

Pertussis Death Worksheet Instructions

1. **Decedent State of Residence:** State of decedent's residence at time of cough onset.
2. **State Surveillance ID:** State-assigned, unique identifier assigned to pertussis case-patients. If the decedent did not meet the CSTE pertussis case definition for reporting, this field should be left blank.
3. **County of Residence:** County of decedent's residence at time of cough onset.
4. **State Where Death Occurred:** State where the decedent expired, which may differ from the state of residence if the decedent was treated or hospitalized away from home.
5. **Date of Birth:** Birth date of the decedent in MM/DD/YYYY format.
6. **Country of Birth:** Country where the decedent was born.
7. **Gestational age at birth:** For decedents <1 year of age at time of cough onset, record the number of completed weeks of gestation at birth. This data element should be left blank for case-patients ≥ 1 year of age.
8. **Cough Onset Date:** Date on which the decedent experienced first cough during the course of illness in MM/DD/YYYY format.
9. **Date of Death:** Date on which the decedent expired in MM/DD/YYYY format.
10. **Sex:** Indicate whether decedent is Male or Female.
11. **Race:** Decedent's race reported by next of kin or recorded from medical records/death certificate; more than one option may be recorded.
12. **Ethnicity:** Decedent's ethnicity reported by next of kin or recorded from medical records/death certificate.
13. **Clinical Symptoms—General Instructions:** Select all of the clinical symptoms that the decedent experienced during the course of illness preceding their death.
 - **Cough:** Cough of any duration.
 - **Apnea:** Prolonged failure to take a breath, possibly after a coughing spasm, or without prior coughing in an infant. Apnea may occur with or without cyanosis. Next of kin report is sufficient to confirm the presence of apnea.
 - **Paroxysms:** Sudden, uncontrollable bursts or spells of coughing where one cough follows the next without a break for breath.
 - **Post-tussive Vomiting:** Vomiting immediately following a paroxysm.
 - **Whoop:** A high-pitched noise heard on inhalation after paroxysms of cough.
 - **Cyanosis:** A bluish or purplish tinge to the skin or mucous membranes during the course of illness. Next of kin report is sufficient to confirm the presence of cyanosis.
 - **Fever:** Only select if decedent experienced a temperature of ≥ 100.4 degrees Fahrenheit that is documented in their medical chart. This data element should be left blank for decedents who did not experience fever.
 - **Rhinorrhea:** Watery discharge from the nose.
 - **Other:** List any other symptoms experienced by the decedent that you feel are pertinent to their pertussis infection.
14. **Cough Duration:** The total number of days the decedent coughed from the date of cough onset to the date of death. If decedent stopped coughing prior to the date of death but the last date of cough is unavailable, duration of cough should be calculated using the latest date at which cough was recorded by a clinician. For example, if the decedent began coughing on January 1, was recorded as coughing on January 8th and died on January 27th (but had ceased coughing at an unknown date prior to death) the cough duration should be recorded as 7 days (i.e., January 8–January 1.)
15. **Pertussis Laboratory Results—General Instructions:** Select all of the pertussis-positive types of laboratory results associated with the decedent during the course of illness preceding their death.
 - **Culture:** Isolation of *Bordetella pertussis* via bacterial culture.
 - **PCR:** Detection of *Bordetella pertussis* or unspecified *Bordetella* species DNA via Polymerase Chain Reaction (PCR).

APPENDIX 1: Antibiotics- Alphabetized by Generic Name	
Generic Name	Brand Name
AMIKACIN	AMIKACIN
AMOX/CLAVULANATE	AUGMENTIN
AMOXICILLIN	AMOXICILLIN
AMOXICILLIN	AMOXIL
AMOXICILLIN	TRIMOX
AMPICILLIN	AMPICILLIN SODIUM
AMPICILLIN	PRINCIPEN
AMPICILLIN/SULBACTAM	UNASYN
AZITHROMYCIN	AZITHROMYCIN
AZITHROMYCIN	ZITHROMAX
AZITHROMYCIN	ZITHROMAX Z-PAK
AZTREONAM	AZACTAM
CARBENICILLIN	GEOCILLIN
CEFACLOR	CECLOR
CEFACLOR	CEFACLOR
CEFADROXIL	CEFADROXIL
CEFADROXIL	DURICEF
CEFADROXIL	KEFLEX
CEFADROXIL	KEFTAB
CEFAZOLIN	CEFAZOLIN SODIUM
CEFDINIR	OMNICEF
CEFDITOREN	SPECTRACEF
CEFEPIME	MAXIPIME
CEFIXIME	SUPRAX
CEFOTAXIME	CEFOTAXIME SODIUM
CEFOTAXIME	CLAFORAN
CEFOTETAN	CEFOTETAN DISODIUM
CEFOXITIN	CEFOXITIN SODIUM
CEFPOXODIME	VANTIN
CEFPROZIL	CEFPROZIL
CEFPROZIL	CEFZIL
CEFTAZIDIME	CEFTAZIDIME PENTAHYDRATE
CEFTIBUTEN	CEDAX

