Georgia Department of Public Health
Vaccine Preventable Disease Epidemiology Unit

Pertussis Case Investigation Protocol

A. Epidemiology of Pertussis (Whooping Cough):

Infectious Agent: *Bordetella pertussis* bacterium

Occurrence: Pertussis is an endemic disease worldwide that is most common in children and can be especially severe in infants less than 6 months of age. Children usually contract pertussis from a symptomatic household member (e.g. older sibling, parent). Outbreaks occur periodically. Incidence and mortality rates declined markedly in the four decades following the introduction of the vaccine in the 1940s. The disease shows cyclical peaks every 3-5 years with recent occurrences in 2005 and 2010. National surveillance has shown an upward trend in disease incidence among 7 and 10 year olds, despite vaccination.

Incubation: Typically 7-10 days (range 5-21 days) following exposure.

Signs and Symptoms: Pertussis typically begins with mild upper respiratory tract symptoms of runny nose, sneezing, and a mild cough (catarrhal stage). The cough becomes more severe over the next 1-2 weeks and develops into paroxysmal episodes (paroxysmal stage), often with a characteristic inspiratory whoop and commonly followed by vomiting (post-tussive vomiting). Fever is absent or minimal. Apnea and/or difficulty feeding frequently occurs in young infants, and may be the sole manifestation of early stage pertussis in this age group. Symptoms wane gradually over weeks to months (convalescent stage). Infants less than six months of age, adolescents, and adults often will not have the typical whoop. In mild cases adolescents and adults may have prolonged cough without paroxysms. The duration of classic pertussis is 6 to 10 weeks. Antimicrobial agents may alleviate the disease but only if given during the catarrhal stage. After the cough is established, antimicrobial agents are recommended primarily to limit the spread of *B. pertussis* organisms to others.

Illness Progression:

Catarrhal	Paroxysmal	Convalescent
1-2 weeks	1-6 weeks	Weeks - Months

Period of Communicability: Pertussis is highly communicable in the early catarrhal stage before the paroxysmal cough stage. Thereafter, communicability decreases becoming negligible in about 3 weeks. Pertussis is most transmissible during the catarrhal period and the first 2 weeks after cough onset (approximately 21 days).

Transmission: Transmitted person- to-person by droplets produced from a cough or sneeze or by direct contact with secretions from the respiratory tract. Pertussis is highly contagious, with 80% secondary attack rates among susceptible household contacts.

Susceptibility and Resistance: Susceptibility of nonimmunized individuals is universal. Cases can occur in previously immunized children, adolescents and adults. Infection with pertussis confers prolonged immunity, but re-infection can occur.

Protection of Contacts: Generally, post exposure antimicrobial prophylaxis is recommended for all household contacts. Other contacts are evaluated and managed on a case-by-case basis. Pertussis immunizations should be reviewed and updated, although vaccination may not prevent infection if given after exposure. Close contacts younger than 7 years of age who have not received 5 Diphtheria and tetanus toxoids and acellular pertussis vaccines (DTaP) doses or have not received a DTaP dose within 3 years should be given a dose as soon after exposure as possible. Children as young as 7 can be given a single dose of Tdap if they have missed one or more doses of DTaP. *See Appendix C or Public Health Nursing Protocol for post exposure chemoprophylaxis options*.

Isolation/Quarantine: Droplet precautions should be used for known cases. Cases should be removed from the presence of young children and infants, especially nonimmunized infants, until the case has received at least 5 days of an appropriate antibiotic. Cases who do not receive antibiotics should be isolated for 3 weeks. Inadequately immunized close contacts less than 7 years of age should be excluded from schools, day care and public gatherings for 21 days after last exposure or until the cases and contacts have received at least 5 days of an appropriate antibiotic.

B. Clinical Case Definition

A cough illness lasting at least 2 weeks (14 days) with one or more of the following:

- Paroxysms of coughing
- Inspiratory “whoop”
- Post-tussive vomiting

C. Case Classification

Probable: Meets the clinical case definition, is not laboratory-confirmed, and is not epidemiologically-linked to a laboratory-confirmed case.

