

# Project Pertussis

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# Outline

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Describe Pertussis

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Pertussis Complications

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Pertussis Impact on West Virginia and the Tristate

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Pertussis Project

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Implementation of Project

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Sustainability of Project

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# PERTUSSIS

- ▶ Pertussis, also known commonly as “**whooping cough**,” is a highly contagious bacterial infection caused by *Bordetella pertussis* and resulting in a potentially severe respiratory illness in infancy.
- ▶ The disease is only found in humans.
- ▶ Pathophysiology: Bacteria attach to the cilia (tiny, hair-like extensions) that line part of the upper respiratory system. The bacteria release toxins, which damage the cilia and cause airways to swell.
- ▶ Transmission: Spread from person to person through the air (sneezing, coughing).
- ▶ **Very contagious:** People can spread the bacteria from the start of the very first symptoms and for at least 2 weeks after coughing begins.
- ▶ Can be diagnosed by obtaining a nasopharyngeal sample or blood sample.

<https://www.cdc.gov/pertussis/index.html>

## Whooping Cough Disease Progression

Weeks

0 1 2 3 4 5 6 7 8 9 10 11 12

### Early Symptoms: Stage 1

*May last 1 to 2 weeks*

- Highly contagious
- Symptoms:
- Runny nose
- Low-grade fever
- Mild, occasional cough

### Later Symptoms: Stage 2

*Last from 1 to 6 weeks; may extend to 10 weeks*

Symptoms:

- Fits of numerous, rapid coughs followed by “whoop” sound
- Vomiting and exhaustion after coughing fits (called paroxysms)

### Recovery: Stage 3

*Last about 2 to 3 weeks; susceptible to other respiratory infections for many months*

Recovery is gradual. Coughing lessens but fits of coughing may return.

[cdc.gov/whoopingcough](https://www.cdc.gov/whoopingcough)







U.S. Department of  
Health and Human Services  
Centers for Disease  
Control and Prevention





CS-100204


### Whooping Cough (Pertussis)

Early symptoms may include:

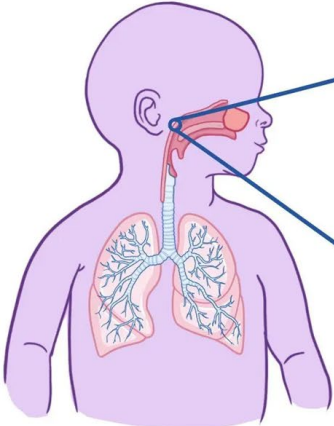
 <b>Slight fever.</b>	 <b>Mild or occasional coughing.</b>
 <b>Runny nose.</b>	 <b>A pause in breathing in babies.</b>

After the first or second week, symptoms may include:

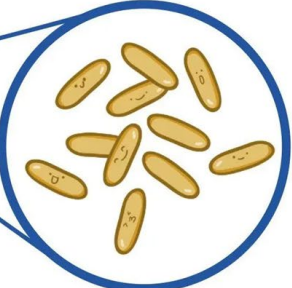
 <b>Prolonged, repeated or violent coughing episodes.</b>	 <b>Whooping sound when inhaling.</b>
 <b>Vomiting.</b>	 <b>Exhaustion due to prolonged coughing.</b>


 Cleveland Clinic

## PERTUSSIS




**BORDETELLA PERTUSSIS**





**PAROXYSMAL COUGH**  
SUDDEN & PERIODIC COUGH



**ABUNDANT RESPIRATORY SECRETIONS**  
CAN AFFECT ALL AGES  
↳ SEVERE & LIFE THREATENING in CHILDREN < 6 mo

# Pertussis: who is at risk?

**Pregnant women**



**Babies**



**Close contact to a known case**



**Weakened immune system**



**Waning immunity**




**The elderly**




# PREVENTION - VACCINATE!

**People of all ages need  
WHOOPING COUGH  
VACCINES**



<b>DTaP</b> for young children	<b>Tdap</b> for preteens	<b>Tdap</b> for pregnant women	<b>Tdap</b> for adults
✓ 2, 4, and 6 months ✓ 15 through 18 months ✓ 4 through 6 years	✓ 11 through 12 years	✓ During the 27-36th week of each pregnancy	✓ Anytime for those who have never received it

[www.cdc.gov/whoopingcough](http://www.cdc.gov/whoopingcough)





