



Florida Department of Health

Non-Culture Enteric Test Result Guidance

Focus Area: Surveillance

Guidance document number 2011-1

Interim Guidance for Non-Culture Results for Select Enteric Diseases

Version 1.0

July 27, 2011

Summary:

- There has been an increase in the use of non-culture tests to identify enteric bacteria in Florida.
- Please **investigate** and manage a person with a positive non-culture test result for enteric bacteria (*Campylobacter*, *E. coli* O157, *Listeria monocytogenes*, *Salmonella*, *Shigella*, or *Vibrio*) the same way that you would investigate and manage a person with a positive culture result.
- Reporting case definitions for campylobacteriosis, salmonellosis, and shigellosis have been updated to include a 'suspected' definition and take into account positive non-culture test results.

Background

Recently in Florida, we have seen an increase in the use of non-culture tests to identify enteric bacteria. The common non-culture tests for enteric bacteria include polymerase chain reaction (PCR) and enzyme immunoassay (EIA).

In particular, Diatherix Laboratory in Huntsville, AL recently developed multiplex PCR test panels and are marketing them in Florida. The gastrointestinal PCR panel can identify 12 different enteric organisms, most of which are reportable in Florida. The panel includes *Campylobacter jejuni*, *Escherichia coli* O157, *Listeria monocytogenes*, *Salmonella enterica*, *Shigella flexneri*, *Shigella sonnei*, *Vibrio parahaemolyticus*, *Giardia lamblia*, and *Cryptosporidium parvum*.

EIA tests are also being utilized to detect *Campylobacter* antigen. Moreover, it is likely that EIA tests will become available for other enteric organisms in the future.

There is limited information available on the sensitivity and specificity of the EIA and PCR tests that are being used, though in general, PCR is a more sensitive test method than culture.

Case Investigation

Please **investigate** and manage a person with a positive non-culture test result for enteric bacteria (*Campylobacter*, *E. coli* O157, *Listeria monocytogenes*, *Salmonella*, *Shigella*, or *Vibrio*) the same way that you would investigate and manage a person with a positive culture result.

Reporting

The Bureau of Epidemiology has modified the reporting case definitions for enteric bacterial diseases to accommodate non-culture test types. PCR testing may be more sensitive than culture, and it is important to investigate and manage these cases accordingly. Reporting guidelines vary by disease, due to differences in case definitions.

Salmonella and Shigella

The updated case definitions for salmonellosis and shigellosis include positive non-culture results in a suspected case definition, regardless of symptoms. This is consistent with the position statements passed at the 2011 Council for State and Territorial Epidemiologists (CSTE) Annual Conference. Please report these cases in Merlin as suspected cases.

If you have a case of suspected, probable or confirmed salmonellosis or shigellosis in a sensitive situation, please continue to follow Chapter 64D-3, which requires negative cultures or approval of the CHD director or administrator to be released from exclusion.

There is an optional extended data screen available in Merlin for salmonellosis. It is not necessary to complete this screen for all or any cases, but doing so may help your investigation.

There is no extended data screen available in Merlin for shigellosis.

Campylobacter

Prior to July 27, 2011, campylobacteriosis included antigen detection as an appropriate test to meet the probable case definition. Only symptomatic people that are epidemiologically linked to a confirmed case will continue to meet the probable case definition (the probable case definition no longer includes antigen detection as an appropriate test to meet the probable case definition). A suspected case definition has been added and includes antigen detection and all other non-culture test results. Additionally, the updated case definition does not require people to be symptomatic to meet the confirmed or suspected case definitions. This is consistent with the position statements passed at the 2011 Council for State and Territorial Epidemiologists (CSTE) Annual Conference. Please report people that have positive culture results as confirmed cases and people that have positive non-culture results as suspected cases in Merlin, regardless of symptoms.

There is no extended data screen available in Merlin for campylobacteriosis.

E. coli O157, Listeria monocytogenes, and Vibrio

If you receive a positive non-culture result for one of these organisms (see above), please be sure that a specimen is forwarded to the Bureau of Laboratories for culture confirmation.

Prior to July 27, 2011, case definitions required that isolates from all cases of *E. coli* O157:H7 and vibriosis be submitted to the Bureau of Laboratories for confirmation and requested that isolates from all non-O157 STEC and listeriosis cases be submitted to the Bureau of Laboratories for confirmation. Because isolates should in any case be forwarded to the Bureau of Laboratories for confirmation, reporting case definitions for Shiga toxin-producing *E. coli* (STEC), listeriosis, and vibriosis were not updated.

You may create and report cases in Merlin at any time, but please mark the case for deletion if the Bureau of Laboratories does **not** confirm the organism. Please note that Shiga toxin detection by EIA (regardless of whether Shiga toxin is confirmed by the Bureau of Laboratories) will continue to meet the suspected case definition for STEC.

STEC and listeriosis have extended data screens in Merlin that must be completed for all reported cases. Listeriosis and vibriosis have paper case report forms that must be completed, scanned, and attached to all cases in Merlin. Please note that listeriosis has both a required extended data screen AND a more in-depth required paper case report form.

Giardia and Cryptosporidium

Giardia and *Cryptosporidium* are intestinal protozoa (not bacteria) and therefore include only non-culture testing methods in the probable case definition. No changes were made to the reporting case definitions for cryptosporidiosis or giardiasis.

There are no extended data screens available in Merlin for giardiasis or cryptosporidiosis.

Please contact the Bureau of Epidemiology with any questions: (850) 245-4401.