Confirmed:

- A person with an acute cough illness of any duration who is culture-positive for B. pertussis; **or**
- A case that meets the clinical case definition and is confirmed by polymerase chain reaction (PCR) **or**
- A case that meets the clinical definition and is epidemiologically-linked directly to a case confirmed by either culture or PCR.

D. Steps in Investigation: *

Once notified of a suspect pertussis case:

1. Contact case/guardian **AND** health care provider **IMMEDIATELY** to obtain a detailed description of the clinical presentation.

a. Use the Pertussis Case Report Form to assist in interviewing the case/guardian (Appendix D)

2. Determine whether the case meets the clinical case definition

3. If the case definition is met (probable or confirmed), employ the control guidelines detailed below

4. Assist with the coordination of specimen collection (See Appendix B) if necessary

    a. If the case-patient has been coughing for 1-2 weeks, collect a specimen for culture and/or PCR testing at the Georgia Public Heatlh Laboratory (GPHL).

    b. If the case-patient has been coughing for 3 weeks collect a specimen for PCR

    (**NOTE:** State Epi approval must be obtained before any pertussis specimen is submitted to GPHL for testing)

5. Report/ensure reporting of case in SendSS

6. Update the SendSS record in a timely manner with new or additional information as it becomes available. Finalize SendSS record when case investigation is complete.

    NOTE: The final interview should be completed 14 days <u>after</u> the cough onset. If you are notified of a suspect pertussis case-patient with a recent cough onset (< 14 days) investigate the case IMMEDIATELY <u>and</u> follow-up 14 days after the cough onset date to assess whether the case-patient coughed for ≥ 14 days. This is required for case definition/reporting criteria.

7. In the event of death, obtain and send copies of hospital discharge summary, death certificate and autopsy report

E. <u>Control Guidelines</u>

1. Investigate reports of suspect pertussis **IMMEDIATELY**

2. If the clinical case definition is met (probable or confirmed), regard as true pertussis.

3. Ensure cases have received antimicrobial treatment to help limit spread of the disease to others and are excluded and isolated from group activity settings (e.g. schools, day-care centers, work place, camps, etc.) until they have received at least 5 days of an appropriate course of antibiotics for pertussis (See Appendix C).

    a. In health care settings, use of droplet precautions is recommended.

4. Determine period of communicability (one week before to two weeks after cough onset) using the Period of Communicability Timeline (Appendix A)

5. Identify exposed close contacts, including household contacts, child care contacts, etc. **Note:** Patients with pertussis are highly infectious; attack rates among exposed, nonimmune household contacts are as high as 80%--90%.

6. Identify high risk exposed close contacts.

    a. High risk contact definition (contacts at highest risk of severe disease or transmitting disease to others at high risk)
        - Infants <1 year of age
        - Pregnant women
        - Caregivers and household contacts of infants (e.g., family members, friends, or babysitters who spend time caring for an infant)
        - All those attending or working in a childcare setting (i.e. same room)
        - Healthcare workers who care for infants <1 year of age or pregnant/postpartum women
        - Unimmunized/underimmunized children and
        - Immunocompromised persons

7. Administer or coordinate the administration of antibiotics to close contacts **within three weeks (21 days) of exposure**, regardless of vaccination history

    a. Refer contacts for prophylaxis to their primary care physician, the health department, or follow DPH Nursing Protocol for obtaining prophylaxis from the contact's pharmacy.

8. Household and other close contacts should be treated prophylactically with appropriate antimicrobial therapy. The recommended antimicrobial agents and dosing regimens for postexposure prophylaxis are the same as those for treatment of pertussis (Appendix C).

    a. Defining "close contacts" outside the household is especially challenging. Therefore, outside household environments, the risk for secondary transmission of pertussis should be evaluated on a case-by-case basis and decisions to recommend prophylaxis should be based on infectiousness of the case, transmission setting, risk for transmission to others, and risk status of the contacts.

    b. Specific definitions of a contact for purposes of pertussis control are problematic and will vary according to the situation. Transmission can be expected with the following situations:

        - Direct face-to-face contact for a period (not defined) with a case-patient who is symptomatic (e.g., in the catarrhal or paroxysmal period of illness);

        - Shared confined space in close proximity for a prolonged period of time, such as >1 hour, with a symptomatic case-patient; or

        - Direct contact with respiratory, oral, or nasal secretions from a symptomatic case-patient (e.g., an explosive cough or sneeze in the face, sharing food, sharing eating utensils during a meal, kissing, mouth-to-

mouth resuscitation, or performing a full medical exam including examination of the nose and throat).

