

# LOCAL HEALTH DEPARTMENT DISEASE INVESTIGATION STEPS

NC REPORTABLE DISEASE/CONDITION	NC DISEASE CODE	INFECTIOUS AGENT(S)
<b>TYPHOID FEVER, ACUTE</b>	<b>44</b>	<b><i>S. Typhi</i></b>
<b>PREPARING FOR INVESTIGATION</b>		
<p style="text-align: center;"><b>KNOW THE DISEASE/CONDITION</b></p>	<ul style="list-style-type: none"> <li>• Read <i>about Typhoid Fever</i> in the CD Manual.</li> <li>• See the case definition for Typhoid Fever, Acute.</li> <li>• Study APHA <i>Control of Communicable Diseases Manual</i>, 20<sup>th</sup> ed.</li> <li>• Refer to Red Book, 2015 Report of the Committee on Infectious Diseases, 30<sup>th</sup> edition.</li> </ul> <p>Paratyphoid Fever</p> <ul style="list-style-type: none"> <li>• Paratyphi A, B, or C is to be reported as Salmonella (38) and control measures for Acute Typhoid Fever (44) are to be used.                             <ul style="list-style-type: none"> <li>○ All Paratyphi B samples that have a lab result listed as “var L + tartrate +” are associated with routine gastrointestinal disease. These are to be reported and investigated as “Salmonella (38)”.</li> </ul> </li> <li>• Print and review reporting forms:                             <ul style="list-style-type: none"> <li><i>Part 1: Confidential Disease Report (DHHS 2124)</i></li> <li><i>Part 2: Typhoid Fever, Acute (DHHS/EPI #44)</i></li> </ul> </li> </ul>	
<b>CONDUCTING INVESTIGATION</b>		
<p style="text-align: center;"><b>COLLECT CLINICAL INFORMATION</b></p>	<ul style="list-style-type: none"> <li>• If patient hospitalized for this disease, obtain medical record (admission note, progress note, chest x-ray(s), biopsy report(s), other lab report(s), and discharge summary).</li> <li>• Obtain healthcare provider clinical notes from date(s) of service for this disease/condition.</li> <li>• Look for evidence in the medical record that supports clinical findings described in the case definition.</li> <li>• Review surveillance for completeness. If surveillance not complete contact healthcare provider.</li> </ul>	

<p style="text-align: center;"><b>REVIEW LABORATORY INFORMATION</b></p>	<ul style="list-style-type: none"> <li>• Evaluate laboratory results to determine if requirements of the case definition are satisfied.</li> <li>• <b>Serologic evidence alone is not sufficient for a diagnosis. Isolation of the organism is required.</b></li> <li>• Recommend reporting laboratory forward the specimen to the SLPH.</li> </ul>
<p style="text-align: center;"><b>APPLY THE CASE DEFINITION</b></p>	<ul style="list-style-type: none"> <li>• Use the case definition to determine if the clinical and laboratory findings meet the case definition criteria.</li> </ul>
<b>IMPLEMENTING CONTROL MEASURES</b>	
<p style="text-align: center;"><b>ATTEMPT TO IDENTIFY SOURCE OF EXPOSURE</b></p>	<ul style="list-style-type: none"> <li>• Interview case regarding travel history. Obtain food history to include seafood (particularly oysters), water source, raw fruits/vegetables, milk/milk products. Include food source (location seafood acquired from, restaurant, grocery store, deli, etc.)</li> <li>• Ask about contact to other individuals with similar signs and symptoms. Make every effort to find the source of the illness.</li> <li>• Include environmental health section in the investigation.</li> <li>• Inform CD Branch of the case.</li> </ul>
<p style="text-align: center;"><b>IMPLEMENT CONTROL MEASURES TO PREVENT DISEASE AND ADDITIONAL EXPOSURES</b></p>	<ul style="list-style-type: none"> <li>• All cases must have 3 consecutive negative stool (and urine cultures in areas endemic for schistosomiasis) at least 24 hours apart with initial culture being done 48 hours after completion of antibiotics and not earlier than 1 month after onset. If any of these results are positive, repeat cultures at monthly intervals until at least 3 consecutive negative cultures are obtained.</li> </ul> <p><b>Food Employees</b> In addition to the first bullet above:</p> <ul style="list-style-type: none"> <li>• Exclude from food handling until <ul style="list-style-type: none"> <li>○ asymptomatic, and</li> <li>○ culture negative, and</li> <li>○ following best practice hand hygiene.</li> </ul> </li> <li>• Inform environmental health specialist and CD Branch that a food handler has been excluded.</li> </ul> <p><b>Healthcare Employees</b> In addition to the first bullet above:</p> <ul style="list-style-type: none"> <li>• If healthcare worker with direct patient care, same exclusion criteria as food handler apply.</li> </ul> <p><b>Childcare Employees/Attendees</b> In addition to the first bullet above:</p> <ul style="list-style-type: none"> <li>• If childcare attendee younger than 5 years of age, exclude until 3 negative stool specimens. For those 5 years of age and older, exclude until 24 hours without diarrhea. Supervised hand washing of class should be encouraged.</li> </ul>

<p><b>IMPLEMENT CONTROL MEASURES TO PREVENT DISEASE AND ADDITIONAL EXPOSURES</b></p>	<ul style="list-style-type: none"> <li>If positive <i>s. typhi</i> case in childcare attendee or staff member, stool specimens should be done on other attendees and staff members. Those who test positive should be excluded.</li> </ul> <p><b>Household Contacts</b></p> <ul style="list-style-type: none"> <li>Household contacts of cases should not be employed in sensitive occupations (food handlers/healthcare workers, childcare worker etc.) until two negative stool at least 24 hours apart have been obtained.</li> <li>Case and contacts should be instructed in proper hand washing before preparing, eating or serving food and after defecation. Health department representative should be confident that proper hand washing technique is being followed.</li> </ul>
<p><b>REPORTING INVESTIGATION</b></p>	
<p><b>REPORT TO THE NC COMMUNICABLE DISEASE BRANCH (CD)</b></p>	<ul style="list-style-type: none"> <li>Enter Part 1 and Part 2 Communicable Disease Reports into NC EDSS as a new event, or update the existing event if already entered.</li> <li>Assign event to State Disease Registrar when case investigation complete.</li> <li>Do an "Event_Print" in NC EDSS after assigning to the state. Keep for one year along with any additional notes. Maintain as a surveillance file, not a medical record.</li> </ul>
<p><b>CASE FINDING</b></p>	<ul style="list-style-type: none"> <li>During the course of the investigation, look for symptoms of the disease in other exposed individuals (other infants in daycare or household contacts, for example).</li> </ul>
<p><b>SPECIAL CONSIDERATIONS</b></p>	
<p><b>ANTIBIOTIC USE</b></p>	<ul style="list-style-type: none"> <li>Antibiotic treatment is recommended.</li> </ul>
<p><b>TYPHOID VACCINE</b></p>	<ul style="list-style-type: none"> <li>Although typhoid vaccine is of limited value to those exposed to active cases, it may be considered for use in those individuals who have been exposed to carriers.</li> </ul>
<p><b>RISK COMMUNICATION</b></p>	<ul style="list-style-type: none"> <li>Cases of this disease may pique interest among media, health professionals, government officials, and the public. Be prepared to answer questions and provide information.</li> <li>NC DHHS Public Information Office (919) 733-9190 is available to assist local health departments as needed.</li> </ul>