

The Public Health Success of Vaccines

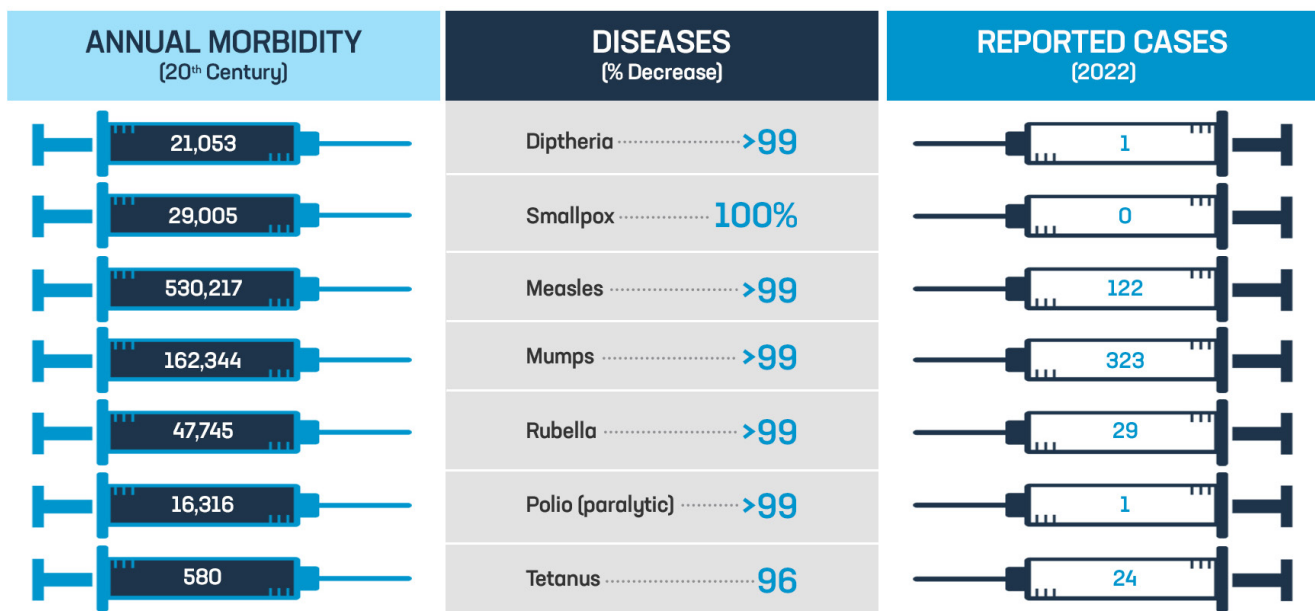
Innovative biopharmaceutical companies are working across the research and development ecosystem to develop new ways of preventing and treating illnesses, with vaccines at the forefront. Vaccines have greatly reduced the severity and toll of many diseases, such as flu, RSV and COVID-19, among many others. From saving lives to promoting healthy aging, vaccines play an important role across the lifespan.

- Today, nearly **260** vaccines are in the biopharmaceutical pipeline, including potential vaccines that could help prevent the spread of HIV and therapeutic vaccines to treat Alzheimer’s disease and different cancers, to name a few. Continued U.S. leadership in the development of safe and effective vaccines is essential to protecting lives and public health - both here at home and around the globe.

Vaccines are one of the most effective tools we have for preventing and mitigating diseases while supporting healthy aging. According to the Centers for Disease Control and Prevention (CDC), vaccines:

- Prevent more than **3 million** influenza-associated medical visits and 100,000 influenza hospitalizations annually.
- Some of the deadliest diseases have been eliminated, such as **smallpox** globally and **polio** in the U.S.
- Prevented over **1 million** early deaths by inoculating children since 1994.
- Can prevent more than 90% of **cancers** caused by HPV.

Then and Now: Vaccines Help Leave Serious Diseases in the Past



Source: <https://www.cdc.gov/vaccines/ed/surv/downloads/VPD-morbidity-slide1-mmwr-508.pdf>

Vaccines have long been a critical tool in our public health arsenal, but the important role they play in our everyday lives doesn't stop there.

- **Vaccines support healthy aging** and help people lead fuller lives. By 2030, the number of people over 60 will increase by a third. Importantly, as people age, they become more susceptible to vaccine-preventable diseases. This can lead to an increased risk of other conditions, meaning patients have less time to spend with loved ones.
- **Vaccines drive savings** in our health care system by preventing the use of other costly medical care. In fact, the introduction of COVID-19 vaccines are not only estimated to have prevented more than **3 million deaths and 18 million hospitalizations** but saved the U.S. more than \$1 trillion in medical costs.
- **Vaccines help us prepare for the future** by protecting against the next pandemic or emerging threats like antimicrobial-resistant (AMR) pathogens. Leading health experts **note** that “vaccination is an integral strategy to prevent AMR, and reduces infections caused by both antibiotic-susceptible and -resistant bacteria, thereby reducing the overall usage of antibiotics.”

Countless lives depend on safe and effective vaccines, which is why **each vaccine undergoes rigorous clinical trials and subsequent intensive scientific review** by experts at the U.S. Food and Drug Administration (FDA). After FDA approval, the CDC's Advisory Committee on Immunization Practices (ACIP) recommends immunization schedules for the prevention and control of existing and emerging infectious diseases. Further, after approval, biopharmaceutical companies, the FDA and the CDC continue monitoring product safety through various means, including surveillance and assessment of reported or observed adverse events, in order to help ensure the continued safety and efficacy of all vaccines.

Through continued collaboration among the public and private sectors, the research community can share and build upon important insights into novel manufacturing and storage techniques, which can accelerate development and delivery of vaccines. Building on the tremendous success of vaccines thus far, there is significant hope for a future further transformed by innovative vaccines.