



DuPage County Health Department R E V I E W

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Environmental Health
(630) 682-7400

Immunizations
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Sexually
Transmitted Diseases
(630) 221-7553

HIV/AIDS
(630) 221-7553

Tuberculosis
(630) 221-7522

School Health
(630) 221-7300

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(630) 407-2800

Please contact
Communicable Disease
and Epidemiology at
(630) 221-7553 or
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to send suggestions
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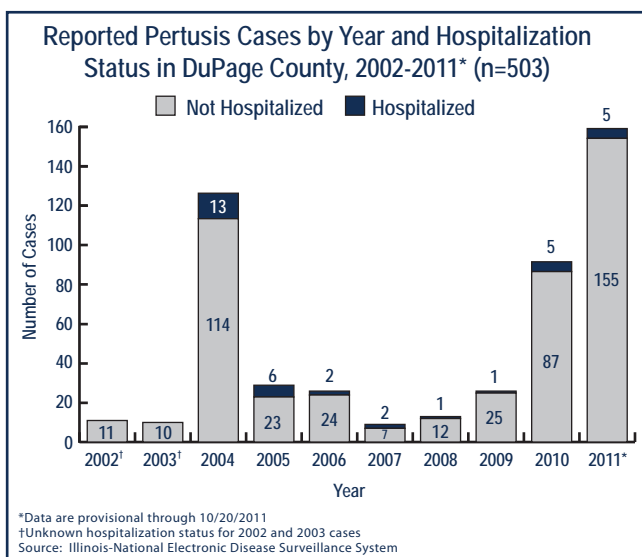
The purpose of this two-page surveillance update is to promote the control and prevention of communicable disease (CD) by providing clinically relevant information and resources to healthcare professionals in DuPage County.



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.

Following increased disease activity from 2010 and early 2011, there has been a continued increase in reported cases of pertussis (whooping cough) throughout the summer and fall in DuPage County, with the majority occurring in children and adolescents. Although no localized outbreak activity has been reported yet this year, in several recent cases, there have been two or more cases within a household.



Pertussis 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 80% compared with the pre-vaccine era.¹

Since the 1980s, however, there has been an increase in the number of reported cases of pertussis, especially among 10 to 19 year olds and infants younger than 6 months of age. 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. Even with these improvements, Centers for Disease Control and Prevention (CDC) believes that much of the disease goes unrecognized and unreported.¹

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.^{2,3}

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.⁴ Compared with older children and adults, infants aged <12 months have substantially higher rates of pertussis and the largest burden of pertussis-related deaths. Since 2004, a mean of 3,055 infant pertussis cases with more than 19 deaths has been reported each year in the U.S.⁵

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.^{4,6} 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.

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. Care should be taken when preparing and administering pertussis vaccines to avoid contamination of surfaces with vaccine.⁵

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.⁷

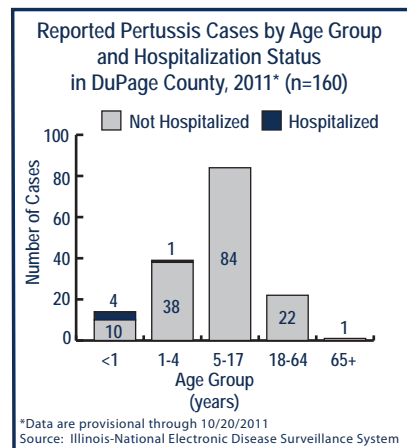
Vaccination of susceptible persons is the most important preventive strategy against pertussis.⁷ Children should receive DTaP vaccine doses at 2, 4, 6 and 15 months of age and another dose at 4 to 6 years of age.⁴ New booster Tdap vaccines became available in 2005 that offer continued protection against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

Published in October 2011, CDC also recommends:

- 1) **Maternal vaccination**, that healthcare personnel should administer Tdap to susceptible women during pregnancy, preferably during the third or late second trimester (after 20 weeks' gestation). If not administered during pregnancy, Tdap should be administered immediately postpartum.
- 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.⁵

References:

