

APPENDIX E

Data and Statistics

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Impact of Vaccines in the 20th & 21st Centuries

Comparison of 20th Century Annual Morbidity & Current Morbidity

Disease	20 th Century Annual Morbidity*	2017 Reported Cases [†]	% Decrease
Smallpox	29,005	0	100%
Diphtheria	21,053	0	100%
Pertussis	200,752	15,808	92%
Tetanus	580	31	95%
Polio (paralytic)	16,316	0	100%
Measles	530,217	122	>99%
Mumps	162,344	5,629	97%
Rubella	47,745	9	>99%
CRS	152	2	99%
<i>Haemophilus influenzae</i>	20,000 (est.)	22 [§]	>99%

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

† CDC. National Notifiable Diseases Surveillance System, Week 52, 2017 Weekly 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 January 4, 2018.

§ *Haemophilus influenzae* type b (Hib) <5 years of age. An additional 11 cases of Hib are estimated to have occurred among the 237 notifications of Hi (<5 years of age) with unknown serotype.

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

Disease	Pre-Vaccine Era Annual Estimate	2015 Estimate (unless otherwise specified)	% Decrease
Hepatitis A	117,333*	2,500 [†]	98%
Hepatitis B (acute)	66,232*	19,200 [†]	71%
Pneumococcus (invasive)			
All ages	63,067*	29,000 [¶]	54%
<5 years of age	16,069*	1,800 [¶]	89%
Rotavirus (hospitalizations <3 years of age)	62,500 [‡]	11,250 [§]	82%
Varicella	4,085,120*	126,639 ^{††}	97%

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

† CDC. Viral Hepatitis Surveillance – United States, 2014

¶ CDC. Unpublished. Active Bacterial Core surveillance. 2015

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

§ New Vaccine Surveillance Network 2015 data (unpublished); U.S. rotavirus disease now has biennial pattern

†† CDC. MMWR. November 25, 2016 / 65(46);1306-1321 (2015 final data)

Appendix E

Vaccine Coverage Levels – United States, 1962-2016

Year	DTP 3+	DTP4+	Polio 3+	MMR*	Hib3+	Var	PCV3+	HepB3+	Rota	Combined 4-3-1	Combined 4-3-1-3
1962	67.3										
1963	71.4										
1964	74.6										
1965	72.7										
1966	74.0										
1967	77.9			60.0							
1968	76.8			61.5							
1969	77.4			61.4							
1970	76.4			58.4							
1971	77.8			62.2							
1972	74.1			62.8							
1973	71.7		59.5	61.0							
1974	72.4		60.0	63.4							
1975	73.2		63.6	65.5							
1976	72.7		61.3	66.3							
1977	69.6		62.6	65.0							
1978	66.6		59.5	63.6							
1979	64.4		59.7	66.5							
1980	66.0		58.9	66.6							
1981	68.1		59.2	66.8							
1982	67.1		57.0	67.6							
1983	65.4		56.9	66.3							
1984	65.0		53.2	65.8							
1985	63.6		53.6	61.2							
1986 [†]											
1987 [†]											
1988 [†]											
1989 [†]											
1990 [†]											
1991	68.8		53.2	82.0							
1992	83.0	59.0	72.4	82.5	28.2			8.0		68.7	55.3
1993	88.2	72.1	78.9	84.1	55.0			16.3		67.1	
1994	93.0	77.7	83.0	89.0	86.0			37.0		75.0	
1995	94.7	78.5	87.9	87.6	91.7			68.0		76.2	74.2
1996	95.0	81.1	91.1	90.7	91.7	16.0		81.8		78.4	76.5
1997	95.5	81.5	90.8	90.5	92.7	25.9		83.7		77.9	76.2
1998	95.6	83.9	90.8	92.0	93.4	43.2		87.0		80.6	79.2
1999	95.9	83.3	89.6	91.5	93.5	57.5		88.1		79.9	78.4
2000	94.1	81.7	89.5	90.5	93.4	67.8		90.3		77.6	76.2
2001	94.3	82.1	89.4	91.4	93.0	76.3		88.9		78.6	77.2
2002	94.9	81.6	90.2	91.6	93.1	80.6	40.8	88.9		78.5	77.5
2003	96.0	84.8	91.6	93.0	93.9	84.8	68.1	92.4		82.2	81.3
2004	95.9	85.5	91.6	93.0	93.5	87.5	73.2	92.4		83.5	82.5
2005	96.1	85.7	91.7	91.5	93.9	87.9	82.8	92.9		83.1	82.4
2006	95.8	85.2	92.9	92.4	93.4	89.3	87.0	93.4		83.2	82.3
2007	95.5	84.5	92.6	92.3	92.6	90.0	90.0	92.7		82.8	81.1
2008	96.2	84.6	93.6	92.1	90.9	90.7	92.8	93.5		82.5	79.6
2009	94.0	83.9	92.8	90.0	92.1	89.6	92.6	92.4	43.9	81.5	50.6
2010	95.0	84.4	93.3	91.5	90.4	90.4	92.6	91.8	59.2	82.0	78.8
2011	95.5	84.6	93.9	91.6	94.0	90.8	93.6	91.1	67.3	82.6	81.9
2012	94.3	82.5	92.8	90.8	93.0	90.2	92.3	89.7	68.6	80.5	76.0
2013	94.1	83.1	92.7	91.9	92.8	91.2	92.4	90.8	72.6	81.5	77.1
2014	94.7	84.2	93.3	91.5	92.6	91.0	92.6	91.6	71.7	82.6	77.7
2015	95.0	84.6	93.7	91.9	93.2	91.8	93.3	92.6	73.2	83.2	77.7
2016	93.7	83.4	91.1	91.1	91.6	90.6	91.8	90.5	74.1	81.9	76.8

*Previously reported as measles-containing vaccine (MCV)

†No national coverage data were collected from 1986 through 1990.

Combined 4-3-1: Four or more doses of DTP/DTaP/DT, three or more doses of poliovirus vaccine, and one or more doses of any measles-containing vaccine.

Combined 4-3-1-3: Four or more doses of DTP/DTaP/DT, three or more doses of poliovirus vaccine, one or more doses of any measles-containing vaccine, and three or more doses of *Haemophilus influenzae* type b vaccine.

Data prior to 1993 were collected by the National Health Interview Survey and represent 2-year-old children. Data from 1993 forward are from the National Immunization Survey and represent 19-35 month-old children. Different methods were used for the two surveys.

Data are available for vaccines and combinations of vaccines not reflected on this table. For more information about annual coverage figures from 1995 to the present, see <https://www.cdc.gov/vaccines/imz-managers/coverage/childvaxview/data-reports/index.html>.