



# DuPage County Health Department R E V I E W

Volume 9, No. 10

October 2013

The purpose of this two-page surveillance update is to promote the control and prevention of **communicable disease (CD)** by providing clinically relevant information and resources to healthcare professionals in DuPage County.



## Under the Microscope *Bordetella pertussis*

For questions or to report a suspect or known case of pertussis, please call the DuPage County Health Department at (630) 221-7553.

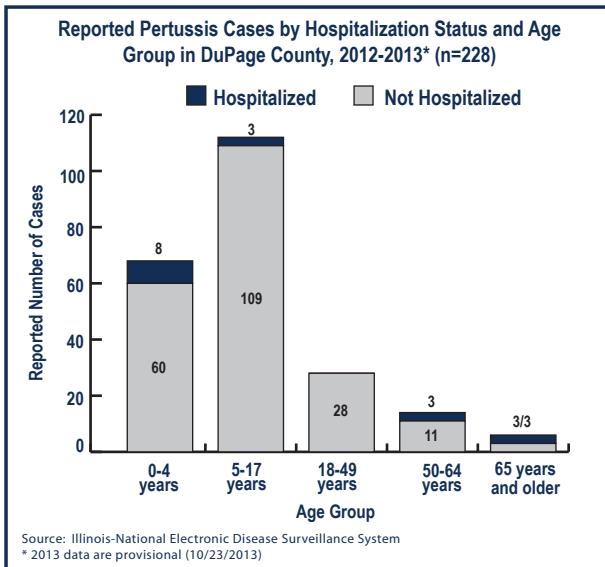
Pertussis (whooping cough) is an acute infectious disease caused by the bacterium *Bordetella pertussis*. Before the availability of pertussis vaccine in the 1940s, more than 200,000 cases of pertussis were reported annually in the U.S. Since widespread use of the vaccine began, incidence has decreased more than 75% compared with the pre-vaccine era.<sup>1</sup>

Since the 1980s, however, there has been an increase in the number of reported cases of pertussis. In 2012, 48,277 cases of pertussis were reported in the U.S.—and many more cases go unreported. **Several factors have likely contributed to the increase in reported cases, including increased awareness and improved recognition of pertussis among clinicians, greater access to and use of laboratory diagnostics, especially polymerase chain reaction (PCR) testing, and increased surveillance and reporting of pertussis to public health departments, and waning immunity from vaccines.** However, Centers for Disease Control and Prevention (CDC) believes that much of the disease goes unrecognized and unreported.<sup>1</sup>

Clinicians are reminded of the importance of early disease recognition, diagnosis, treatment, reporting, and preventive measures that should be followed to control and prevent further transmission. Pertussis remains endemic in the U.S., despite longstanding routine childhood pertussis vaccination. **Immunity to pertussis wanes approximately 5–10 years after completion of childhood vaccination, leaving adolescents and adults susceptible to pertussis.**<sup>2,3</sup>

Even though the disease may be milder in older persons, those who are infected may transmit the disease to other susceptible persons, including unimmunized or incompletely immunized infants.<sup>4</sup> **Compared with older children and adults, infants aged <12 months have substantially higher rates of pertussis and the largest burden of pertussis-related deaths.** During 2000–2011, the annual mean of pertussis cases in infants aged <12 months was 2,746 (range: 1,803–4,298), hospitalizations was 1,217 (range: 687–1,938), and deaths was 18 (range: 8–35).<sup>5</sup>

**Diagnosis** of pertussis is based primarily on clinical presentation (**cough lasting at least 2 weeks with inspiratory “whoop,” paroxysms, or post-tussive vomiting**, without other apparent cause), and may be confirmed by a positive culture and/or PCR testing by nasopharyngeal swab.<sup>4,6</sup> A negative culture or PCR test, however, does not rule out pertussis if the patient’s clinical presentation is otherwise consistent with pertussis per the clinician’s judgement; **the case should still be reported to the local health department**, and appropriate treatment and prophylaxis should still be administered. Testing in the absence of respiratory symptoms is not recommended.<sup>7</sup>



Since some pertussis vaccines have been found to contain PCR-detectable *B. pertussis* DNA, **preparation and administration of vaccines in areas separate from pertussis specimen collection areas may reduce the opportunity for cross contamination of clinical specimens.** These basic measures may further prevent contamination of surfaces and specimens with vaccine: 1) **wearing gloves** immediately before and during specimen collection or vaccine preparation and administration with immediate disposal of gloves after the procedure, and 2) **cleaning clinic surfaces using a 10% bleach solution** to reduce the amount of nucleic acids in the clinic environment.<sup>8</sup>