1. www.cdc.gov/pertussis/clinical/index.html
2. www.cdc.gov/mmwr/PDF/rr/rr5503.pdf
3. www.cdc.gov/mmwr/PDF/rr/rr5517.pdf
4. www.cdc.gov/vaccines/pubs/pinkbook/downloads/pert.pdf
5. http://www.cdc.gov/mmwr/pdf/wk/mm6041.pdf
6. www.cdc.gov/pertussis/surv-reporting.html
7. www.cdc.gov/mmwr/PDF/rr/rr5414.pdf
8. www.cdc.gov/pertussis/clinical/diagnostic-testing/diagnosis-pcr-bestpractices.html



**DUPAGE COUNTY HEALTH DEPARTMENT
CASES¹ OF REPORTABLE DISEASES***

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

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	Report Within	2011		2010		2009		2008		2007		Median	
		Jan - Sep	Jan - Sep	Jan - Sep	Total	Jan - Sep	Total	Jan - Sep	Total	Jan - Sep	Total	Jan - Sep	Total ('07-'10)
Vaccine Preventable Diseases													
Chickenpox (varicella)	24 hrs	5	48	78	95	110	146	142	236	128	177	110	161.5
Diphtheria	24 hrs	0	0	0	0	0	0	0	0	0	0	0	0
<i>Haemophilus influenzae</i> , invasive	24 hrs	1	9	5	7	8	11	4	6	5	5	5	6.5
Hepatitis A	24 hrs	0	5	3	3	3	6	10	11	15	16	5	8.5
Hepatitis B	7 days	0	1	1	4	5	8	3	3	6	9	3	6
Hepatitis B (carriers)	7 days	9	75	85	108	86	127	97	128	130	167	86	127.5
Influenza, deaths in < 18 yrs old	7 days	0	0	0	0	0	1	0	0	0	NR	0	0
Measles (rubeola)	24 hrs	0	0	0	0	1	1	14	14	0	0	0	0.5
Mumps	24 hrs	0	2	0	2	2	2	2	2	12	13	2	2
<i>Neisseria meningitidis</i> , invasive	24 hrs	0	1	1	1	4	6	2	4	1	1	1	2.5
Pertussis (whooping cough)	24 hrs	21	160	41	92	17	26	6	13	8	9	17	19.5
Poliomyelitis	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
<i>Streptococcus pneumoniae</i> , invasive disease, in those < 5 yrs old	7 days	2	11	4	8	6	8	1	6	6	10	6	8
Tetanus	7 days	0	0	0	0	0	0	0	0	0	0	0	0
Other Communicable Diseases													
Anaplasmosis ²	7 days	0	2	0	0	0	0	0	0	NR	NR	0	0
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	1	1	0	0
Brucellosis	3 hrs	0	0	0	0	0	0	0	0	0	0	0	0
California encephalitis ³	7 days	0	0	0	0	0	0	0	0	NR	NR	0	0
Cholera	24 hrs	0	0	0	0	0	0	1	1	0	0	0	0
Creutzfeldt-Jakob disease	7 days	0	1	0	0	0	0	0	0	NR	NR	0	0
Cryptosporidiosis	7 days	1	4	5	5	4	5	1	1	3	5	4	5
Cyclosporiasis	7 days	0	0	0	0	1	1	0	0	0	0	0	0
Dengue fever ³	7 days	0	1	4	4	3	4	0	0	1	1	1	2.5
Ehrlichiosis ²	7 days	0	0	0	0	0	0	0	0	1	1	0	0
Enteric <i>E. coli</i> infections ⁴	24 hrs	1	18	14	18	10	12	20	21	6	6	14	15
Giardiasis	7 days	5	39	40	49	30	40	47	53	58	62	40	51
Glomerulonephritis ⁵	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	2	0	0	0	0	1	1	0	0	0	0
Hepatitis C (cases & carriers)	7 days	5	140	149	187	165	224	194	246	160	203	160	213.5
Hepatitis D	7 days	0	0	0	0	0	0	0	0	NR	NR	0	0
Histoplasmosis	7 days	0	0	2	2	2	2	5	6	3	5	2	3.5
Influenza A, ICU admissions	3 hrs	0	24	0	3	NR	NR	NR	NR	NR	NR	NR	NR
Influenza A, novel virus	3 hrs	0	0	11	11	54	181	0	0	NR	NR	5.5	11
Legionellosis	7 days	2	8	9	11	13	13	5	5	9	13	9	12
Leprosy	7 days	0	0	0	0	0	0	1	1	0	0	0	0
Leptospirosis	7 days	0	0	0	0	0	0	0	0	1	1	0	0
Listeriosis	7 days	0	3	3	6	2	3	0	1	1	1	2	2
