DuPage County Health Department
CD REVIEW
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DUPAGE COUNTY HEALTH DEPARTMENT
Everyone, Everywhere, Everyday

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General Information

Communicable Disease and Epidemiology
(630) 221-7553

Environmental Health
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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 Services
(630) 407-2800

Please contact Communicable Disease and Epidemiology at (630) 221-7553 with suggestions or to be added to the distribution list.

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

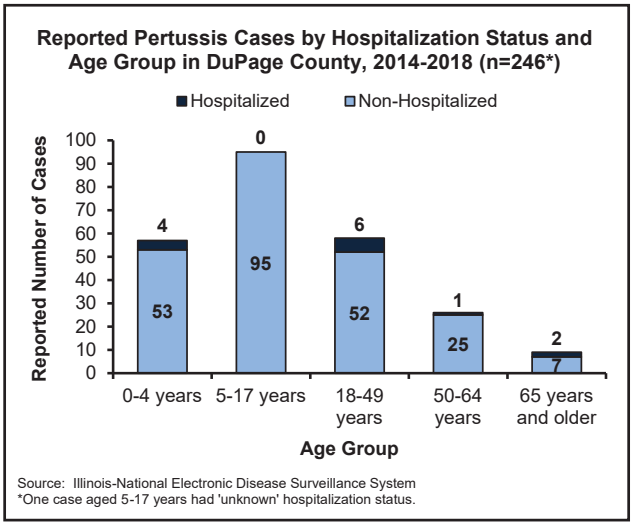
For questions or to report a suspect or known case of pertussis, please call the DuPage County Health Department at (630) 221-7553.

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**.[1]

Since the 1980s, however, there has been an increase in the number of reported cases of pertussis. **Several factors have likely contributed to this increase, including increased awareness and improved recognition of pertussis among clinicians, greater access to and use of laboratory diagnostics, especially polymerase chain reaction (PCR) testing, increased surveillance and reporting of pertussis to public health departments, and waning immunity from vaccines.** Additionally, *B. pertussis* are also always changing at a genetic level. Research is underway to determine if any of the recent changes may be related to the increase in disease.[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**.[2,3,4]

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.[6] **Compared with older children and adults, infants aged <12 months have substantially higher rates of pertussis and the largest burden of pertussis-related deaths**.[6]



Source: Illinois-National Electronic Disease Surveillance System
*One case aged 5-17 years had 'unknown' hospitalization status.

Diagnosis of pertussis is based primarily on clinical presentation **(cough lasting at least 2 weeks with inspiratory "whoop," paroxysms, or post-tussive vomiting, or apnea [with or without cyanosis; for infants aged < 1 year only]** in the absence of a more likely diagnosis), and may be confirmed by a **positive culture and/or PCR testing by nasopharyngeal swab**.[5,7] 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.[8]

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.[9]

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.**[8] Patients with pertussis **must be isolated from day care, school, work, and public gatherings until at least 5 days after the start of appropriate antibiotic therapy**.

Vaccination of susceptible persons is the most important preventive strategy against pertussis.[8] 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.[5] **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.**[4,5,10]

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.[6]

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.[6,11]

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/mmwr/volumes/67/rr/rr6702a1.htm
5. www.cdc.gov/vaccines/pubs/pinkbook/pert.html
6. www.cdc.gov/mmwr/preview/mmwrhtml/mm6207a4.htm
7. www.cdc.gov/pertussis/surv-reporting.html
8. www.cdc.gov/mmwr/PDF/rr/rr5414.pdf
9. www.cdc.gov/pertussis/clinical/diagnostic-testing/diagnosis-pcr-bestpractices.html
10. www.cdc.gov/mmwr/pdf/wk/mm6125.pdf
11. www.cdc.gov/mmwr/pdf/rr/rr6007.pdf

DUPAGE COUNTY HEALTH DEPARTMENT

CASES[1] OF REPORTABLE DISEASES*

* Last updated by the Illinois Department of Public Health, effective January 1, 2019.