9. If period of prophylaxis has passed (three weeks, except in high risk cases), counsel contacts to call their health provider if they develop respiratory symptoms and/or cough so antimicrobial treatment/exclusion can be implemented immediately.

10. Vaccine is not post-exposure prophylaxis, but encourage all household and close contacts to be up-to-date on their pertussis vaccinations.

    a. If possible, coordinate vaccination at the local health department.

11. Conduct surveillance for secondary cases and contacts.

    a. If necessary, a letter may be sent out to notify close contacts/guardians of possible exposure (Appendix E).

* Note that the steps are not ordered by priority since several of these steps are conducted simultaneously.

References:

American Academy of Pediatrics. Pertussis (Whooping Cough). In: Pickering LK, Baker CJ, Kimberlin DW, Long SS, eds. *Red Book: 2012 Report of the Committee on Infectious Diseases*. 29th ed. Elk Grove Village, IL: American Academy of Pediatrics; 2012: 553-566.

Centers for Disease Control and Prevention. Epidemiology and Prevention of Vaccine-Preventable Diseases. Atkinson W, Hamborsky J, Wolfe S, eds. 12th ed., second printing. Washington DC: Public Health Foundation, 2012.

Centers for Disease Control and Prevention. Guidelines for the Control of Pertussis Outbreaks. Centers for Disease Control and Prevention: Atlanta, GA 2000.

Appendix A: Period of Communicability Timeline-Pertussis

	Date	AM	NOON	PM
Day - 7				
Day - 6				
Day – 5				
Day – 4				
Day – 3				
Day – 2				
Day – 1				
Day 0 – cough onset				
Day + 1				
Day + 2				
Day + 3				
Day + 4				
Day + 5				
Day + 6				
Day + 7				
Day + 8				
Day + 9				
Day + 10				
Day + 11				
Day + 12				
Day +13				
Day + 14				

* Ask about the following (not inclusive – use as a guide): work activities, leisure, faith activities, shopping, errands, travel, dining out, childcare, school, household visitors and appointments

Georgia Department of Public Health
Vaccine Preventable Disease Epidemiology Unit (VPDEU)

Pertussis: Specimen Collection and Shipping Instructions

Pertussis should be considered in the differential diagnosis of patients presenting with prolonged cough with cyanosis, vomiting or apnea, regardless of vaccination history. Nasopharyngeal secretions are the optimal specimens for isolating the pertussis bacterium and obtaining a lab confirmed diagnosis. Nasopharyngeal swabs for culture and polymerase chain reaction (PCR) should be collected as soon as possible after onset of symptoms and prior to antibiotic treatment. The time of collection will greatly impact the ability to detect *B. pertussis*. There is a greater likelihood of positive cultures and/or PCR in the first two weeks of symptomatic infection than during later weeks of illness. However, PCR may detect organisms for a prolonged period of time regardless of viability. Confirmatory laboratory testing should be performed on **all** suspect or probable cases.

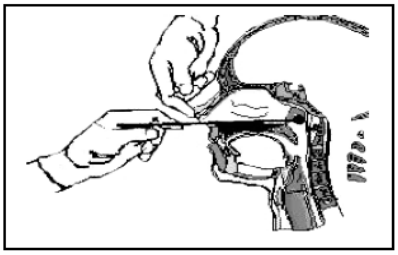
The Georgia Department of Public Health strongly recommends the collection of a nasopharyngeal swab to confirm a pertussis case. The preferred methods for laboratory diagnosis of pertussis are culture and polymerase chain reaction (PCR) and it is recommended that BOTH tests be performed.

