

**A****A**

**CDC's FoodNet Hemolytic Uremic Syndrome (HUS) Surveillance  
Case Report Form**

1A. Case ID [**caseid**]      YYYYYearXXFipscode001Record      \_\_\_\_\_  
 2A. State ID [**stateid**]      \_\_\_\_\_  
 3A. FoodNet Person ID (if applicable) [**personid**]      \_\_\_\_\_  
 4A. Site [**site**]      \_\_\_\_\_  
 5A. Date entered [**denter**]      \_\_\_\_/\_\_\_\_/\_\_\_\_

**Demographic Information**

*Instructions: Complete the following demographic information as it pertains to the patient diagnosed with HUS.*

6A. Date of Birth [**dob**]      \_\_\_\_/\_\_\_\_/\_\_\_\_  
 7A. State of Residence [**state**]      \_\_\_\_\_  
 8A. County of residence [**county**]      \_\_\_\_\_  
 9A. Sex [**sex**]       Male (1)    Female (2)    Unknown (9)  
 10A. Ethnicity [**ethnicity**]       Hispanic (1)    Non-Hispanic (2)    Unknown (9)  
 11A. Race [**race**]       Black (1)    White (2)    Asian (3)  
     American Indian / Alaska Native (4)  
     Pacific Islander / Native Hawaiian (5)  
     Multi-Racial (6)    Other (12)    Unknown (9)

**Clinical Information**

*Instructions: Complete the following by interviewing the attending physician and/or reviewing patient's medical record.*

12A. Is the date of HUS diagnosis known? [**dhusunk**]       yes(1)    no(0)  
 13A. Date of HUS diagnosis? [**dhus**]      \_\_\_\_/\_\_\_\_/\_\_\_\_  
 14A. Did the patient have diarrhea in the 3 weeks before HUS diagnosis? [**diarrhea**]       yes (1)    no (0)    unknown (9)  
     if yes    15A.    Date of diarrhea onset [**donset**]      \_\_\_\_/\_\_\_\_/\_\_\_\_  
                  16A.    Did stools contain visible blood at the time? [**stoolblood**]       yes (1)    no (0)    unknown (9)  
 17A.    Was diarrhea treated with antimicrobial medications? [**abxdiar**]       yes (1)    no (0)    unknown (9)  
     if yes    18A.    Types of antimicrobials used to treat diarrhea: (check all that apply)  
     (0,1)     Azithromycin (Zithromax, Z-Pak) [**abxd\_azithromycin**]  
                   Ceftriaxone (Rocephin)[**abxd\_ceftriaxone**]  
                   Ciprofloxacin (Cipro) [**abxd\_cirpofloxin**]  
                   Levofloxacin (Levaquin) [**abxd\_levofloxacin**]  
                   Metronidazole (Flagyl) [**abxd\_metronidazole**]  
                   Piperacillin [**abxd\_piperacillin**]  
                   Tazobactam [**abxd\_tazobactam**]  
                   Trimethoprim Sulfamethoxazole (Bactrim, Septra) [**abxd\_trimethoprimsul**]  
                   Vancomycin (Vancocin) [**abxd\_vancomycin**]  
                   Other (specify in comments) [**abxd\_other**] \_\_\_\_\_ [**abxdoth**]  
                   Unknown [**abxd\_unknown**]

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**Clinical Information Continued**

19A. Did the patient have contact with another person with diarrhea or HUS during the 3 weeks before HUS diagnosis (include daycare, household, etc)? [contact]  yes (1)  no (0)  unknown (9)

20A. Was the patient treated with an antimicrobial medication (ANY antibiotic) for any other reason than diarrhea during the 3 weeks before HUS diagnosis? [abxnotdiar]  yes (1)  no (0)  unknown (9)

if yes 21A. Reason treated with antimicrobial [abxndreason] \_\_\_\_\_

22A. Types of antimicrobials used to treat conditions other than diarrhea: (check all that apply)

- (0,1)  Azithromycin (Zithromax, Z-Pak) [abxnd\_azithromycin]  
 Ceftriaxone (Rocephin)[abxnd\_ceftriaxone]  
 Ciprofloxacin (Cipro) [abxnd\_ciprofloxin]  
 Levofloxacin (Levaquin) [abxnd\_levofloxacin]  
 Metronidazole (Flagyl) [abxnd\_metronidazole]  
 Piperacillin [abxnd\_piperacillin]  
 Tazobactam [abxnd\_tazobactam]  
 Trimethoprim Sulfamethoxazole (Bactrim, Septra) [abxnd\_trimethoprimsul]  
 Vancomycin (Vancocin) [abxnd\_vancomycin]  
 Other (specify in comments) [abxnd\_other] \_\_\_\_\_ [abxndoth]  
 Unknown [abxnd\_unknown]