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CEFTIZOXIME	CEFIZOX
CEFTRIAZONE	CEFTRIAZONE SODIUM
CEFTRIAZONE	ROCEPHIN
CEFUROXIME	CEFTIN
CEFUROXIME	CEFUROXIME
CEPHALEXIN	CEPHALEXIN
CHLORAMPHENICOL	CHLOROMYCETIN
CIPROFLOXACIN	CIPRO
CIPROFLOXACIN	CIPROFLOXACIN
CLARITHROMYCIN	BIAXIN
CLARITHROMYCIN	CLARITHROMYCIN
CLINDAMYCIN	CLEOCIN
CLINDAMYCIN	CLINDAMYCIN
COLESTIMETHATE	COLY-MYCIN
COLISTIN	COLY-MYCIN
DAPTOMYCIN	CUBICIN
DEMECLOCYCLINE	DEMECLOCYCLINE HCL
DICLOXACILLIN	DICLOXACILLIN
DIRITHROMYCIN	DYNABAC
DORIPENEM	DORIBAX
DOXYCYCLINE	ADOXA
DOXYCYCLINE	DORYX EC
DOXYCYCLINE	DOXYCYCLINE
DOXYCYCLINE	MONODOX
DOXYCYCLINE	VIBRAMYCIN
ERTAPENEM	INVANZ
ERYTHROMYCIN	ERY E-SUCC/SULFISOXAZOLE
ERYTHROMYCIN	ERYPED
ERYTHROMYCIN	ERY-TAB EC
ERYTHROMYCIN	ERYTHROCIN
ERYTHROMYCIN	ERYTHROMYCIN
ERYTHROMYCIN	PCE
GATIFLOXACIN	TEQUIN
GEMIFLOXACIN	FACTIVE
GENTAMICIN	GENTAMICIN SULFATE
IMIPENEM	IMIPENEM/CILASTATIN SODIUM
IMIPENEM	PRIMAXIN
IMIPENEM/CILASTIN	PRIMAXIN I.V.
KANAMYCIN	KANAMYCIN SULFATE
LEVOFLOXACIN	LEVAQUIN
LEVOFLOXACIN	LEVOFLOXACIN
LINCOMYCIN	LINOCIN
LINEZOLID	LINEZOLID

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LINEZOLID	ZYVOX
LORACARBEF	LORABID
MEROPENEM	MERREM
METHENAMINE	HIPREX
METHENAMINE	UREX
METRONIDAZOLE	FLAGYL
METRONIDAZOLE	METRONIDAZOLE
MINOCYCLINE	DYNACIN
MINOCYCLINE	MINOCIN PELLETTIZED
MINOCYCLINE	MINOCYCLINE
MOXIFLOXACIN	AVELOX
MOXIFLOXACIN	MOXIFLOXACIN HCL
NAFCILLIN	NAFCILLIN SODIUM
NITROFURANTOIN	FURADANTIN
NITROFURANTOIN	MACROBID
NITROFURANTOIN	MACRODANTIN
NITROFURANTOIN	NITROFURANTOIN
NORFLOXACIN	NOROXIN
OXACILLIN	FLOXIN
OXACILLIN	OXACILLIN
PENICILLIN	PEN G BENZ/PEN G PROCAINE
PENICILLIN	PENICILLIN
PENICILLIN	PENICILLIN VK
PENICILLIN	VEETIDS
PIPERACILLIN	PIPERACIL
PIPERACILLIN	PIPERACILLIN SODIUM
PIPERACILLin/TAZOBACTAM	PIPERACILLIN/TAZOBACTAM SODIUM
PIPERACILLin/TAZOBACTAM	ZOSYN
POLYMYXIN B	POLYMYXIN B SULFATE
QUINUPRISTIN/DALFOPRISTIN	QUINUPRISTIN/DALFOPRISTIN
QUINUPRISTIN/DALFOPRISTIN	SYNERCID
RIFAMPICIN	RIFADIN
RIFAMPIN	RIFADIN
SMX/TMP	BACTRIM DS
SMX/TMP	SEPTRA DS
SMX/TMP	SULFAMETHOXAZOLE W/TMP
SMX/TMP	SULFAMETHOXAZOLE/TRIMETHOPRIM
SMX/TMP	SULFATRIM
STREPTOMYCIN	STREPTOMYCIN
SULFACETAMIDE	SULFACETAMIDE SODIUM
SULFADIAZINE	SULFADIAZINE
SULFAMETHOXAZOLE/TRIMETHOPRIM	CO-TRIMOXAZOLE
SULFASALAZINE	AZULFIDINE