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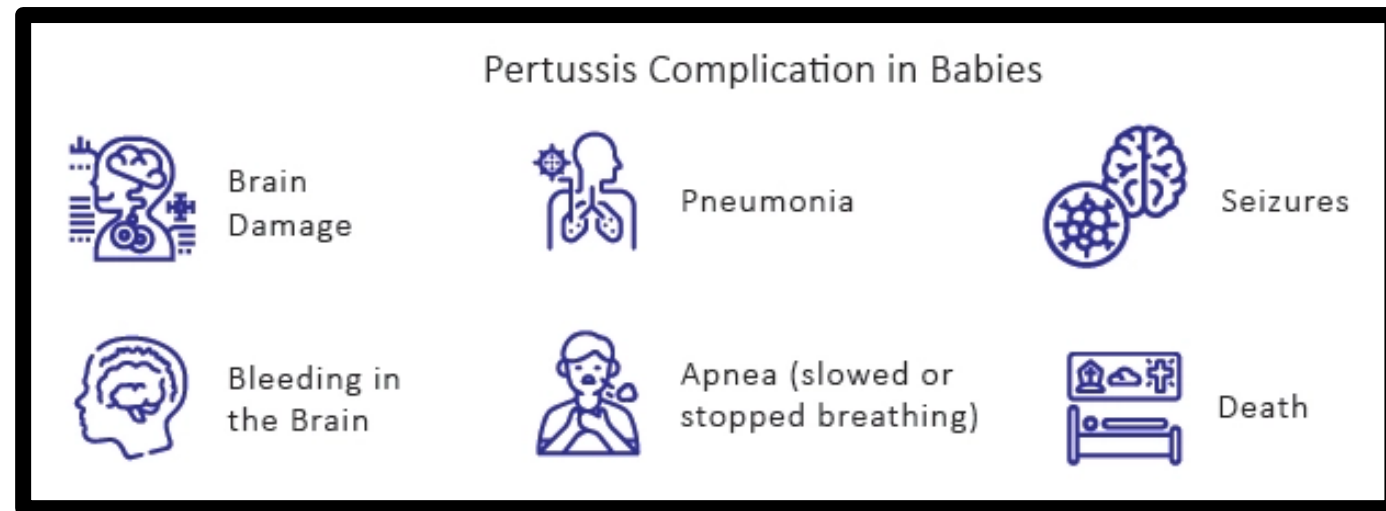
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About one third of babies younger than 1 year old who get whooping cough need care in the hospital. The younger the baby, the more likely they will need treatment in the hospital.

- ▶ Of those babies younger than 1 year old who are treated in the hospital with whooping cough about:
  - ▶ 2 in 3 (68%) will have **apnea** (life-threatening pauses in breathing)
  - ▶ 1 in 5 (22%) get **pneumonia** (lung infection)
  - ▶ 1 in 50 (2%) will have **convulsions** (violent, uncontrolled shaking)
  - ▶ 1 in 150 (0.6%) will have **encephalopathy** (disease of the brain)
  - ▶ 1 in 100 (1%) will **die**