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		2019		2018		2017		2016		2015		Median	
Vaccine Preventable Diseases	**Report Within**	**Sep**	**Jan-Sep**	**Jan-Sep**	**Total**	**Jan-Sep**	**Total**	**Jan-Sep**	**Total**	**Jan-Sep**	**Total**	**Jan-Sep**	**Total ('15-'18)**
Chickenpox (varicella)	24 hrs	2	32	33	42	20	35	44	56	26	36	26	39
Diphtheria	3 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Haemophilus influenzae, invasive	24 hrs	1	7	11	16	7	9	7	13	11	15	7	14
Hepatitis A	24 hrs	0	8	5	6	2	3	2	2	4	5	2	4
Hepatitis B (acute, chronic, perinatal)	7 days	13	93	71	93	82	100	87	124	97	139	82	112
Influenza, deaths in < 18 yrs old	7 days	0	1	0	0	0	0	0	0	0	0	0	0
Influenza, ICU admissions	24 hrs	1	81	114	125	71	121	63	69	33	43	63	95
Measles (rubeola)	24 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Mumps	24 hrs	0	5	10	12	8	8	8	11	6	8	8	9.5
Neisseria meningitidis, invasive	24 hrs	0	0	0	0	0	0	1	1	1	1	0	0.5
Pertussis (whooping cough)	24 hrs	5	34	18	34	22	36	83	105	24	49	22	42.5
Poliomyelitis	3 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	0	3	3	6	1	1	2	2	0	0	1	1.5
Tetanus	7 days	0	0	0	0	0	0	0	0	0	0	0	0
Other Communicable Diseases													
Anaplasmosis	7 days	0	0	0	0	1	1	1	1	2	3	1	1
Anthrax	3 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Arboviral Disease (other and unspecified)[2]	7 days	0	0	0	0	1	2	1	1	0	0	0	0.5
Babesiosis	7 days	0	0	0	1	0	0	1	1	0	0	0	0.5
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
Campylobacteriosis	7 days	15	139	124	160	135	161	135	173	NR	NR	129.5	161
Chikungunya virus disease	7 days	0	0	1	2	0	0	2	4	2	2	1	2
Cholera	24 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Cryptosporidiosis	7 days	5	31	29	31	13	18	14	18	3	5	13	18
Cyclosporiasis	7 days	0	17	141	141	7	7	4	5	1	1	4	6
Dengue virus infection	7 days	2	3	2	2	1	1	1	3	3	3	2	2.5
Ehrlichiosis	7 days	0	0	0	0	0	0	1	2	1	1	0	0.5
Enteric *E. coli* infections[3]	24 hrs	3	32	34	39	21	23	22	24	10	14	21	23.5
Hantavirus pulmonary syndrome	24 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Hemolytic uremic syndrome	24 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Hepatitis C (acute, chronic, perinatal)	7 days	18	172	145	190	217	294	204	255	192	237	192	246
Hepatitis D	7 days	0	0	0	0	0	0	0	0	0	0	0	0
Histoplasmosis	7 days	0	6	5	6	8	9	6	8	3	3	5	7
Influenza A, novel virus	3 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Legionellosis	7 days	16	48	29	37	22	28	23	34	13	18	22	31
Leptospirosis	7 days	0	0	0	0	1	1	0	0	0	0	0	0
Listeriosis	7 days	0	2	0	0	4	4	0	0	2	2	0	1
Lyme disease	7 days	1	31	25	27	33	36	30	34	28	30	28	32
Malaria	7 days	0	2	4	4	0	3	9	10	2	4	2	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	3 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Rabies, animal case	24 hrs	0	7	8	8	11	12	10	10	16	16	10	11
Rabies, human case	24 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Rabies, potential exposure	24 hrs	23	97	147	167	70	84	49	59	69	73	69	78.5
Spotted fever rickettsiosis	7 days	0	0	1	2	0	1	3	3	0	0	0	1.5
Salmonellosis	7 days	10	81	98	118	89	104	93	118	108	131	93	118
Salmonella Paratyphi infection[4]	24 hrs	0	1	2	2	1	1	1	1	2	2	1	1.5