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SULFASALAZINE	SULFASALAZINE
SULFISOXAZOLE	SULFISOXAZOLE
TELITHROMYCIN	KETEK
TETRACYCLINE	ACHROMYCIN V
TETRACYCLINE	SUMYCIN
TETRACYCLINE	TETRACYCLINE
TICARCILLIN	TICARCILLIN
TICARCILLIN/CLAVULANATE	TICARCILLIN/K CLAVULANATE
TICARCILLIN/CLAVULANATE	TIMENTIN
TIGECYCLINE	TYGACIL
TOBRAMYCIN	TOBI
TOBRAMYCIN	TOBRAMYCIN SULFATE
TRIMETHOPRIM	TRIMETHOPRIM
VANCOMYCIN	VANCOCIN

APPENDIX 2: Underlying Health Issues	
AIDS or CD4 count <200	<p>This includes patients 1) diagnosed with AIDS and 2) those who are HIV+ and whose CD4 count was ever <200, even if AIDS is not a diagnosis noted in the chart.</p> <p>The CD4 count from the current illness/admission being investigated may be used to determine if the person has AIDS and is most often listed in the admission history and physical or discharge summary; prior charts do not need to be reviewed.</p> <p>The lowest CD4 count is often listed in the admission history and physical or discharge summary. If "AIDS" is checked, "HIV Infection" should also be checked, but if HIV is present, AIDS should only be checked if it is the diagnosed in the chart or if the CD4 count is <200.</p>
Alcohol abuse	<p>Current: abuse of alcohol within the past 12 months or timing unknown.</p> <p>Past: abuse of alcohol beyond 12 months or clearly noted as "former" in the chart.</p> <p>Includes ETOHA (ethanol abuse).</p>
Aspiration, history of	<p>Aspiration is the inhalation of oropharyngeal or gastric contents into the lower airways, and can lead to aspiration pneumonia or pneumonitis.</p> <p>Persons at risk for aspiration and aspiration pneumonia are those with altered consciousness (anything that reduces the gag reflex) neurologic problems and swallowing dysfunction.</p> <p>This should only be checked if patient's past medical history notes a history of 'aspiration' or 'aspiration pneumonia'.</p>
Asthma	<p>Chronic lung disease in which the airways become narrowed and inflamed.</p> <p>Note on "Reactive airway disease". RAD is a term used in young children who have had several episodes of wheezing; it's a precursor to asthma, but not all persons with RAD will have asthma. Unless "asthma" is stated in the chart, RAD alone would not count as asthma (and would also not count as emphysema or COPD. If a history RAD reported in chart, check the box for RAD.</p>
Atherosclerotic cardiovascular disease (ASCVD)/CAD	<p>This is also described as Arteriosclerotic Heart Disease, CAD (coronary artery disease), and CHD (coronary heart disease). Also includes heart attacks and myocardial infarctions.</p>
Bone Marrow Transplant	<p>May be indicated as 'bone marrow transplant', 'BMT', 'hematopoietic stem cell transplantation' or 'HSCT', 'peripheral blood stem cell transplantation' or 'PBSCT'.</p>