Lyme disease ²	7 days	0	26	17	19	16	17	15	16	15	16	16	16.5
Malaria	7 days	3	4	4	4	4	4	4	4	6	7	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 ⁶	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	7	28	49	54	13	15	43	45	48	50	43	47.5
Reye syndrome	7 days	0	0	0	0	0	0	0	0	0	0	0	0
Rheumatic fever ⁵	24 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Rocky Mountain spotted fever ²	7 days	0	0	0	0	0	0	0	0	0	0	0	0
Salmonellosis	7 days	2	75	111	136	70	89	83	105	111	133	83	119
Severe Acute Respiratory Syndrome	3 hrs	0	0	0	0	0	0	0	0	NR	NR	0	0
Shigellosis	7 days	4	14	268	277	10	12	22	23	11	14	14	18.5
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	NR	NR	0	0
St. Louis encephalitis ³	7 days	0	0	0	0	0	0	0	0	NR	NR	0	0
<i>Staphylococcus aureus</i> , methicillin resistant (MRSA), in those < 61 days old	24 hrs	1	3	6	6	5	6	0	3	NR	NR	4	6
<i>Staphylococcus aureus</i> , methicillin resistant (MRSA), community cluster ⁷	24 hrs	0	0	1	1	1	1	2	4	NR	NR	1	1
<i>Staphylococcus aureus</i> (vancomycin-resistant)	24 hrs	0	1	1	1	0	0	0	0	0	0	0	0
Streptococcal infections, group A invasive disease ⁸	24 hrs	1	24	13	20	10	14	11	16	9	11	11	15
Toxic shock syndrome ⁹	7 days	0	1	0	0	0	0	1	1	1	2	1	0.5
Trichinosis	7 days	0	0	0	0	0	0	0	0	0	0	0	0
Tuberculosis	7 days	0	14	21	26	21	29	35	43	25	27	21	28
Tularemia	3 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Typhoid fever	24 hrs	0	3	3	3	5	5	1	3	5	6	3	4
Typhus	24 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Vibriosis (non-cholera)	7 days	1	3	1	1	2	2	0	0	1	1	1	1
West Nile disease ³	7 days	1	2	17	17	0	0	1	1	9	10	2	5.5
Yersiniosis	7 days	0	2	0	0	4	5	1	1	1	1	1	1
STDs, HIV and AIDS													
AIDS ¹⁰ (July - September)	7 days	5	11	24	31	12	19	14	22	17	20	4.5	21
Chancroid	7 days	0	0	0	0	0	0	0	0	0	0	0	0
Chlamydia	7 days	88	1071	1178	1542	1204	1555	1183	1587	959	1522	1178	1548.5
Gonorrhea	7 days	19	183	171	223	170	225	198	268	156	251	171	238
HIV infection ¹⁰ (July - September)	7 days	6	15	24	29	28	40	16	23	15	22	8.5	26
Syphilis	7 days	0	19	21	25	25	33	11	18	11	18	19	21.5

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

¹ Provisional cases, based on date of onset

² Listed in CD Rules and Regulations under "Tickborne Disease"

³ Listed in CD Rules and Regulations under "Arboviral Infections"

⁴ O157:H7, STEC, EIEC, ETEC, EPEC

⁵ Listed in CD Rules and Regulations under "Streptococcal infections, group A invasive disease sequelae"

⁶ Q fever case in 2004 not related to any suspected bioterrorism threat or event

⁷ Two or more laboratory-confirmed cases of community onset MRSA infection during a 14 day period

⁸ Includes streptococcal toxic shock syndrome and necrotizing fasciitis

⁹ Due to *Staphylococcus aureus*

¹⁰ 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

IDPH:

www.idph.state.il.us

DuPage:

www.dupagehealth.org

Archived issues of CD Review are available at:

www.dupagehealth.org/publications