***Pertussis culture and PCR testing at the Georgia Public Health Laboratory is available by special arrangement only. To receive pre-approval and make arrangements for either pertussis culture or PCR testing, the District Health office or Georgia Department of Public Health VPDEU must be contacted at 404-657-2588.**

A. Specimen Collection Instructions

Nasopharyngeal Swab Collection
A video detailing how to collect a nasopharyngeal swab can be found at: http://health.state.ga.us/epi/vpd/ in the Updates Section.

- Materials – Consult the District Epidemiologist or the Vaccine Preventable Disease Epidemiology Unit for the following:
  - Polyester (Dacron), rayon, or nylon-flocked swab (**Cotton-tipped or Calcium alginate swabs are not acceptable**)
  - Regan-Lowe transport media
    - Store at 2-8 degrees Celsius (or 36-46 degrees Fahrenheit) in a refrigerator
    - Remove from refrigerator and warm to room temperature
- Collection
  - Have patient sit with head against a wall or lie down, as patients have a tendency to pull away during this procedure
  - Insert swab into one nostril straight back (**not upwards**) and continue along the floor of the nasal passage for several centimeters until reaching the nasopharynx. The distance from the nose to the ear gives an estimate of the distance the swab should be inserted. Do not force swab, if obstruction is encountered before reaching the nasopharynx, remove swab and try the other side.



  - Rotate the swab gently for 5-10 seconds to loosen the epithelial cells.

Culture:
Remove swab and immediately inoculate Regan-Lowe transport media by inserting the swab at least ½ inch below the surface of the media. Bend or clip the wire swab handle to fit the transport medium tube and reattach the cap securely.

PCR:
Remove swab and immediately place in a dry sterile container. Bend or clip the wire swab handle to fit the container. **NOTE: A dry swab, not in Regan Lowe media, is acceptable for PCR testing.**

- Specimen should be transported at refrigerator temperature and received by the laboratory as soon as possible and within one day from time of collection.

Laboratory Submission Instructions

- Notify District Public Health Office or the Vaccine Preventable Disease Epidemiology Unit **immediately** for coordination
- Label specimen transport tube with the patient name and date of specimen collection
- **UNAPPROVED OR UNLABELED SPECIMENS WILL NOT BE TESTED**

Culture

- Complete a Bacteriology lab form at:
  http://health.state.ga.us/pdfs/lab/manual/Bacteriology%20Form%203410.pdf
  with the following information:
  - Submitter code (if known), address, phone and fax number, and contact name
  - Patient name, address, phone number, date of birth, sex, race, and ethnicity (if available)
  - Date of specimen collection, source, type of specimen, clinical history and information
  - Check the box for Pertussis (Whooping) Cough, then check culture

PCR

Complete a Molecular Biology lab form at:
http://health.state.ga.us/pdfs/lab/manual/2012/appendices/Molecular%20Form.pdf
with the following information:
- Submitter code (if known), address, phone and fax number, and contact name
- Patient name, address, phone number, date of birth, sex, race, and ethnicity (if available)
- Date of specimen collection, source, type of specimen, clinical history and information
- Check the box for Bordetella pertussis (PCR)

- **Ship specimens overnight** by courier or Federal Express on ice packs. If the shipment is delayed, refrigerate specimens at 2-8 degrees Celsius (or 36-46 degrees Fahrenheit) and transport the next day on ice packs by first class mail, common carrier, or courier.

- Send specimens to the following address:
  Georgia Public Health Laboratory
  1749 Clairmont Road
  Decatur, GA 30033-4050
  ATTN: Bacteriology Laboratory

Contact Information

- For specimen outfit requests: call the Georgia Public Health Laboratory at 404-327-7921
- Additional lab forms available at http://health.state.ga.us/programs/lab/manual.asp in Appendix B
- For questions related to specimen collection and transport: contact local public health or the State VPD Epidemiology Unit, 404-657-2588

Pertussis Laboratory Testing Procedures and Interpretation of Results

Culture

Cultures are held 7 days from the date of inoculation and read daily. Nasopharyngeal swabs received in transport medium tubes are inoculated immediately onto Regan-Lowe plates and incubated. After the final day of incubation, if no colonies typical of *B. pertussis* or *B parapertussis* are present, the culture is reported as negative for these organisms. A positive culture report is based upon typical colony morphology, biochemicals and direct fluorescent antibody testing (DFA) Positive cultures or cultures overgrown with mold or normal flora are reported immediately upon detection, and results are telephoned to the submitter.