Other medical conditions present during 3 weeks before HUS diagnosis:

23A. Other gastrointestinal illness [gastro]  yes (1)  no (0)  unknown (9)

24A. Urinary tract infection [uti]  yes (1)  no (0)  unknown (9)

25A. Respiratory tract infection [rti]  yes (1)  no (0)  unknown (9)

26A. Other acute illness[acute]  yes (1)  no (0)  unknown (9)

if yes Describe [acutedesc] \_\_\_\_\_

27A. Pregnancy [preg]  yes (1)  no (0)  unknown (9)

28A. Kidney disease [kidn]  yes (1)  no (0)  unknown (9)

29A. Immune compromising condition or medication [immcomp]  yes (1)  no (0)  unknown (9)

if yes 30A. Malignancy [malig]  yes (1)  no (0)  unknown (9)

31A. Transplanted organ or bone marrow [transpl]  yes (1)  no (0)  unknown (9)

32A. HIV infection [hiv]  yes (1)  no (0)  unknown (9)

33A. Steroid Use (parenteral or oral) [ster]  yes (1)  no (0)  unknown (9)

Other, describe [immother]  yes (1)  no (0)  unknown (9)

\_\_\_\_\_ [immotherdesc]

**Laboratory values within 7 days before and 3 days after HUS diagnosis**

*Instructions: Record the correct unites or convert to the correct units before entering into the HUS database, especially for platelet count (e.g., enter a platelet count of 33,700/mm<sup>3</sup> as 33.7)*

34A. Highest serum creatinine [cre] \_\_\_\_\_ mg/dL (suggested range: 0.10-30.00)

35A. Highest serum BUN [bun] \_\_\_\_\_ mg/dL (suggested range: 4.0-100.0)

36A. Highest WBC [wbc] \_\_\_\_\_ K/mm<sup>3</sup> (suggested range: 0.50-125.00)

37A. Lowest hemoglobin [hgb] \_\_\_\_\_ g/dL (suggested range: 2.0-30.0)

**A****A****Laboratory Values Continued**

- 38A. Lowest hematocrit [hct] \_\_\_\_\_ % (suggested range: 0.0-100.0)
- 39A. Lowest platelet count [plt] \_\_\_\_\_ K/mm<sup>3</sup> (suggested range: 3.0-600.0)
- 40A. Microangiopathic changes [rcfrag]  yes (1)  no (0)  unknown (9)  not tested (7)
- Other laboratory findings within 7 days before and 3 days after HUS diagnosis:
- 41A. Blood (or heme) in urine [burine]  yes (1)  no (0)  unknown (9)  not tested (7)
- 42A. Protein in urine [purine]  yes (1)  no (0)  unknown (9)  not tested (7)
- 43A. RBC in urine by microscopy [rburine]  yes (1)  no (0)  unknown (9)  not tested (7)

**Epi Information**

*Instructions for Hospital Discharge Data: All records meeting the ICD9-or ICD10-CM codes specified in the surveillance protocol should be reviewed even if the case had already been identified through Active Surveillance in order to obtain potentially missing information. If a case is captured through HDD and was previously identified through the network of practitioners, sites should check that the abstracted information from active surveillance is current and complete. In the event that additional information is available, this should be included in the FoodNet HUS surveillance system. If a discrepancy is identified, the most current information should be used.*

- 44A. How was patient's illness first identified by public health (state or local health department or EIP)? [firstident]
- Report of HUS case by a physician or service participating in the FoodNet HUS active surveillance network (1)
  - Report of HUS case by a non-participating physician or service (2)
  - Routine STEC infection active surveillance (3)
  - Retrospective review of hospital discharge data (4)
  - Other (specify in comments) (7) \_\_\_\_\_ [fidentothdesc]
  - Unknown (9)
- 45A. Date reported to public health or identified by hospital discharge data review [dphreport] \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_
- 46A. Was hospital discharge data review completed for this case (to verify or supplement information)? [hddrev]  yes (1)  no (0)  unknown (9)
- 47A. Date of HDD (hospital discharge data) review [dhdd] \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_
- 48A. Is this case epidemiologically linked to a confirmed or probable Shiga toxin-producing *E.coli* (STEC) case? [epilink]  yes (1)  no (0)  unknown (9)
- 49A. Is this case outbreak related? [outbreak]  yes (1)  no (0)  unknown (9)

