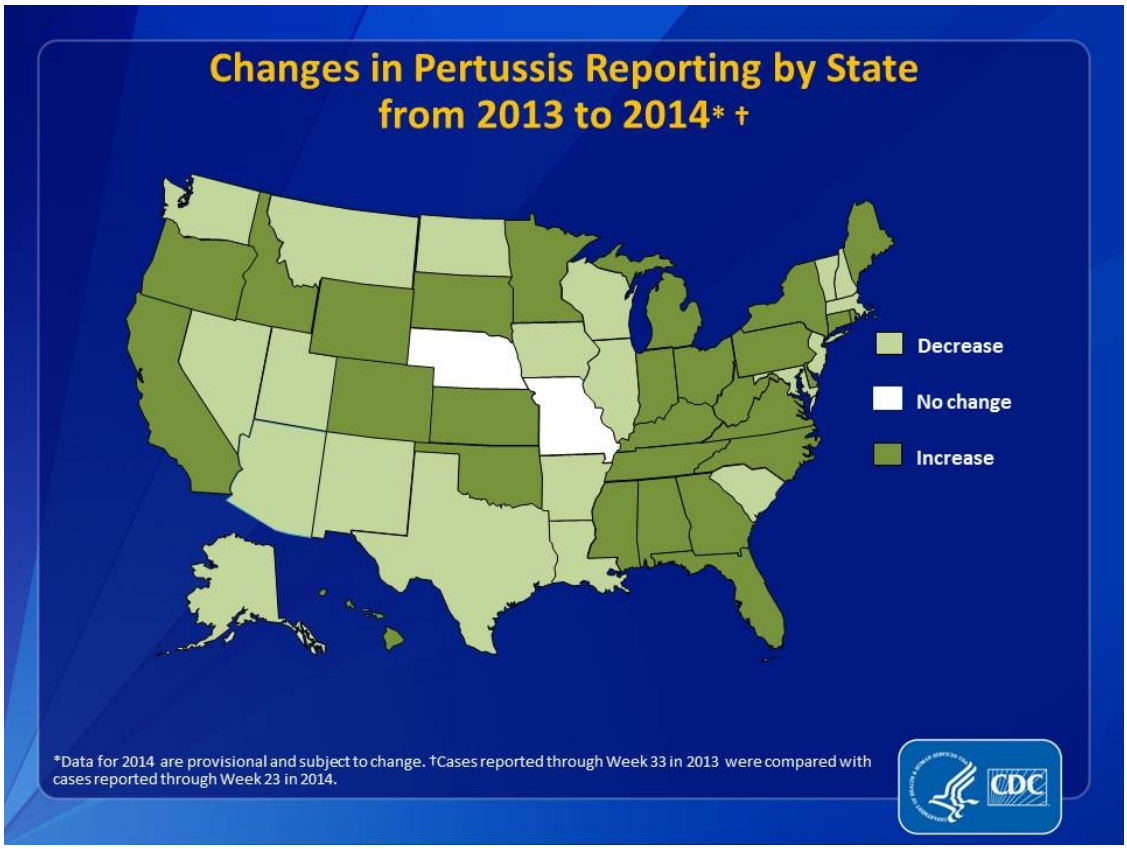
Pertussis Outbreak Trends

http://www.cdc.gov/pertussis/outbreaks/trends.html



- MS has seen an increase in pertussis despite being the most highly vaccinated state in our nation.
- 59% of pertussis cases were in those individuals who had received 3 or more doses of the vaccine.
- Those sick with pertussis who were known to have zero pertussis vaccinations made up just 9% of cases.
- In 2012 Mississippi and other states mandated a new TDaP booster to be given to all students entering the seventh grade (age 12 & 13)
- Increased rates of pertussis were observed in 2013 in adolescents 13 and 14 years of age.

The CDC's own Dr. Anne Schuchat states, "Pertussis is a cyclical disease and the vaccines are not perfect. So even with increasing vaccination coverage, we expect to still have cycles. We know there are places around the country where there are large numbers of people who aren't vaccinated. However, we don't think those exemptors are driving this current wave. We think it is a bad thing that people aren't getting vaccinated or exempting, but we cannot blame this wave on that phenomenon."

http://www.cdc.gov/media/releases/2012/t0719_pertussis_epidemic.html

Conclusion: Pertussis outbreaks are being driven by a vaccine failure and not by children who are not fully vaccinated. Our children in Mississippi are receiving 6 doses of pertussis vaccine (+diphtheria +tetanus) by middle school!