Both culture and PCR are recommended for diagnosis of *B. pertussis* whenever possible. A positive culture is considered confirmatory and is the most reliable. " False negative" culture results may follow from any procedures that render the organisms nonviable, such as improper handling of plates and transport medium after collection or prolonged antibiotic treatment.

PCR

The GPHL currently offers a **multitarget** PCR assay validated by the CDC, for qualitative detection of *Bordetella pertussis*, *B. parapertussis*, and *B. holmesii* DNA extracted from clinical specimens or culture isolates by real-time PCR. Most commercial laboratories use a **single target** PCR for IS481, which is present in multiple copies in *B. pertussis* and in lesser quantities in *B. holmesii* and *B. bronchiseptica*. Because this DNA sequence is present in multiple copies, IS481 is especially susceptible to falsely-positive results. Use of the GPHL multiple target assay improves specificity of PCR assays for pertussis. When requesting commercial PCR testing, clinicians are encouraged to inquire about which PCR target or targets are used by their laboratories. Interpretation of commercial PCR results, should be done in conjunction with an evaluation of signs and symptoms and available epidemiological information, as their specificity can vary greatly.

Appendix C: Recommended treatment and postexposure prophylaxis, by age group

TABLE 4. Recommended antimicrobial treatment and postexposure prophylaxis for pertussis, by age group

	Primary agents			Alternate agent*
Age group	Azithromycin	Erythromycin	Clarithromycin	TMP-SMZ
<1 month	Recommended agent. 10 mg/kg per day in a single dose for 5 days (only limited safety data available.)	Not preferred. Erythromycin is associated with infantile hypertrophic pyloric stenosis. Use if azithromycin is unavailable; 40–50 mg/kg per day in 4 divided doses for 14 days	Not recommended (safety data unavailable)	Contraindicated for infants aged <2 months (risk for kernicterus)
1–5 months	10 mg/kg per day in a single dose for 5 days	40–50 mg/kg per day in 4 divided doses for 14 days	15 mg/kg per day in 2 divided doses for 7 days	Contraindicated at age <2 months. For infants aged ≥2 months, TMP 8 mg/kg per day, SMZ 40 mg/kg per day in 2 divided doses for 14 days
Infants (aged ≥6 months) and children	10 mg/kg in a single dose on day 1 then 5 mg/kg per day (maximum: 500 mg) on days 2–5	40–50 mg/kg per day (maximum: 2 g per day) in 4 divided doses for 14 days	15 mg/kg per day in 2 divided doses (maximum: 1 g per day) for 7 days	TMP 8 mg/kg per day, SMZ 40 mg/kg per day in 2 divided doses for 14 days
Adults	500 mg in a single dose on day 1 then 250 mg per day on days 2–5	2 g per day in 4 divided doses for 14 days	1 g per day in 2 divided doses for 7 days	TMP 320 mg per day, SMZ 1,600 mg per day in 2 divided doses for 14 days

* Trimethoprim sulfamethoxazole (TMP–SMZ) can be used as an alternative agent to macrolides in patients aged ≥2 months who are allergic to macrolides, who cannot tolerate macrolides, or who are infected with a rare macrolide-resistant strain of *Bordetella pertussis*.

CDC. Recommended antimicrobial agents for the treatment and postexposure prophylaxis of pertussis: 2005 CDC guidelines. MMWR 2005; 54(No. RR14).

Appendix D: Pertussis Case Report Form

Georgia Department of Public Health

Pertussis Reporting and Case Investigation Form

PATIENT DEMOGRAPHICS

Patient name: Last, First M.I.	Date of birth (mm/dd/yy): ____/____/____	Age *(enter age and check one)*: _____ □ Days □ Weeks □ Months □ Years		Gender: □ Male □ Female
Address: Number, Street	City:	State:	ZIP code:	County:

Telephone number:

Home ( ) – Work ( ) –

Ethnicity (check one):	Race (check all that apply):		
□ Hispanic/Latino	□ Black/African-American	□ Asian /Pacific Islander	□ Unknown
□ Non-Hispanic/Latino	□ Native American/Alaskan Native	□ Multiracial	
□ Unknown	□ White	□ Other (please specify)_____	

