

## VALUE OF VACCINES: A LANDMARK ACHIEVEMENT

Vaccination is often cited among the 10 greatest public health achievements of the 20<sup>th</sup> century.<sup>1</sup> Only access to safe and clean water has had a larger effect on human health by preventing disease and extending lifespans.<sup>2</sup>

In addition to their societal benefit, vaccines deliver significant benefits to individuals across their lifespan:

- **Children and adolescents are less threatened by diseases** that once damaged or cut short young lives.
- **Older adults are protected from diseases**, allowing them to remain productive and enjoy healthier years later in life.
- **Individuals are able to work, learn, and participate** in community life and travel in the US and abroad in safer, healthier environments.

### Vaccines help children grow and develop free from preventable diseases.

- Over the course of their lifetimes, U.S. children born between 1994 and 2018 who are vaccinated according to the recommended immunization schedule **will prevent:**<sup>3</sup>



**419 million illnesses**



**26.8 million hospitalizations**



**936,000 deaths**



### Vaccines benefit the individuals who receive them, their families, *and* their communities.

- For the U.S. population in 2019 (328 million people), childhood vaccines were universally recommended.<sup>4</sup> These vaccines have:



**Prevented more than 24 million illnesses spanning all ages**



**Decreased hospitalizations**

» **91%** for rotavirus hospitalizations and pertussis

» **84%** for pneumococcal pneumonia

- Antibiotic resistance, a persistent and challenging problem for healthcare providers and hospitals in the community, may be reduced because of vaccines.<sup>5</sup>



### Vaccines save money.

- CDC estimates that vaccination of children born between 1994 and 2018 will saved **\$406 billion** in direct costs and nearly **\$1.9 trillion** in total society costs.<sup>6</sup>
- Flu, pneumococcal disease, shingles, and whooping cough cost **\$27 billion** to treat annually in adults over age 50.<sup>7</sup>



## Vaccination helps protect vulnerable people.

- Young children, minorities, and the elderly bear the most significant burden of infections from vaccine preventable diseases.
- Vaccination helps reduce the risk of acquiring a disease spread from person to person,<sup>6</sup> especially among vulnerable groups, which include:
  - Young babies and children too young to be vaccinated
  - People undergoing chemotherapy for cancer or who have HIV
  - Children on steroids for asthma
  - The elderly who may not have an adequate immune response
  - Those without adequate access to vaccines
  - Those who choose to remain unvaccinated<sup>8</sup>
- For example, vaccination against chickenpox over the last 25 years has practically eliminated U.S. deaths<sup>9</sup> and annually prevents more than:



3.8 million cases



10,500 hospitalizations



100 deaths



## OUTBREAKS OF VACCINE PREVENTABLE DISEASE CONTINUE TO OCCUR IN MANY U.S. STATES, HIGHLIGHTING THE NEED FOR CONTINUED VACCINATION EFFORTS.

### Measles

**1,282 measles cases** were reported in the U.S. in **2019** across **31** states and **94** counties.<sup>10</sup>

### Mumps

In 2019, CDC reported that there were **3,486** people infected with mumps in **48** states and DC.<sup>11</sup>

### Hepatitis A

Since the hepatitis A outbreaks were first identified in 2016, **30 states** have reported:<sup>12</sup>



**42,049** cases



**25,524** hospitalizations



**383** deaths

### Influenza

CDC estimates that flu leads to between:



**9 million** and **41 million** illnesses every year



**140,000** and **710,000** hospitalizations every year



**12,000** and **52,000** deaths every year

<sup>1</sup> MMWR, April 2, 1999/Vol. 48/No. 12 Ten Great Public Health Achievements—United States, 1900–1999. <https://www.cdc.gov/mmwr/preview/mmwrhtml/00056796.htm>

<sup>2</sup> Vaccines, Plotkin and Mortimer, 1988.

<sup>3</sup> CDC. Vaccines for Children. Protecting America's Children Every Day. <https://www.cdc.gov/vaccines/programs/vfc/protecting-children.html>

<sup>4</sup> Sandra E. Talbird, Justin Carrico, Elizabeth M. La, Cristina Carias, Gary S. Marshall, Craig S. Roberts, Ya-Ting Chen, Mawuli K. Nyaku; Impact of Routine Childhood Immunization in Reducing Vaccine-Preventable Diseases in the United States. Pediatrics August 2022; 150 (3): e2021056013. 10.1542/peds.2021-056013

<sup>5</sup> Klugman and Black, PNAS. Impact of existing vaccines in reducing antibiotic resistance: Primary and secondary effects. December 17, 2018 115 (51) 12896-12901 <https://doi.org/10.1073/pnas.1721095115>

<sup>6</sup> CDC. Vaccines for Children. Protecting America's Children Every Day. <https://www.cdc.gov/vaccines/programs/vfc/protecting-children.html>

<sup>7</sup> Vaccinate Your Family. The cost of vaccine-preventable disease. <https://vaccinateyourfamily.org/why-vaccinate/vaccine-benefits/costs-of-disease-outbreaks/>

<sup>8</sup> Vaccinate Your Family. Vaccines Protect Communities. <https://vaccinateyourfamily.org/why-vaccinate/vaccine-benefits/community-immunity/>

<sup>9</sup> Meissner, H. Cody. Understanding Vaccine Safety and the Roles of the FDA and the CDC. N Engl J Med 2022;386:1638-45. DOI:10.1056/NEJMra2200583

<sup>10</sup> CDC. Increase in Measles Cases — United States, January 1–April 26, 2019. <https://www.cdc.gov/mmwr/volumes/68/wr/mm6817e1.htm>

<sup>11</sup> CDC. Mumps Cases and Outbreaks. <https://www.cdc.gov/mumps/outbreaks.html>

<sup>12</sup> CDC. Widespread person-to-person outbreaks of hepatitis A across the United States. <https://www.cdc.gov/hepatitis/outbreaks/2017March-HepatitisA.htm>