In addition to frequent handwashing, respiratory hygiene, and timely diagnosis followed by appropriate antimicrobial treatment, transmission of pertussis may be controlled by **post-exposure prophylaxis of close contacts of persons with pertussis, regardless of age and vaccination status.**<sup>7</sup>

**Vaccination of susceptible persons is the most important preventive strategy against pertussis.**<sup>7</sup> Children should receive DTaP vaccine doses at 2, 4, 6 and 15 months of age and another dose at 4 to 6 years of age.<sup>4</sup> **Booster Tdap vaccines** became available in 2005 that offer continued protection against pertussis, diphtheria and tetanus for **adolescents and adults, including persons 65 years and older.**<sup>4,9</sup>

CDC also recommends:

- 1) Maternal vaccination.** that healthcare personnel should **administer Tdap to susceptible women during each pregnancy. To maximize the maternal antibody response and passive antibody transfer to the infant, optimal timing for Tdap administration is between 27 and 36 weeks gestation although Tdap may be given at any time during pregnancy.** If not administered during pregnancy, Tdap should be administered immediately postpartum.<sup>5</sup>
- 2) Cocooning.** that susceptible adolescents and adults (e.g., parents, siblings, grandparents, child care providers, and **healthcare personnel**) who have or anticipate having close contact with an infant aged <12 months should receive a single dose of Tdap to protect against pertussis if they have not received Tdap previously.<sup>5,10</sup>

### References:

1. [www.cdc.gov/pertussis/clinical/index.html](http://www.cdc.gov/pertussis/clinical/index.html)
2. [www.cdc.gov/mmwr/PDF/rr/rr5503.pdf](http://www.cdc.gov/mmwr/PDF/rr/rr5503.pdf)
3. [www.cdc.gov/mmwr/PDF/rr/rr5517.pdf](http://www.cdc.gov/mmwr/PDF/rr/rr5517.pdf)
4. [www.cdc.gov/vaccines/pubs/pinkbook/pert.html](http://www.cdc.gov/vaccines/pubs/pinkbook/pert.html)
5. [www.cdc.gov/mmwr/preview/mmwrhtml/mm6207a4.htm](http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6207a4.htm)
6. [www.cdc.gov/pertussis/surv-reporting.html](http://www.cdc.gov/pertussis/surv-reporting.html)
7. [www.cdc.gov/mmwr/PDF/rr/rr5414.pdf](http://www.cdc.gov/mmwr/PDF/rr/rr5414.pdf)
8. [www.cdc.gov/pertussis/clinical/diagnostic-testing/diagnosis-pcr-bestpractices.html](http://www.cdc.gov/pertussis/clinical/diagnostic-testing/diagnosis-pcr-bestpractices.html)
9. [www.cdc.gov/mmwr/pdf/wk/mm6125.pdf](http://www.cdc.gov/mmwr/pdf/wk/mm6125.pdf)
10. [www.cdc.gov/mmwr/pdf/rr/rr6007.pdf](http://www.cdc.gov/mmwr/pdf/rr/rr6007.pdf)



111 North County Farm Road  
Wheaton, IL 60187  
(630) 682-7400  
www.dupagehealth.org

Linda Kurzawa  
President, Board of Health

Maureen McHugh  
Executive Director

Rashmi Chugh, MD, MPH  
Medical Officer

### General Information

Communicable Disease and Epidemiology  
(630) 221-7553

Environmental Health  
(630) 682-7400

Immunizations  
(630) 682-7400

Sexually Transmitted Diseases  
(630) 221-7553

HIV/AIDS  
(630) 221-7553

Tuberculosis  
(630) 221-7522

School Health  
(630) 221-7300

Travel Clinic  
(630) 682-7400

Animal Care & Control  
(630) 407-2800

Please contact Communicable Disease and Epidemiology at (630) 221-7553 or palak.panchal@dupagehealth.org to send suggestions or to be added to the distribution list.

