

Impact of Vaccines in the 20th & 21st Centuries

Comparison of 20th Century Annual Morbidity & Current Morbidity: Vaccine-Preventable Diseases

Disease	20 th Century Annual Morbidity*	2017 Reported Cases [†]	% Decrease
Smallpox	29,005	0	100%
Diphtheria	21,053	0	100%
Pertussis	200,752	18,975	91%
Tetanus	580	33	94%
Polio (paralytic)	16,316	0	100%
Measles	530,217	120	>99%
Mumps	162,344	6,109	96%
Rubella	47,745	7	>99%
CRS	152	5	97%
<i>Haemophilus influenzae</i>	20,000 (est.)	33 [§]	>99%

* JAMA. 2007;298(18):2155-2163

[†] CDC. *National Notifiable Diseases Surveillance System, 2017 Annual Tables of Infectious Disease Data*. Atlanta, GA. CDC Division of Health Informatics and Surveillance, 2018. Available at: www.cdc.gov/nndss/infectious-tables.html. Accessed on December 3, 2018. NNDSS finalized annual data as of November 28, 2018.

[§] *Haemophilus influenzae* type b (Hib) <5 years of age. An additional 10 cases of Hib are estimated to have occurred among the 203 notifications of Hi (<5 years of age) with unknown serotype.

Comparison of Pre-Vaccine Era Estimated Annual Morbidity with Current Estimate: Vaccine-Preventable Diseases

Disease	Pre-Vaccine Era Annual Estimate	2016 Estimate (unless otherwise specified)	% Decrease
Hepatitis A	117,333*	4,000 [†]	97%
Hepatitis B (acute)	66,232*	20,900 [†]	68%
Pneumococcus (invasive)			
All ages	63,067*	30,400 [¶]	52%
<5 years of age	16,069*	1,700 [¶]	89%
Rotavirus (hospitalizations <3 years of age)	62,500 [‡]	30,625 [§]	51%
Varicella	4,085,120*	102,128 ^{††}	98%

* JAMA. 2007;298(18):2155-2163

[†] CDC. *Viral Hepatitis Surveillance – United States, 2016*

[¶] CDC. Unpublished. Active Bacterial Core surveillance. 2016

[‡] CDC. *MMWR*. February 6, 2009 / 58(RR02); 1-25

[§] New Vaccine Surveillance Network 2017 data (unpublished); U.S. rotavirus disease now has biennial pattern

^{††} CDC. *Varicella Program 2017 data (unpublished)*