The Economic Case for Vaccines

Vaccines are among the most cost-effective ways to prevent disease.

- The U.S. spends nearly $27 billion annually to treat four vaccine preventable illnesses in adults over the age of 50 – flu, pertussis, pneumococcal, and shingles.
- For each $1 invested in the U.S. childhood immunization program, there are nearly $3 in direct medical savings and nearly $11 of societal savings.
- The vaccination of children born between 1994-2023 will save $540 billion in direct costs and $2.7 trillion in societal costs.[1]

The costs of outbreaks:

2011: Measles

- The economic burden on U.S. public health institutions to respond to 16 measles outbreaks in 2011 was estimated to be between $2.7 million and $5.3 million.[2]

2017: Hepatitis A and Measles

- San Diego County, CA spent nearly $12.5 million to respond to a major Hepatitis A outbreak.[3]
- Minnesota experienced a measles outbreak that cost state and local health departments $1.3 million.[4]

2018: Flu

- The 2017-18 flu season was particularly bad, resulting in 52,000 deaths. Flu costs the U.S. an estimated $3.2 billion in direct medical costs and another $8 billion in indirect costs.[5]

[1] CDC Morbidity and Mortality Weekly Report, August 8, 2024, 73(31); 682-685. https://www.cdc.gov/mmwr/volumes/73/wr/mm7331a2.htm

[2] Ortega-Sanchez IR, Vijayaraghavan M, Barskey AE, Gregory SW. The economic burden of sixteen measles outbreaks on United States public health departments in 2011. Vaccine 2014; 32:1311–7.

[3] Hepatitis A Outbreak After Action Report. (2018). County of San Diego.

[4] Minnesota Department of Health. Health officials declare end of measles outbreak. (2017, August 25). Accessed 8 December 2017. http://www.health.state.mn.us/news/pressrel/2017/measles082517.html

[5] Courville, C., Cadarette, S. M., Wissinger, E., & Alvarez, F. P. (2022). The economic burden of influenza among adults aged 18 to 64: A systematic literature review. Influenza and Other Respiratory Viruses,16(3), 376–385.https://doi.org/10.1111/irv.12963

2019: Measles

- Measles outbreaks resulted in over 1,000 cases. One outbreak in Washington State required a $2.3 million public health response[6] while New York City spent $8.4 million to respond to its measles outbreak.[7]

2022, 2023, and 2024: Outbreaks of measles, mpox, and polio, as well as harsh flu seasons, have continued to tax state and local resources.

The future costs of declining rates:

- 2001 through 2018 cost estimates from 11 measles outbreaks: The median total cost per measles outbreak was $152,308 (range, $9,862–$1,063,936); the median cost per case was $32,805 (range, $7,396–$76,154) and the median cost per contact was $223 (range, $81–$746). There were limited data on direct and indirect costs associated with measles. These findings highlight how costly measles outbreaks can be, the value of this information for public health department budgeting, and the importance of more broadly documenting the cost of measles outbreaks.[8]
- The NIH estimates that a 5% decline in measles coverage would lead to an estimated 3-fold increase in measles cases for children aged 2 to 11 years and an additional $2.1 million in costs per annum.[9]
- The NIH conservatively estimates that the cost of measles faced by local and state public health institutions to be roughly $20,000 per individual case.[10]
- The IMF estimates that the expected yearly cost of pandemic influenza is approximately $500 billion (0.6 percent of global income), including both lost income and the intrinsic cost of elevated mortality.[11]

For more information, visit **Vaccinate Your Family at vaccinateyourfamily.org.**

[6] Pike, J., Melnick, A., Gastañaduy, P. A., Kay, M., Harbison, J., Leidner, A. J., Rice, S., Asato, K., Schwartz, L., & DeBolt, C. (2021). Societal Costs of a Measles Outbreak. Pediatrics,147(4). https://doi.org/10.1542/peds.2020-027037

[7] Zucker, J. R., Rosen, J. B., Iwamoto, M., Arciuolo, R. J., Langdon-Embry, M., Vora, N. M., Rakeman, J. L., Isaac, B. M., Jean, A., Asfaw, M., Hawkins, S. C., Merrill, T. G., Kennelly, M. O., Maldin Morgenthau, B., Daskalakis, D. C., & Barbot, O. (2020). Consequences of Undervaccination—Measles Outbreak, New York City, 2018–2019. New England Journal of Medicine,382(11), 1009–1017. https://doi.org/10.1056/nejmoa1912514

[8] Clinical Infectious Diseases, Volume 71, Issue 6, 15 September 2020, Pages 1568–1576, https://doi.org/10.1093/cid/ciaa070

[9] https://pmc.ncbi.nlm.nih.gov/articles/PMC6363159/

[10] https://pmc.ncbi.nlm.nih.gov/articles/PMC6363159/

[11] https://www.imf.org/en/Publications/fandd/issues/2018/06/economic-risks-and-impacts-of-epidemics-bloom