**DUPAGE COUNTY HEALTH DEPARTMENT**  
**CASES<sup>1</sup> OF REPORTABLE DISEASES\***

\* Last updated by the Illinois Department of Public Health in March 2008

**CD REVIEW**  
**Volume 9, No. 10**    **October 2013**

Vaccine Preventable Diseases	Report Within	2013		2012		2011		2010		2009		Median	
		Sep	Jan-Sep	Jan-Sep	Total	Jan-Sep	Total	Jan-Sep	Total	Jan-Sep	Total	Jan-Sep	Total ('09-'12)
Chickenpox (varicella)	24 hrs	12	52	71	93	48	82	78	95	110	146	71	94
Diphtheria	24 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Haemophilus influenzae, invasive	24 hrs	0	6	9	11	9	15	5	7	8	11	8	11
Hepatitis A	24 hrs	0	4	7	8	5	8	3	3	3	6	4	7
Hepatitis B	7 days	0	2	4	5	0	0	1	4	5	8	2	4.5
Hepatitis B (carriers)	7 days	4	86	73	97	80	113	85	108	86	127	85	110.5
Influenza, deaths in < 18 yrs old	7 days	0	1	0	0	0	0	0	0	0	1	0	0
Influenza ICU admissions	24 hrs	0	52	10	59	24	24	0	3	0	NR	10	24
Measles (rubeola)	24 hrs	0	0	0	0	0	0	0	0	1	1	0	0
Mumps	24 hrs	0	0	1	1	2	3	0	2	2	2	1	2
Neisseria meningitidis, invasive	24 hrs	0	0	0	0	1	2	1	1	4	6	1	1.5
Pertussis (whooping cough)	24 hrs	5	31	170	195	164	268	41	92	17	26	41	143.5
Polio	24 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Rubella	24 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Streptococcus pneumoniae, invasive disease, in those < 5 yrs old	7 days	1	4	4	5	11	13	4	8	6	8	4	8
Tetanus	7 days	0	0	0	0	0	0	0	0	0	0	0	0
<b>Other Communicable Diseases</b>													
Anaplasmosis <sup>2</sup>	7 days	0	0	1	2	3	3	0	0	0	0	0	1
Anthrax	3 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Botulism, foodborne	3 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Botulism, other	24 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Brucellosis	3 hrs	0	0	0	0	0	0	0	0	0	0	0	0
California encephalitis <sup>3</sup>	7 days	0	0	0	0	0	0	0	0	0	0	0	0
Cholera	24 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Creutzfeldt-Jakob disease	7 days	0	0	1	1	1	3	1	1	0	0	1	1
Cryptosporidiosis	7 days	1	5	2	2	5	5	5	5	4	5	5	5
Cyclosporiasis	7 days	0	4	0	0	0	0	0	0	1	1	0	0
Dengue fever <sup>3</sup>	7 days	0	1	1	1	1	1	4	4	3	4	1	2.5
Ehrlichiosis <sup>2</sup>	7 days	0	0	0	0	0	0	0	0	0	0	0	0
Enteric E. coli infections <sup>4</sup>	24 hrs	0	49	16	18	19	22	14	18	10	12	16	18
Giardiasis	7 days	2	24	29	34	31	44	40	49	30	40	30	42
Glomerulonephritis <sup>5</sup>	24 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Hantavirus pulmonary syndrome	24 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Hemolytic uremic syndrome	24 hrs	0	0	1	1	1	1	0	0	0	0	0	0.5
Hepatitis C (cases & carriers)	7 days	18	130	141	171	136	189	149	187	165	213	141	188
Hepatitis D	7 days	0	0	0	0	1	1	0	0	0	0	0	0
Histoplasmosis	7 days	0	0	2	2	0	1	2	2	2	2	2	2
Influenza A, novel virus	3 hrs	0	0	0	0	0	0	11	11	54	181	0	5.5
Legionellosis	7 days	2	29	20	25	8	14	9	11	13	13	13	13.5
Leprosy	7 days	0	0	0	0	0	0	0	0	0	0	0	0
Leptospirosis	7 days	0	0	0	0	0	0	0	0	0	0	0	0
Listeriosis	7 days	0	1	1	2	2	2	3	6	2	3	2	2.5
Lyme disease <sup>2</sup>	7 days	1	36	26	27	30	32	17	19	17	18	26	23
Malaria	7 days	0	7	2	2	5	7	4	4	4	4	4	4
Ophthalmia neonatorum	7 days	0	0	0	0	0	0	0	0	0	0	0	0
Plague	3 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Psittacosis	7 days	0	0	0	0	0	0	0	0	0	0	0	0
Q fever <sup>6</sup>	3 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Rabies, human case	24 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Rabies, potential exposure	24 hrs	6	44	42	43	28	30	49	54	13	15	42	36.5
Reye syndrome	7 days	0	0	0	0	0	0	0	0	0	0	0	0
Rheumatic fever <sup>5</sup>	24 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Rocky Mountain spotted fever <sup>2</sup>	7 days	0	0	1	1	0	0	0	0	0	0	0	0
Salmonellosis	7 days	17	99	94	123	73	95	111	136	70	89	94	109
Severe Acute Respiratory Syndrome	3 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Shigellosis	7 days	3	16	17	20	15	22	268	277	10	12	16	21
Smallpox	3 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Smallpox vaccination, complications	24 hrs	0	0	0	0	0	0	0	0	0	0	0	0
St. Louis encephalitis <sup>3</sup>	7 days	0	0	0	0	0	0	0	0	0	0	0	0
Staphylococcus aureus, methicillin resistant (MRSA), in those < 61 days old	24 hrs	0	2	4	7	3	3	6	6	5	6	4	6
Staphylococcus aureus, methicillin resistant (MRSA), community cluster <sup>7</sup>	24 hrs	0	0	1	1	0	0	1	1	1	1	1	1
Staphylococcus aureus (vancomycin-resistant)	24 hrs	0	0	0	0	1	1	1	1	0	0	0	0.5
Streptococcal infections, group A invasive disease <sup>8</sup>	24 hrs	1	18	17	20	24	30	13	20	10	14	17	20
Toxic shock syndrome <sup>9</sup>	7 days	0	1	0	0	1	1	0	0	0	0	0	0
Trichinosis	7 days	0	0	0	0	0	0	0	0	0	0	0	0
Tuberculosis	7 days	3	23	17	26	15	18	21	26	21	29	21	26
Tularemia	3 hrs	0	0	1	1	0	0	0	0	0	0	0	0
Typhoid fever	24 hrs	0	0	1	2	3	3	3	3	5	5	3	3
Typhus	24 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Vibriosis (non-cholera)	7 days	1	2	4	4	3	3	1	1	2	2	2	2.5
West Nile disease <sup>3</sup>	7 days	5	5	55	56	2	2	17	17	0	0	5	9.5
Yersiniosis	7 days	1	2	3	3	2	3	0	0	4	5	2	3
<b>STDs, HIV and AIDS</b>													
AIDS <sup>10</sup> (July - September)	7 days	**	15	12	17	13	16	24	26	12	19	13	18
Chancroid	7 days	0	0	0	0	0	0	0	0	0	0	0	0
Chlamydia	7 days	100	1228	1402	1861	1197	1599	1178	1542	1204	1555	1204	1577
Gonorrhea	7 days	9	173	180	239	190	241	171	223	170	225	173	232
HIV infection <sup>10</sup> (July - September)	7 days	8	17	15	20	19	24	24	27	28	40	19	25.5
Syphilis	7 days	0	8	13	19	22	24	21	25	25	33	21	24.5

