed within one year. It is reassuring to know that none of the safety processes used to develop vaccines was omitted in the development of the COVID-19 vaccine.

## For more information about how the vaccines were approved in Canada, visit Health Canada's webpage here:

https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection/prevention-risks/covid-19-vaccine-treatment.html (English)

https://www.canada.ca/fr/sante-publique/services/maladies/2019-nouveau-coronavirus/prevention-risques/covid-19-vaccins-traitements.html (French)

**The information in this bulletin has been validated by Canadian doctors: Meb Rashid MD, Assistant Professor, University of Toronto; Vanessa Redditt, MD, Lecturer, University of Toronto; and Isaac I. Bogoch, MD, Associate Professor, University of Toronto**