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Bronchopulmonary Dysplasia (BPD)	<p>A chronic lung disease in premature infants, generally resulting from treatment of respiratory distress syndrome with mechanical ventilation.</p> <p>Also called Chronic Lung Disease (CLD), however this is a specific term applied to CLD of infancy. This should not be applied to persons noted to have a chronic lung disease such as COPD or asthma.</p>
Cerebral Vascular Accident (CVA)/Stroke	Includes any history of CVA or stroke. This does not include a history of a TIA (transient ischemic attack).
Chronic kidney disease	Chronic renal disease; a progressive loss in renal function over time. Does not include decedents with acute renal failure. Also, not all persons with CKD will be on dialysis.
Cirrhosis/Liver failure	This does not include hepatitis A, hepatitis B, or hepatitis C infection without liver failure and does not include acute liver failure.
Complement deficiency	<p>Complement deficiencies are a group of disorders in which there is a reduced level of specific proteins that are needed for a normal immune response ("complement").</p> <p>Examples of specific complement deficiencies are: C1 qrs deficiency, C3 deficiency, C2-C4 deficiency, C5-9 deficiency.</p>
Congenital heart disease	Includes: Ebstein's anomaly, Hypoplastic left heart (HLH), Pulmonary atresia, Tetralogy of Fallot (TOF), Total anomalous pulmonary venous return (TAPVR), Transposition of the great vessels, Tricuspid atresia, Truncus arteriosus, Aortic stenosis, Atrial septal defect (ASD), Atrioventricular canal (endocardial cushion defect), Coarctation of the aorta ("coarc"), Patent ductus arteriosus (PDA), Pulmonic stenosis, Ventricular septa defect (VSD)
Current chronic dialysis	<p>Dialysis is a treatment that does some of the things done by healthy kidneys. It is needed when a person's kidneys can no longer take care of the body's needs.</p> <p>For this question, the interest is in whether a patient was on "chronic dialysis" before their pertussis infection. They may have received "chronic dialysis" either as in inpatient or outpatient. They may have received either "hemodialysis" or "peritoneal dialysis".</p> <p>If the patient was placed on dialysis as a result of their infection, DO NOT check this box.</p> <p><i>NOTE: "Chronic kidney disease" and "current chronic dialysis" are overlapping variables (either or both may be checked). Indicate whatever is noted in the chart based on the instructions provided.</i></p>
Cystic Fibrosis	An inherited disease of the secretory glands, including the lungs
Dementia	<p>Significant loss of brain and/or cognitive function that interferes with daily function.</p> <p>Includes Alzheimer's, multi-infarct dementia, and senile dementia. Does not include persons with diminished capacity and/or considered mentally challenged.</p>
Diabetes mellitus	<p>Includes either type I or type II (both "insulin-dependent" and "adult-onset"). Also includes glucose intolerance and new-onset diabetes. Do NOT include decedents noted as "pre-diabetic" or those with gestational diabetes. It is not necessary to look at the results of glucose tolerance test in laboratory results section of the chart for an indication of diabetes.</p> <p>Common abbreviations: DM, AODM, IDDM, NIDDM.</p>
Emphysema/COPD	COPD=chronic obstructive pulmonary disease. Includes chronic bronchitis.
Heart failure/CHF	Congestive heart failure, including cardiomyopathy
HIV Infection	<p>Not everyone who develops an HIV infection will have AIDS.</p> <p>If "AIDS" is checked, "HIV Infection" should also be checked.</p>
Hodgkin's Disease/lymphoma	This cancer of the lymph system results in "immunocompromised for life" so should be marked if any history.

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Immunoglobulin deficiency	Includes syndromes such as SCID (severe combined immunodeficiency), agammaglobulinemia, Ig, IgM, or IgG deficiencies, Wiskott-Aldrich Syndrome.
Immunosuppressive therapy (Steroids, Chemotherapy, Radiation)	<p>Treatment with agents, such as X-rays, corticosteroids, or cytotoxic chemicals that suppress a person's immune response to antigen(s).</p> <p>Immunosuppressive drugs are most commonly used to prevent rejection of organs and tissues after transplant and to treat autoimmune diseases (such as multiple sclerosis, systemic lupus erythematosus, multiple myeloma, inflammatory bowel disease (i.e., Crohn's and Ulcerative Colitis), rheumatoid arthritis, psoriasis, etc.) and other inflammatory diseases (i.e., sarcoidosis—note sarcoidosis is not an underlying condition for an ABCs infection).</p> <p>This should be checked if the chemotherapy is ongoing, if patient is between cycles, or if within 2 weeks of completion.</p> <p>Use of steroids is considered an underlying disease or condition only if they are long-term systemic steroids (this does NOT include topical creams, steroids used only for short course treatment such as one week, and inhaled steroids used for asthma).</p> <p>There are numerous brand and generic drug names for immunosuppressive agents. Understanding which conditions persons may be prescribed may help identify the agents. Please see Appendix 4 for further guidance on specific drug names.</p> <p>If you are uncertain after review of the list of agents listed in Table 8 whether the drug should be considered an immunosuppressive agent, especially if the person has one of the conditions listed previously, please contact CDC.</p>
IV drug use	<p>Any intravenous drug.</p> <p>Current: any intravenous drug use within the past 12 months or timing unknown.</p> <p>Past: any intravenous drug use beyond 12 months or clearly noted as "former" in the chart.</p>
Leukemia	<p>A cancer of the hematopoietic system (bone marrow and other blood-forming organs).</p> <p>This results in an "immunocompromised" condition and includes CML (chronic myelogenous leukemia), CLL (chronic lymphocytic leukemia), AML (acute myelogenous leukemia), ALL (acute lymphocytic leukemia).</p>
Multiple Myeloma	This cancer of the hematopoietic system results in "immunocompromised for life" so should be marked if any history.
Multiple Sclerosis	Chronic autoimmune disease that affects the brain and spinal cord; the body's immune system attacks myelin.
Nephrotic syndrome	Kidney disorder characterized by excessive loss of protein in urine.
Neuromuscular disorder	<p>Disorder of the nerves that control voluntary muscles.</p> <p>Includes muscular dystrophy (MD), myasthenia gravis, and amyotrophic lateral sclerosis (ALS), cerebral palsy (CP), reflex sympathetic dystrophy (RSD).</p>
Obesity	<p>The condition of being significantly overweight. Obesity has been defined by the National Institutes of Health (the NIH) as a BMI of 30 and above.</p> <p>The obesity variable should not be checked in the underlying conditions section if there is no mention of obesity in the chart. (Calculating an obese BMI value using the height and weight data should not be used to complete this variable.)</p>