DuPage County healthcare providers and hospitals **must report any suspected or confirmed case of these diseases** to the local health authorities within the number of hours or days indicated.

**REPORTING NUMBERS:**

**Communicable Diseases**  
(630) 221-7553  
24 hours: (630) 682-7400

**Tuberculosis**  
(630) 221-7522

**STDs**  
(630) 221-7553

**HIV/AIDS:**  
(630) 221-7553

- <sup>1</sup> Provisional cases, based on date of onset
  - <sup>2</sup> Listed in CD Rules and Regulations under "Tickborne Disease"
  - <sup>3</sup> Listed in CD Rules and Regulations under "Arboviral Infections"
  - <sup>4</sup> O157:H7, STEC, EIEC, ETEC, EPEC
  - <sup>5</sup> Listed in CD Rules and Regulations under "Streptococcal infections, group A invasive disease sequelae"
  - <sup>6</sup> Q fever case in 2004 not related to any suspected bioterrorism threat or event
  - <sup>7</sup> Two or more laboratory-confirmed cases of community onset MRSA infection during a 14 day period
  - <sup>8</sup> Includes streptococcal toxic shock syndrome and necrotizing fasciitis
  - <sup>9</sup> Due to *Staphylococcus aureus*
  - <sup>10</sup> HIV/AIDS data are provided quarterly by IDPH and are provisional, based on date of diagnosis
- NR = Not reported  
\*\* = Count of 5 cases or less

**Websites**

**CDC:**  
[www.cdc.gov](http://www.cdc.gov)

**IDPH:**  
[www.idph.state.il.us](http://www.idph.state.il.us)

**DuPage:**  
[www.dupagehealth.org](http://www.dupagehealth.org)

Archived issues of *CD Review* are available at:  
[www.dupagehealth.org/publications](http://www.dupagehealth.org/publications)