Country of birth:

TRACKING DATA

Medical record no. or client no.:		State Case ID ***(For state use only)***	
Date reported to health department (mm/dd/yy): ____/____/____	Date investigation started: ____/____/____	Person/clinician reporting:	Reporter telephone: ( ) –
Case investigator completing form:	Investigator telephone: ( ) –	Investigator's organization:	

Is this case epi-linked to another confirmed or probable case? □ Yes □ No □ Unknown

SIGNS AND SYMPTOMS

Any cough? □ Yes □ No □ Unknown	Cough onset date ____/____/____	Cough 14 days after cough onset? □ Yes □ No □ Unknown	Paroxysmal cough? □ Yes □ No □ Unknown
Whoop? □ Yes □ No □ Unknown	Post-tusive vomiting? □ Yes □ No □ Unknown	Apnea? □ Yes □ No □ Unknown	
Number of physician visits prior to diagnosis _____ days □ Unknown		Final interview date ____/____/____	Cough at final interview □ Yes □ No □ Unknown
Duration of cough at final interview (days) _____ days		DOES CASE MEET CLINICAL CRITERIA □ Yes □ No □ Unknown ***(For state use only)***	

COMPLICATIONS AND OTHER SYMPTOMS

Hospitalized? □ Yes □ No □ Unknown	Admission date ____/____/____	Discharge date ____/____/____	No. of days hospitalized _____days	Facility
X-ray for pneumonia? □ Pos □ Neg □ Not done □ Unknown		Seizures? □ Yes □ No □ Unknown	Acute encephalopathy? □ Yes □ No □ Unknown	
Died? □ Yes □ No □ Unknown	Date of death ____/____/____	**If case died, please complete and attach pertussis death worksheet**		

TREATMENT

Antibiotics given? □ Yes □ No □ Unknown	1st antibiotic received □ Erythromycin (1) □ Clarithromycin/Azithromycin (2) □ Tetracycline/Doxycycline (3) □ Cotrimoxazole (4) □ Amoxicillin/Penicillin/Ampicillin/ Augmentin/Ceclor/Cefixime (5) □ Other (6) □ Unknown (9)	Date 1st antibiotic started ____/____/____

No. of days 1st antibiotic actually taken _____ days	2nd antibiotic received See choices for 1st antibiotic received _____	Date 2nd antibiotic started ____/____/____	No. of days 2nd antibiotic actually taken _____ days

LABORATORY TESTS

Was laboratory testing for pertussis done?
□ Yes □ No □ Unknown

Case lab confirmed ***(For state use only)***
□ Yes □ No □ Unknown

	Result	Date specimen taken	Lab name
Culture	_____	____/____/____	_____
PCR	_____	____/____/____	_____
Serology 1	_____	____/____/____	_____
Serology 2	_____	____/____/____	_____
DFA	_____	____/____/____	_____

Result codes
P:Positive U:Unknown
X:Not done S:*B.parapertussis*
N:Negative B:*B.bronchiseptica*
I:Indeterminate H:*B.holmseii*
E:Pending

VACCINATION HISTORY

Vaccinated? (Received any doses of pertussis-containing vaccines)
□ Yes □ No □ Unknown

Number of doses of pertussis-containing vaccine received prior to illness onset? _____

Dose	Vaccination date	Vaccine type*	Vaccine manufacturer†	Lot number
Dose 1	____/____/____			
Dose 2	____/____/____			
Dose 3	____/____/____			
Dose 4	____/____/____			
Dose 5	____/____/____			
Dose 6	____/____/____			

***Vaccine type codes:**
W:DTP
A: DTap
H: DTaP-Hib
D: DT or Td
T: DTP-Hib
P: Pertussis Only
U: Unknown
B: DTP-Hib-HepB
X: Tdap (Adacel, Boostrix)
V: DTaP-IPV-HepB (Pediarix)
N: DTaP-IPV-Hib (Pentacel)
K: DTaP-IPV (Kinrex)
O: Other