<https://www.cdc.gov/pertussis/index.html>

<https://www.delveinsight.com/blog/pertussis-treatment-outlook>

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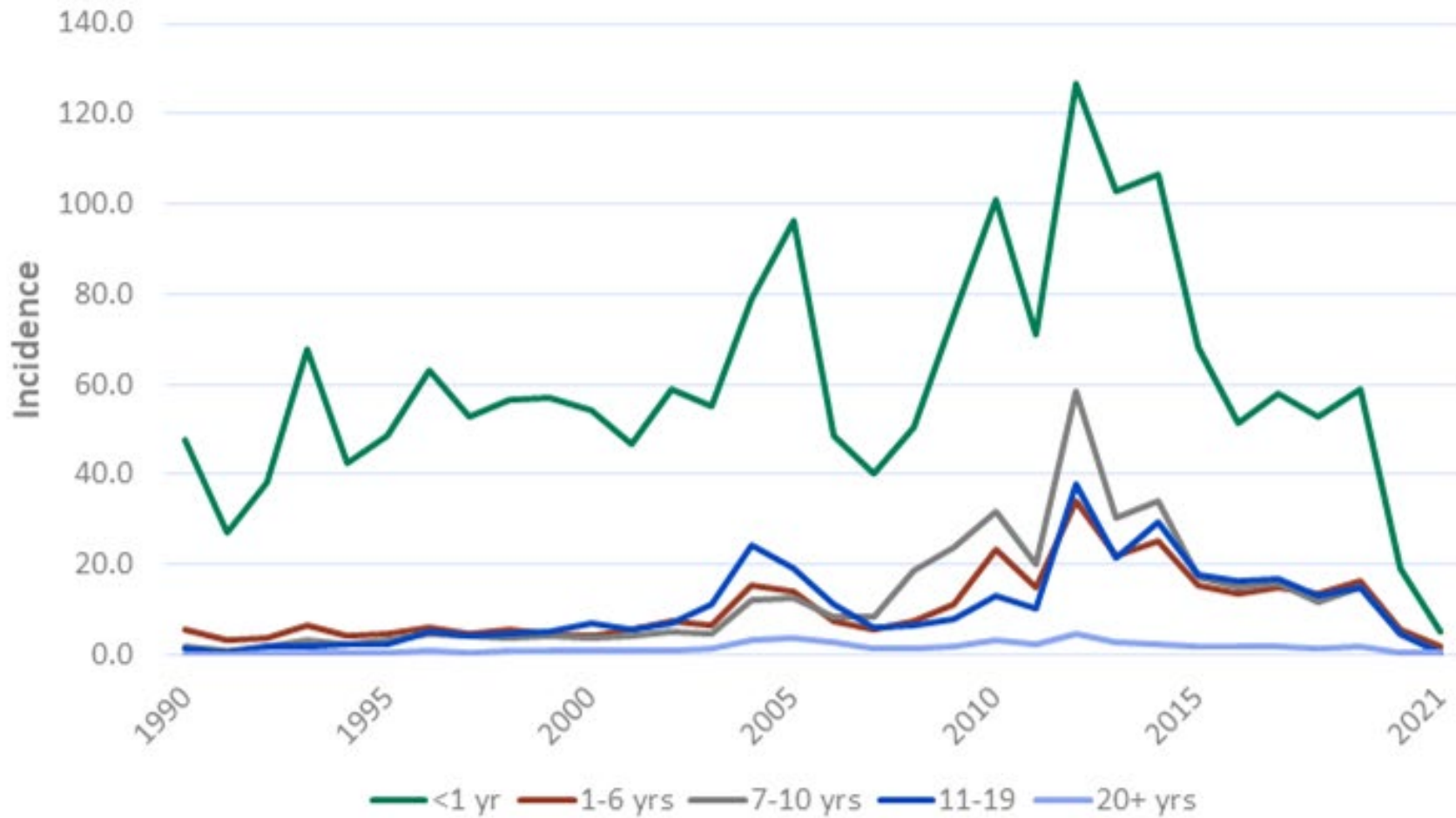
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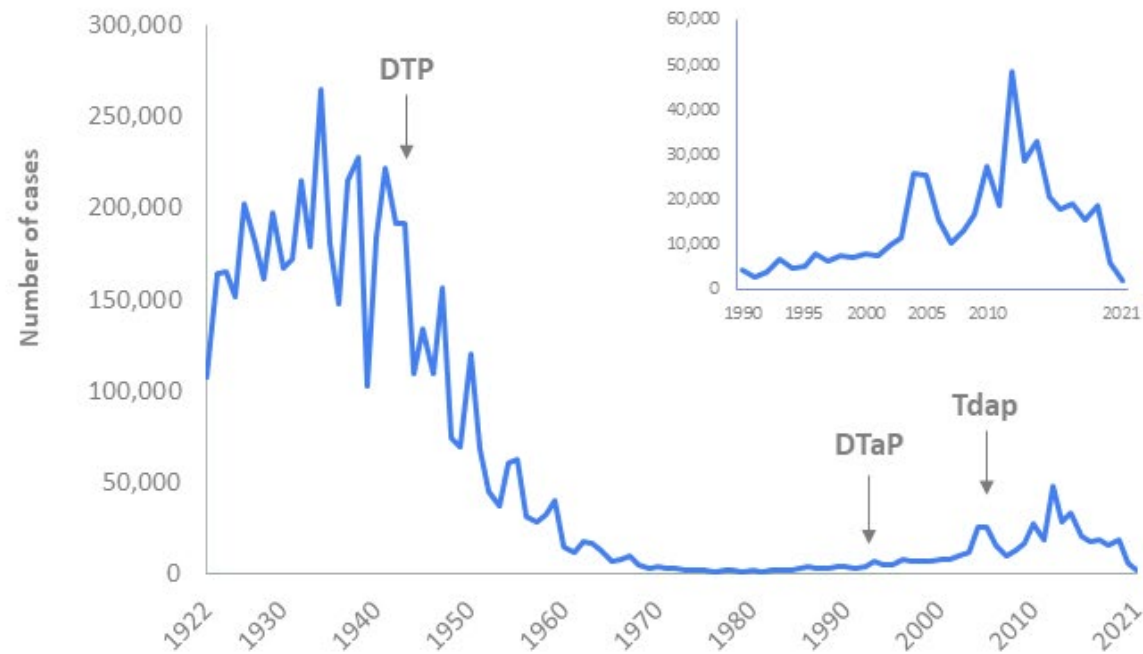
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# Reported pertussis incidence by age group: 1990-2021