2012 Final Pertussis Surveillance Report

Incidence of Reported Pertussis, By State

	Incidence (per 100,000)	No. of Cases
ALABAMA	4.4	212
ALASKA	48.3	353
ARIZONA	17.2	1130
ARKANSAS	8.4	248
CALIFORNIA	2.1	795
COLORADO	28.8	1494
CONNECTICUT	5.1	182
DELAWARE	6.2	57
D.C.	4.1	26
FLORIDA	2.3	575
GEORGIA	3.2	318
HAWAII	5.2	73
IDAHO	14.7	235
ILLINOIS	15.7	2026
INDIANA	6.8	441
IOWA	56.5	1736
KANSAS	30.7	887
KENTUCKY	15.2	666
LOUISIANA	1.6	72
MAINE	55.5	737
MARYLAND	6.3	369
MASSACHUSETTS	9.8	648
MICHIGAN	8.6	845
MINNESOTA	77.0	4142
MISSISSIPPI	2.6	77
MISSOURI	13.5	815
MONTANA	54.6	549
NEBRASKA	12.9	240
NEVADA	4.1	112
NEW HAMPSHIRE	20.4	269
NEW JERSEY	15.7	1395
NEW MEXICO	44.3	924
NEW YORK	24.2	2715
NEW YORK CITY	5.5	456
NORTH CAROLINA	6.3	612
NORTH DAKOTA	30.6	214
OHIO	7.7	893
OKLAHOMA	4.0	154
OREGON	23.2	906
PENNSYLVANIA	15.2	1945
RHODE ISLAND	10.8	113
SOUTH CAROLINA	4.7	224
SOUTH DAKOTA	8.4	70
TENNESSEE	4.7	305
TEXAS	8.5	2218
UTAH	55.7	1591
VERMONT	103.0	645
VIRGINIA	7.6	625
WASHINGTON	71.3	4916
WEST VIRGINIA	4.6	85
WISCONSIN	120.2	6880
WYOMING	10.8	62
TOTAL	**15.4**	**48,277**

Source: Meningitis and Vaccine Preventable Diseases Branch, Division of Bacterial Diseases, National Center for Immunization and Respiratory Diseases, Centers for Disease Control and Prevention, at 404-639-3158

Weeks 1-52, 2012 CDC/NCIRD/DBD/MVPDB

Notice to Readers:
Final 2012 Reports of Notifiable Diseases

August 23, 2013 / 62(33)

http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6233a6.htm?s_cid=mm6233a6_w

Reported Cases: 2011 and 2012

Weeks 1-52, 2011 18,719
Weeks 1-52, 2012 48,277

Reported Case Profiles, 2012 By Age, Weeks 1-52

Age	No. of Cases	%	Age Inc /100,000
< 1 yr	4994	10.3	126.7
1-6 yrs	8280	17.2	34.1
7-10 yrs	9532	19.8	58.5
11-19 yrs	14440	29.9	38.0
20+ yrs	10436	21.6	4.5
Unknown	595	(1.2)	N/A
Total	**48277**	**100.0**	**15.2***

*Total age incidence per 100,000 calculated from 47,682 cases with age reported.

2012 Reported Pertussis Deaths

Age	Deaths*†
Infants, aged < 3 months:	**15**
Infants, aged 3-11 months:	**1**
Children, 1-4 years:	**2**
Adults, aged 55+ years:	**2**
Total	**20**

*Deaths reported through NNDSS to CDC.
†11 of the 20 deaths were male.

DTaP Vaccination History of Pertussis Cases

Age	Unk	0 doses	1-2 doses	3+ doses	Total
	No. (%)	No. (%)	No. (%)	No. (%)	No.
6-11 mo	320(26)	131(11)	230(19)	539(44)	1220
1-4 yrs	1613(28)	540(9)	233(4)	3404(59)	5790
5-6 yrs	630(25)	180(7)	60(3)	1620(65)	2490
Total*	**2563(27)**	**851(9)**	**523(5)**	**5563(59)**	**9500**

*Percent calculated from total cases aged 6 months to 6 years, n=9,500.

National Academy of Science of the United States of America

A Pertussis baboon study showing transmission after vaccination: Acellular pertussis vaccines protect against disease but fail to prevent infection and transmission in a nonhuman primate model

http://www.pnas.org/content/111/2/787.full

- FDA study in infant baboons showed that while the pertussis vaccine can cut down on serious clinical disease symptoms, it does not eliminate transmission of B. pertussis whooping cough

- The baboon study suggests that if you're recently vaccinated against whooping cough and then are exposed to B. pertussis, you may not get classic symptoms of the disease but could temporarily become an asymptomatic carrier, which is "good for you but not for the population," according to the study's lead researcher

- This may partly explain recent outbreaks of whooping cough among the highly vaccinated U.S. population, in which 95 percent of children have received at least five doses of pertussis vaccine between two months and six years old. (Previous recovery from natural B. pertussis infection was found to confer better protection against becoming an asymptomatic carrier after exposure to B. pertussis than a history of previous vaccination)

- The study suggests pertussis vaccine-acquired immunity is an illusion. While vaccination may protect against development of severe clinical symptoms upon exposure to B. pertussis, a vaccinated person can still colonize B. pertussis bacteria and transmit the infection to others