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Other drug use	<p>Any illicit drug use other than intravenous drug use.</p> <p>Current: any illicit drug use within the past 12 months or timing unknown.</p> <p>Past: any illicit drug use beyond 12 months or clearly noted as “former” in the chart.</p> <p>Please include decedents treated with or noted to have used “medical marijuana” or methadone in this group.</p>
Parkinson’s disease	Degenerative disorder of the central nervous system due to insufficient dopamine.
Peripheral neuropathy	<p>Dysfunction of the peripheral nerves.</p> <p>Includes Charcot-Marie-Tooth Syndrome, Guillain-Barre Syndrome</p>
Plegias/paralysis	<p>Paralysis of extremities.</p> <p>Includes quadraplegias (paralysis of all four limbs), paraplegias (paralysis of legs) and hemiplegia (paralysis of one side of the body).</p>
Pulmonary hypertension	<p>Pulmonary hypertension occurs when the blood pressure in the pulmonary arteries is higher than normal.</p> <p>This is not the same diagnosis as the systemic form of hypertension (‘high blood pressure’, HTN).</p>
Reactive Airway Disease (RAD)	Sometimes, particularly in infants, their medical chart will read “6 month old male with one prior history of wheezing”. This may not be specifically stated to be Reactive Airway Disease, but should be included.
Seizure/Seizure disorder	<p>Uncontrolled electrical activity of the brain.</p> <p>Includes epilepsy. Does NOT include febrile seizures.</p>
Sickle Cell Anemia	Includes persons with HbSS, HbSC or HbS-beta thalassemia. Common abbreviations: SCD, SS disease, SC disease.
Smoking	<p>Current: smoked within the past 12 months or timing unknown.</p> <p>Past: last smoked >12 months or clearly noted as “former” in the chart.</p> <p>Includes a smoker of cigarettes or cigars, but does not include smoking crack or other illicit drugs. Smoking crack or other illicit drugs should be listed under “other drug use”. (If a person quit smoking within the past 12 months, consider this person a current smoker.)</p> <p>Does NOT include those being treated with or noted to have used “medical marijuana”.</p>
Solid organ malignancy	Malignancy of a solid organ such as liver, kidney, pancreas, heart, lung, or of other organs such as colon, bladder, and skin melanoma (excludes non-melanomatous skin cancer and in situ cervical carcinoma).
Splenectomy/Asplenia	Absence of spleen or absence of spleen function.
Systemic Lupus Erythematosus (SLE)	Includes SLE or lupus.
Other chronic lung conditions	<p>Includes chronic lung diseases OTHER THAN asthma, COPD, cystic fibrosis, bronchopulmonary dysplasia (BPD), pulmonary hypertension, and aspiration pneumonia.</p> <p>Examples of chronic lung diseases in this category are chronic bronchitis, bronchiectasis, alveolitis, post inflammatory pulmonary fibrosis, chronic airway obstruction, pneumoconiosis, ventilator-dependent, tracheomalacia, hituberculosis, emphysema thoracis, bronchiolitis obliterans, and interstitial lung disease.</p>

APPENDIX 3: Pertussis Vaccines		
Vaccine Types	Brand Names	Manufacturers
DTaP	Infanrix	Sanofi
DTaP-Hib	Pediarix	GSK
DTaP-IPV-Hib	Kinrix	Wyeth
DTaP-IPV	Boostrix	Aventis
DTP (Whole Cell)	Daptacel	Connaught
DTP-Hib	Pentacel	North American Vaccine
DT or Td	Tripedia	
Tdap	Adacel	
	TriHIBit	
	Acel-Immune	