Salmonella Typhi infection	24 hrs	0	2	3	4	3	4	0	0	2	3	2	3.5
Severe Acute Respiratory Syndrome	3 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Shigellosis	7 days	2	22	6	10	12	14	18	21	17	27	12	17.5
Smallpox	3 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Smallpox vaccination, complications	24 hrs	0	0	1	1	0	0	0	0	0	0	0	0
Staphylococcus aureus (vancomycin-resistant)	24 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Streptococcal infections, group A invasive disease[5]	24 hrs	4	27	27	33	18	24	14	18	18	22	18	23
Toxic shock syndrome[6]	7 days	0	0	1	1	0	0	0	0	0	0	0	0
Trichinosis	7 days	0	0	0	0	0	0	0	0	0	0	0	0
Tuberculosis	7 days	10	28	33	50	25	42	30	42	18	39	25	42
Tularemia	3 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Typhus	24 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Vibriosis (non-cholera)	7 days	0	8	11	14	5	6	6	6	4	4	5	6
West Nile virus disease	7 days	3	5	18	18	6	6	9	10	8	9	8	9.5
Zika virus disease	7 days	0	0	1	1	1	1	9	11	NR	NR	1	1
STDs, HIV and AIDS													
AIDS[7] (July - September)	7 days	5	9	12	15	10	12	9	12	12	13	10	12.5
Chancroid	7 days	0	0	0	0	0	0	0	0	0	0	0	0
Chlamydia	7 days	91	1417	1870	2545	1901	2495	1868	2417	1780	2382	1868	2456
Gonorrhea	7 days	21	285	320	443	318	451	293	390	226	307	293	416.5
HIV infection[7,8] (July - September)	7 days	10	29	21	24	32	39	31	43	45	56	31	41
Syphilis[9]	7 days	0	41	53	73	42	55	45	59	27	42	42	57
Outbreaks[10]													
Foodborne	24 hrs	1	5	3	6	2	2	2	3	3	3	2	3
Foodborne Outbreak Cases		13	219	78	123	114	114	10	22	43	43	43	78.5
Waterborne	24 hrs	0	0	0	0	0	0	1	1	0	0	0	0
Waterborne Outbreak Cases		0	0	0	0	0	0	2	2	0	0	0	0
Person to Person	24 hrs	3	47	65	80	49	66	38	47	45	53	45	59.5
Person to Person Outbreak Cases		26	748	846	1162	539	1240	720	989	481	686	539	1075.5
Other and Unspecified	24 hrs	1	1	0	1	0	0	0	0	0	0	0	0
Other and Unspecified Outbreak Cases		15	15	0	3	0	0	0	0	0	0	0	0

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] Including, but not limited to, California serogroup virus diseases, Eastern equine encephalitis virus disease, Powassan virus disease, St. Louis encephalitis virus disease, Western equine encephalitis virus disease, and yellow fever. Chikungunya virus disease, dengue virus infection, West Nile virus disease, and Zika virus disease are listed individually.

[3] O157:H7, STEC

[4] *Salmonella enterica* serotypes Paratyphi A, B [tartrate negative], and C

[5] Includes streptococcal toxic shock syndrome and necrotizing fasciitis

[6] Due to *Staphylococcus aureus*

[7] HIV/AIDS data are provided quarterly by IDPH and are provisional, based on date of diagnosis.

[8] HIV counts reflect all newly diagnosed HIV cases regardless of stage of disease at diagnosis.

[9] Cases are provisional, based on test date per local health department investigation. Includes syphilis cases staged as primary, secondary, or early non-primary non-secondary.

[10] Listed based on report submission date

NR = Not reported

Websites

CDC:
www.cdc.gov

IDPH:
www.dph.illinois.gov

DuPage:
www.dupagehealth.org

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