

Quick Facts! Vaccine Development and COVID-19

VACCINE BASICS

What is a vaccine?

A vaccine is usually made from molecules that look like pieces of the infection in question. This is done to help stimulate the body's immune system to fight the disease faster and more effectively.

How do vaccines work?

Vaccines help your immune system fight infections faster and more effectively. When you get a vaccine, it sparks your body's immune system into creating antibodies (proteins) and cells that can fight the infection. If you are ever exposed to the disease, it helps your body remember and able to fight the disease. Many vaccines provide long-lasting immunity to serious diseases without the risk of serious illness.

What is a clinical trial?

During a clinical trial, a vaccine is tested on people who volunteer to get vaccinated. Clinical trials usually start with 20 to 100 volunteers, but eventually include thousands of volunteers. These tests take several years and answer important questions like:

- Is the vaccine safe?
- What dose (amount) works best?
- How does the immune system react to it?

Throughout the process, FDA works closely with researchers and the company producing the vaccine to evaluate the vaccine's safety and effectiveness. All safety concerns must be addressed before FDA licenses a vaccine.

Get more information at:

<https://www.vaccines.gov/basics>

PHASES OF RESEARCH

Every vaccine research study asks questions about how the vaccine works and interacts with the body. This section breaks down these questions based on the phases of clinical research.

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PHASE 1

- 20-100 healthy volunteers
- Is this vaccine generally safe?
- How does this vaccine interact with a person's immune system?
- Are there any serious side effects?
- How is the size of the dose related to side effects?

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PHASE 2

- Several hundred volunteers
- What are the most common short-term side effects?
- How are the volunteers' immune systems responding to the vaccine?

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PHASE 3

- Hundreds or thousands of volunteers
- How do people who get the vaccine and people who do not get the vaccine compare?
- How safe is the vaccine?
- Is the vaccine effective?
- What are the most common side effects?

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PHASE 4

- Post-marketing studies identify additional uses of the vaccine (e.g. does it work in older people, is it safe in pregnant women?)

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FDA LICENSES A VACCINE ONLY IF:

It's safe and effective

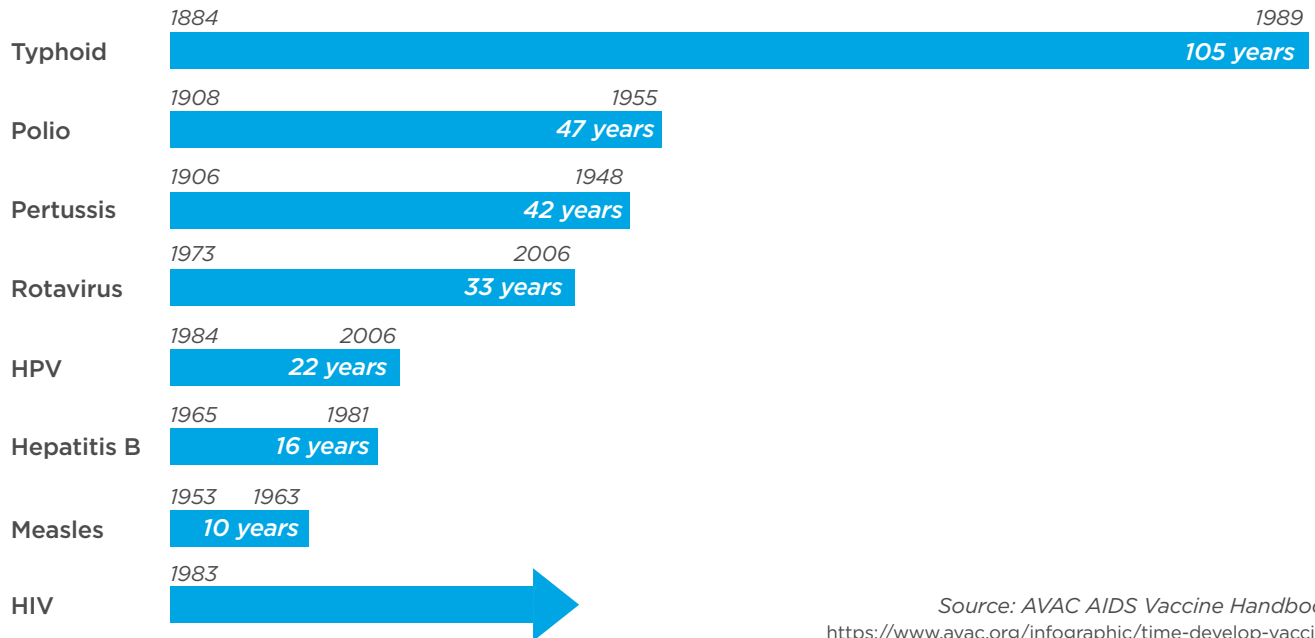
AND

Benefits outweigh risks



TIME TO DEVELOP A VACCINE

Historically, it has taken many years to develop vaccines for infectious diseases. Many scientists, doctors, and volunteers are working together to develop a vaccine for COVID-19 as quickly (and safely!) as possible!



Source: AVAC AIDS Vaccine Handbook
<https://www.avac.org/infographic/time-develop-vaccine>

GET INVOLVED

Interested in learning more about COVID-19 research or participating in a clinical trial? Contact our study teams at:

CAB

- <https://www.bhrcab.com>
- cab@fenwayhealth.org
- 857.313.6630

RESEARCH

Brigham and Women's Hospital

- vaccines@partners.org
- 978-VACCINE (822-2463)

The Fenway Institute

- Bethechange@fenwayhealth.org
- 617.927.6450

ADDITIONAL RESOURCES

COVID19 and Boston

State data:

- <https://www.mass.gov/info-details/covid-19-response-reporting>
- <https://www.mass.gov/doc/covid-19-dashboard-june-7-2020/download>

WCVB made some pretty graphs (with DPH data):

- <https://www.wcvb.com/article/massachusetts-coronavirus-covid-19-data-map-charts-daily-updates/32393070>

Testing sites:

- <https://www.boston.gov/departments/public-health-commission/map-covid-19-testing-sites>

What is COVID?

- <https://www.mass.gov/info-details/covid-19-response-reporting>

COVID Vaccines

- <https://www.who.int/publications/m/item/draft-landscape-of-covid-19-candidate-vaccines>
- At least 141 vaccine candidates are in the development pipeline. The COVID-19 Prevention Network (CoVPN) and our research sites are working on some of the vaccines that furthest along in this process!