SOURCE: CDC, National Notifiable Diseases Surveillance System

## Reported NNDSS pertussis cases: 1922-2021



SOURCE: CDC, National Notifiable Diseases Surveillance System

## Reported Pertussis Cases

2021: 1,609\*

2022: 2,388

\*Provisional 2021 Week 52 reported pertussis cases; final 2021 data were not available at the time of publication.

### Reported Pertussis Incidence and Cases

STATES	Incidence (per 100,000)	No. of Cases
ALABAMA	0.95	48
ALASKA	0.27	2
ARIZONA	1.43	104
ARKANSAS	0.53	16
CALIFORNIA	0.21	84
COLORADO	4.34	252
CONNECTICUT	0.19	7
DELAWARE	0.10	1
D.C.	0.45	3
FLORIDA	0.27	59
GEORGIA	0.38	41
HAWAII	0.42	6
IDAHO	0.47	9
ILLINOIS	0.63	80
INDIANA	1.01	69
IOWA	0.72	23
KANSAS	0.31	9
KENTUCKY	0.78	35

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OHIO	1.23	145
OKLAHOMA	0.00	0
OREGON	0.54	23
PENNSYLVANIA	0.74	96
RHODE ISLAND	0.00	0
SOUTH CAROLINA	0.85	44
SOUTH DAKOTA	0.11	1
TENNESSEE	0.50	35
TEXAS	0.55	162
UTAH	3.27	109
VERMONT	0.31	2
VIRGINIA	0.75	65
WASHINGTON	0.96	74
WEST VIRGINIA	0.73	13
WISCONSIN	0.32	19
WYOMING	0.35	2
.....		
<b>TOTAL</b>	<b>0.72</b>	<b>2,388</b>

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## Reported Pertussis Cases and Percent Hospitalization by Age Group

Age	No. of Cases (% of total)	Age Inc /100,000	% Hospitalized by age**
< 6 mos	139 (5.8)	7.8	17.1
6-11 mos	130 (5.4)	7.3	4.9
1-6 yrs	622 (26.0)	2.7	1.9
7-10 yrs	176 (7.4)	1.1	0.0
11-19 yrs	231 (9.7)	0.6	1.2
20+ yrs	1,089 (45.6)	0.4	11.2
Unknown Age	1 (0.0)	N/A	N/A
<b>Total</b>	<b>2,388 (100)</b>	<b>0.7*</b>	<b>6.9</b>

\*Total incidence per 100,000 calculated from 2,387 cases with age reported.

\*\*Calculated from those with known hospitalization status.

<https://www.cdc.gov/pertussis/surv-reporting.html>

# HOW DOES THIS AFFECT US IN WEST VIRGINIA?



**2019**

According to the U.S. Census Bureau in 2019, WV is second in the nation for grandparents raising children.



**2022**

It has been reported by the CDC that in 2022 that only 30% of those adults aged 19 and older were up to date on Tdap vaccination.



# HOW DOES THIS AFFECT US IN WEST VIRGINIA?

- ▶ According to U.S. News and World Report data on Cabell County, WV:
  - 1) **8.3% of the population has no health care insurance.**
  - 2) The poverty rate is 22.3% which is higher than the national median.
  - 3) The average income is \$47,931 which is below the national median.
  - 4) The unemployment rate is 7.8% which is above the national median.
  - 5) 29.6% of households spend at least 30% of income on housing which is above the national median.
- ▶ Infants in WV are particularly at risk for health disparities. According to 2021 data from State of Babies, for every 1,000 babies born in West Virginia, 24.6 are removed from their home because of maltreatment. This is three times higher than the national average which is 7 per 1,000. Out of over 7,200 children in the West Virginia foster care system, 85 percent of the cases involved drug use.