†Vaccine manufacturer codes:
C: Sanofi Pasteur
L: Wyeth
S: Glaxo Smith Kline
M: Mass. Health Dept
I: Michigan Health Dept
N: North American Vaccine
O: Other
U: Unknown

(If available) Reason for inadequate vaccination coverage (check all that apply)
□ Religious exemption
□ Medical contraindication
□ Philosophical exemption
□ Previous culture/MD confirmed pertussis
□ Parental refusal
□ Age < 7 months
□ Other
□ Unknown

EPIDEMIOLOGIC INFORMATION

Epi-linked?
□ Yes □ No □ Unknown

Outbreak related?
□ Yes □ No □ Unknown

Outbreak name or location

Employed at or attends daycare ?
□ Yes □ No □ Unknown

Employed at or attends school?
□ Yes □ No □ Unknown

PATIENT SETTING (EXPOSURE AND CONTACT)

Transmission setting (Where did this case acquire pertussis?)
□ Daycare (1)
□ School (2)
□ Doctor's Office (3)
□ Hospital Ward (4)
□ Hospital ER (5)
□ Outpatient clinic (6)
□ Home (7)
□ Work (8)
□ Unknown (9)
□ College (10)
□ Military (11)
□ Correctional facility (12)
□ Church (13)
□ International travel (14)
□ Other (15)

Number of contacts recommended antibiotics

Setting of further documented spread from case (outside of household) **(use number codes from transmission setting question above)** _____ *(no documented spread = 16)*

Suspected source of infection (if case < 1 year, is another person with suspected pertussis known?) □ Yes □ No □ Unknown

Source's relationship to case (if patient <12 months old)
□ Mother □ Brother □ Grandparent
□ Father □ Friend □ Neighbor □ Daycare
□ Sister □ Other □ Baby Sitter □ Unknown

Source's current age (if patient < 12 months old) _____

Mother's age at infant birth _____

Number of residents in case household(s) _____

Weight of infant at birth (if patient <12 months old) _____ lb _____oz

Comments:

Appendix E: Sample pertussis letter for schools

<<Insert Letterhead>>

Dear Parent or Guardian,

A few students at << Insert School Name >> have been diagnosed with “possible” pertussis, otherwise known as whooping cough. Pertussis is a highly contagious disease that is spread through the air by cough. Pertussis begins with cold symptoms and a cough. The cough becomes much worse over 1-2 weeks. Symptoms in young children usually include a long series of coughs (“coughing fits”) followed by a whooping noise. However, older children, adults and very young infants may not develop the whoop. There is generally no fever. People with pertussis may have a series of coughs followed by vomiting, turning blue, or difficulty catching their breath. The cough is often worse at night and cough medicines usually do not help alleviate the cough.

If your child develops a cough illness during the next 3 weeks, please be aware that your child may have been exposed to pertussis. If your child develops pertussis symptoms, consult your child’s health care provider immediately. Your child’s doctor should get a nasopharyngeal swab for testing and start antibiotics if indicated. Early treatment can help your child get well faster and lower the chances of spreading the disease to others.

Please consider the following Georgia Department of Public Health recommendations:

1. Infants under one year, and particularly under six months, are most likely to experience severe illness if they develop pertussis. When possible, young infants should be kept away from people with a cough. **Infants with any cough illness should be promptly evaluated by their doctor.**

2. Make sure your child is up to date on pertussis vaccinations. Recently, a booster vaccination has been recommended for adolescents. If you have children less than 7 years of age who have not been completely vaccinated against pertussis (particularly infants under one year) or an adolescent, we recommend you talk to your child’s doctor about the benefits of vaccination.

3. If your child comes down with cold and cough symptoms in the next 3 weeks, talk to your child’s doctor without delay. Tell him/her that a suspected case of pertussis has been identified in your child’s school. The Division of Public Health recommends that laboratory testing be obtained on all suspect pertussis cases. **Also, please alert the school’s nurse right away so that additional pertussis identification and prevention measures can be put into action.**

4. If your child is being treated for pertussis, **he or she must remain out of school until completing the course of antibiotics** (5 days if treated with azithromycin)

If you have any questions or concerns, please contact your child’s health care provider or the school nurse (or public health).

Respectfully yours,