Shiga-Toxin producing E. coli (STEC) Lab Interpretation

THE OBJECTIVE OF THIS FORM IS TO ASSIST WITH CASE CLASSIFICATIONS BETWEEN CIDT* AND CULTURE RESULTS

Initial lab review:

I. **What kind of test was done -** Culture or CIDT?

CIDT - Culture Independent Diagnostic Tests are becoming more popular, but they <u>do not</u> always distinguish among the strains and serotypes of pathogens. Examples: PCR (Polymerase Chain Reaction) or EIA (Enzyme Immune Assay)

II. Is a **Shiga Toxin OR a Shiga Toxin gene** identified?
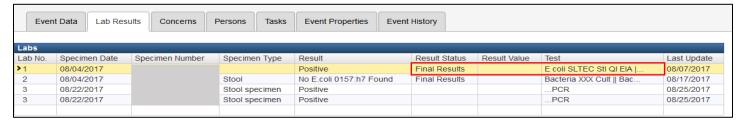
Note:
- STEC, VTEC, and EHEC ARE reportable and these terms are often used interchangeably for the same organism
- E. coli cultured from blood or urine without detection of Shiga toxin or a Shiga toxin gene does **NOT** meet case definition and is **NOT** reportable
- EPEC, ETEC and EAEC are **NOT** reportable.
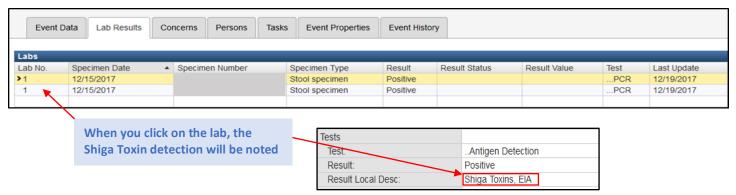- EIEC/shigella (enteroinvasive E. coli) should be reported and investigated as a case of shigellosis

If you need further assistance,
call the epi on call at 919-733-3419.

If the Lab is a Positive CIDT

Probable = Positive CIDT supportive laboratory with known clinical compatibility

	Event Data	Lab Results	Concerns	Persons	Tasks	Event Properties	Event History	

Labs

Lab No.	Specimen Date	Specimen Number	Specimen Type	Result	Result Status	Result Value	Test	Last Update
> 1	08/04/2017			Positive	Final Results		E coli SLTEC Stl Ql EIA |...	08/07/2017
2	08/04/2017		Stool	No E.coli 0157:h7 Found	Final Results		Bacteria XXX Cult || Bac...	08/17/2017
3	08/22/2017		Stool specimen	Positive			...PCR	08/25/2017
3	08/22/2017		Stool specimen	Positive			...PCR	08/25/2017

Probable = Detection of Shiga toxin (i.e. EIA) **OR** Shiga toxin genes (i.e. PCR) and **NO** known organism by culture isolation

	Event Data	Lab Results	Concerns	Persons	Tasks	Event Properties	Event History	

Labs

Lab No.	Specimen Date ▲	Specimen Number	Specimen Type	Result	Result Status	Result Value	Test	Last Update
> 1	12/15/2017		Stool specimen	Positive			...PCR	12/19/2017
1	12/15/2017		Stool specimen	Positive			...PCR	12/19/2017

When you click on the lab, the Shiga Toxin detection will be noted

Tests	
Test:	..Antigen Detection
Result:	Positive
Result Local Desc:	Shiga Toxins, EIA

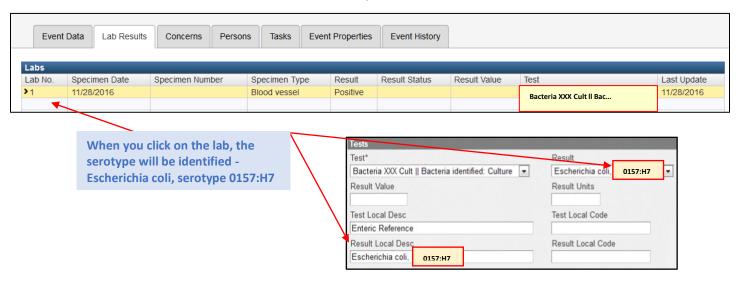**Probable** = Detection of E coli 0157 **OR** STEC/EHEC

Suspect = Positive CIDT supportive laboratory with **NO** known clinical compatibility
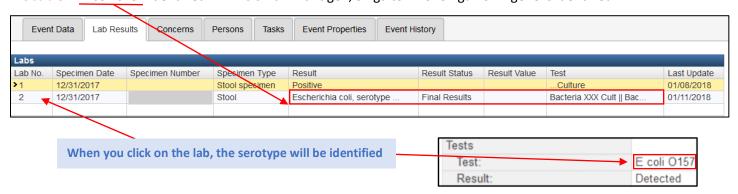
If the Lab is a <u>Positive Culture</u>

Confirmed = Positive culture **AND** the detection of Shiga toxin (e.g. EIA **OR** PCR)

	Event Data	Lab Results	Concerns	Persons	Tasks	Event Properties	Event History		

Labs

Lab No.	Specimen Date	Specimen Number	Specimen Type	Result	Result Status	Result Value	Test	Last Update
›1	11/21/2017		Stool specimen	Shiga toxin	Final Results		E coli SXT1+2 Ag Stl EIA ...	11/28/2017
1	11/21/2017		Stool specimen	Shiga toxin	Preliminary Results		E coli SXT1+2 Ag St EIA ..	11/28/2017
2	11/23/2017		Stool specimen	Positive	Final results		...Culture	02/07/2018
3	11/21/2017		Stool	Escherichia coli, serotype O26	Final Results		Bacteria XXX Cult || Bac...	12/09/2017

Confirmed = E. coli 0157:H7 is an **EXCEPTION**; if identified by culture **NO** toxin is needed

	Event Data	Lab Results	Concerns	Persons	Tasks	Event Properties	Event History	

Labs

Lab No.	Specimen Date	Specimen Number	Specimen Type	Result	Result Status	Result Value	Test	Last Update
›1	11/28/2016		Blood vessel	Positive			Bacteria XXX Cult II Bac	11/28/2016

When you click on the lab, the serotype will be identified - Escherichia coli, serotype 0157:H7

Tests

Test*: Bacteria XXX Cult || Bacteria identified: Culture

Result: Escherichia coli, 0157:H7

Result Value:

Result Units:

Test Local Desc: Enteric Reference

Test Local Code:

Result Local Desc: Escherichia coli, 0157:H7

Result Local Code:

Probable = E. coli 0157 identified **WITHOUT** an H antigen, Shiga toxin or Shiga Toxin gene is identified

	Event Data	Lab Results	Concerns	Persons	Tasks	Event Properties	Event History	

Labs

Lab No.	Specimen Date	Specimen Number	Specimen Type	Result	Result Status	Result Value	Test	Last Update
›1	12/31/2017		Stool specimen	Positive			...Culture	01/08/2018
2	12/31/2017		Stool	Escherichia coli, serotype ...	Final Results		Bacteria XXX Cult || Bac...	01/11/2018

When you click on the lab, the serotype will be identified

Tests

Test: E coli O157

Result: Detected

The above represent the most common scenarios in North Carolina. If your situation falls outside of what is described above you can access the full case definition here:

http://epi.publichealth.nc.gov/cd/lhds/manuals/cd/casedefs/ECOLI_INFECTION-SHIGA_TOXIN_PRODUCING_CD_2017.pdf