# HOW DOES THIS AFFECT US IN WEST VIRGINIA?

The Children's Health Care Report Card reports the following data on WV children:

- 1) 3.3% of children do not have insurance
- 2) 2.7% of children age 6 and under did not have healthcare insurance in 2021
- 3) The percentage of Non Hispanic/Latino children without insurance continues to climb between 2017-2021
- 4) 47.1% of children are covered by Medicaid/CHIP

With the COVID-19 state of emergency being lifted in WV, many children will fall under the category of lapsed healthcare insurance as re-application to medicaid/CHIPs was suspended due to the pandemic.

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# PROJECT GOALS

- ▶ To increase community immunization against pertussis in individuals who will be caring for infants in the first 6 month of life.
- ▶ To identify if more widespread access to the Tdap vaccine is needed to ensure adequate protection for those caring for infants.
- ▶ To identify infants and siblings of infants through this project that have lapsed medical insurance and provide resources for application.

- ▶ Received funding via the CATCH grant through the AAP
- ▶ The project funding allows us to work within our own clinic and with community partners to assess the need for caretaker pertussis vaccination status. With this information, we work closely with healthcare partners to provide access for caregivers to receive the vaccine.

HOW ARE WE  
GOING TO  
ACCOMPLISH  
THIS?

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# HOW DO WE PLAN TO ACCOMPLISH THIS?

- ▶ Caregivers with infants aged 6 months or less will be asked to fill out the survey on an iPad provided by the Pediatrics department. Surveys will also identify if infants or siblings of infants that have lapsed healthcare insurance. Resources will be provided to assist caretakers to help their child re-enroll for healthcare insurance.
- ▶ If the survey identifies a caretaker that may need a Tdap vaccine, they are sent to the pharmacy with a “coupon card” to obtain the vaccine.
- ▶ The Marshall Pharmacy distributes the vaccinations at no cost to them and will provide them with a receipt after obtaining the vaccine.
- ▶ If the individual brings this proof of vaccination to the Pediatrics department, they are provided with a gas gift card for incentive.
- ▶ Marshall Health Partners and Community Partners assisting in our efforts.



REDEEM THIS COUPON

Project Pertussis #: P-12

Redeem this coupon for a \$20 gift card to reimburse you for your travel expenses when you get vaccinated against pertussis and protect your infant from whooping cough.

**INSTRUCTIONS:**

- Go to the Marshall Pharmacy main location in the lobby of the Marshall Medical Center, 1600 Medical Center Dr., Huntington.
- Tell them you need your pertussis vaccine and will need proof of vaccination.
- Once you get your vaccine, bring your proof of vaccination and this coupon to the 3rd floor.
- Go to the pediatrics department front desk and ask for Deborah Preston, Ashley Edmonds or Lisa Watts.
- Give this coupon and your proof of vaccination to them, sign the receipt and collect your \$20 travel reimbursement card.



Coupon must be presented  
with proof of vaccination to  
receive your gift card.

# PERTUSSIS VACCINATION

**Pertussis infection** can cause severe respiratory illness or death in infancy. Those most at risk are too young to be vaccinated since the first DTaP vaccination is at 2 months of age. According to the CDC, most of the deaths each year from the infection are in babies younger than 3 months old.



Between 2010 and 2020, up to 20 babies died from it each year in the United States. Of those infants hospitalized, about 1 out of 5 will get pneumonia and 1 out of 100 will die.

**Parents, caregivers and siblings** should be properly immunized. Women in their third trimester of each pregnancy are advised to get Tdap as well as all adults every 10 years. Even if their mothers were immunized during their pregnancy, infants who have transition of caretakers after birth are at risk for contracting pertussis if their caretakers have not been properly immunized.

Individuals who receive their **pertussis vaccine** at Marshall Pharmacy will have the chance to receive a gas card.

For additional information contact **Marshall Pediatrics** at **304.691.1300**

 **Health**  
A member of Marshall Health Network



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- ▶ Data will be collected over a 6 month time period to determine the need for more future widespread pertussis vaccine availability to immediate caregivers based on the responses to the survey.
- ▶ If a need is identified, the data can be used to advocate to policymakers and healthcare leaders for stronger resource availability for Tdap vaccine in our community.



**THANK YOU!**

ANY QUESTIONS?