



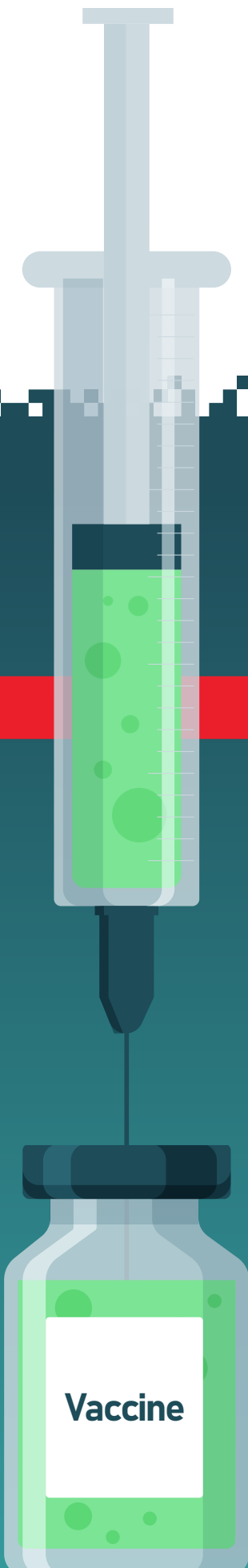
# VACCINES:

## Preventing Disease, Saving Lives and Reducing Healthcare Costs Over Time

Vaccines help our immune systems recognize and fight off bacteria and viruses that can make us sick and spread to others. Vaccines have been around since the 1700s and the decades of vaccine research since have led to the many safe and effective vaccines that we have today.

### Vaccines Progress over Time

- **1778** Term “vaccine” first used by Edward Jenner in work on smallpox vaccine.
- **1800** Smallpox vaccine commonly used.
- **1879** Doctor Louis Pasteur created a vaccine using a weakened form of bacteria (chicken cholera).
- **1885** Louis Pasteur first used rabies vaccine in humans.
- **1896** Cholera and typhoid vaccines first developed.
- **1897** The plague vaccine introduced.
- **1914** The typhoid vaccine and rabies vaccine first licensed in U.S.
- **1927** BCG (Bacille Calmette-Guérin) vaccine first used in newborns, representing the only vaccine against TB (tuberculosis).
- **1930** Cell culture developed to be able to grow viruses, thus paving the way for the subsequent production of vaccines targeting viruses.
- **1942** The influenza A/B vaccine introduced.
- **1953** Tetanus, diphtheria, yellow fever vaccines first licensed in U.S.
- **1952** 60,000 cases of polio in U.S. with 21,000 cases causing paralysis. Within 5 years of vaccine availability in U.S., only 61 cases of polio resulted in paralysis.
- **1955** Polio Vaccination Assistance Act enacted in U.S. First polio vaccine licensed—an inactivated poliovirus vaccine (IPV).
- **1961-1963** Multiple polio vaccines developed and licensed in U.S.
- **1965** First measles vaccine licensed in the U.S.
- **1967** Mumps vaccine licensed.
- **1969** Three rubella vaccines licensed.
- **1971** Measles, mumps, rubella (MMR) vaccine licensed in the U.S.
- **1974** First meningitis vaccine licensed.
- **1977** First pneumonia vaccine licensed.
- **1979** Last cases of polio reported in U.S.
- **1980** Smallpox first disease eradicated by vaccines.
- **1981** First hep B vaccine licensed.
- **2000** Measles and rubella no longer endemic in U.S.



# VACCINES: Preventing Disease, Saving Lives and Reducing Healthcare Costs Over Time



Partnership to Fight Infectious Disease

**Vaccines have safely prevented illnesses across generations.**

Vaccines are one of the simplest steps people can take to protect themselves and others from dangerous, often deadly, diseases. COVID-19 is the most recent example, but many others came before it. For example, vaccines eliminated the risk of developing polio in the U.S., a threat older Americans remember well. Younger people may **not appreciate the dangers of polio because vaccines have eradicated it in much of the world.**



## Example of vaccines commonly used today



Flu



MMR



Tdap



Chickenpox



Covid



Hep A



Hep B



Shingles



Pneumonia



Pertussis



Tetanus

We are now at a crossroads where many may take for granted the vaccines that prevent serious, once common conditions of the past. Vaccine skepticism and hesitancy have grown significantly in recent years – even beyond COVID-19. This distrust and reduced uptake of routine vaccines could undercut the benefits we enjoy today and reduce the benefits of vaccines in research to treat and prevent different cancers and other chronic conditions.

Vaccines help protect us from infection and prevent the growth of resistant bacteria and fungus or “super” bugs. By preventing illnesses, vaccines reduce the need for hospital stays and antibiotics. Less illness also means fewer days of missed work and school and lower costs associated with being sick.

For more information, please visit [www.fightinfectiousdisease.org](http://www.fightinfectiousdisease.org).

### Sources:

<https://www.cdc.gov/drugresistance/protect-yourself-family.html>

<https://www.cdc.gov/vaccines/pubs/pinkbook/polio.html#:~:text=From%20the%20more%20than%2021%2C000.comunities%20in%20several%20Midwestern%20states.>

<https://www.immunize.org/vaccines/vaccine-timeline/>

<https://www.nature.com/articles/s41579-020-00506-3>

<https://www.bio.org/sites/default/files/2024-01/The-State-of-Innovation-in-Vaccines-and-Prophylactic-Antibodies-for-Infectious-Diseases.pdf>