**Form A Comments, Composite Variables, and Status**

- 50A. Completed by (initials): [aby] \_\_\_\_\_
- 51A. Comments [commentsa] \_\_\_\_\_
- 52A. Age at HUS Diagnosis [age] \_\_\_\_\_ Number in years (round-up)
- 53A. Is the patient a resident of the FoodNet catchment area [fncatch] 1(in catchment), 0 (not in catchment), blank (incomplete)
- 54A. Is this a FoodNet pediatric post diarrheal case [postdiarheal] 1(Yes), 0 (No), blank (incomplete)
- 55A. Year reported? [reportingyear] \_\_\_\_\_
- 56A. Complete? [a\_case\_report\_form\_complete]  incomplete (0)  unverified (1)  complete (2)

**B****B**

### CDC's Foodnet Hemolytic Uremic Syndrome Surveillance Microbiology Report Form

*Instructions: Enter the most relevant microbiology tests associated with this HUS case by specimen source. If multiple positive stool specimens were tested, prioritize specimens tested by the SPHL or CDC. Include positive stool with any evidence of STEC, and, if applicable, serum sent to CDC for testing of antibodies against STEC and/or one other positive specimen if additional results are available. In addition, you will be prompted to enter negative results (if applicable) only for evidence of STEC.*

#### Stool Specimen

1B. Was stool collected? [stoolspec]  yes (1)  no (0)  unknown (9)

2B. Date stool specimen collected [dstoolspec] \_\_\_\_/\_\_\_\_/\_\_\_\_

3B. State Lab ID: [stoolslabsid] \_\_\_\_\_

*Instructions: Answer below questions as they pertain to the stool specimen collected at each lab. You will be asked about other specimens in the other pathogens section.*

4B. Questions	Clinical Lab	State or Local PHL	CDC Lab (Federal)
Was this specimen forwarded to the lab?	<input type="radio"/> yes (1) <input type="radio"/> no (0) <input type="radio"/> unk (9) [sspecsent]	<input type="radio"/> yes (1) <input type="radio"/> no (0) <input type="radio"/> unk (9) [fspecsent]	N/A
Was testing performed at lab?	<input type="radio"/> yes (1) <input type="radio"/> no (0) <input type="radio"/> unk (9) [ctest]	<input type="radio"/> yes (1) <input type="radio"/> no (0) <input type="radio"/> unk (9) [stest]	<input type="radio"/> yes (1) <input type="radio"/> no (0) <input type="radio"/> unk (9) [ftest]
Was a Shiga toxin test performed? (e.g. PCR, EIA)	<input type="radio"/> yes (1) <input type="radio"/> no (0) <input type="radio"/> unk (9) [cstxtest]	<input type="radio"/> yes (1) <input type="radio"/> no (0) <input type="radio"/> unk (9) [sstxtest]	N/A
Shiga toxin test result	<input type="radio"/> positive (1) <input type="radio"/> negative (2) [cstxresult]	<input type="radio"/> positive (1) <input type="radio"/> negative (2) [sstxresult]	<input type="radio"/> positive (1) <input type="radio"/> negative (2) [fstxresult]
Shiga toxin type	<input type="radio"/> stx1 (1) <input type="radio"/> stx2 (2) <input type="radio"/> stx1 & stx2 (3) <input type="radio"/> undifferentiated(9) [cstxgene]	<input type="radio"/> stx1 (1) <input type="radio"/> stx2 (2) <input type="radio"/> stx1 & stx2 (3) <input type="radio"/> undifferentiated(9) [sstxgene]	<input type="radio"/> stx1 (1) <input type="radio"/> stx2 (2) <input type="radio"/> stx1 & stx2 (3) <input type="radio"/> undifferentiated(9) [fstxgene]
Was a CIDT for <i>E. coli</i> O157 performed? (e.g. Immunocard Stat)	<input type="radio"/> yes (1) <input type="radio"/> no (0) <input type="radio"/> unk (9) [co157cidt]	<input type="radio"/> yes (1) <input type="radio"/> no (0) <input type="radio"/> unk (9) [so157cidt]	N/A
CIDT result?	<input type="radio"/> positive (1) <input type="radio"/> negative (2) [co157cidtresult]	<input type="radio"/> positive (1) <input type="radio"/> negative (2) [so157cidtresult]	N/A
Did the test include H7?	<input type="radio"/> yes (1) <input type="radio"/> no (0) <input type="radio"/> unk (9) [cidth7]	N/A	N/A
Was a culture for <i>E. coli</i> O157 performed or the isolate confirmed to be <i>E. coli</i> O157?	<input type="radio"/> yes (1) <input type="radio"/> no (0) <input type="radio"/> unk (9) [co157cult]	<input checked="" type="radio"/> yes (1) <input type="radio"/> no (0) <input type="radio"/> unk (9) [so157cult]	N/A
Was <i>E. coli</i> O157 isolated?	<input type="radio"/> yes (1) <input type="radio"/> no (0) <input type="radio"/> unk (9) [co157isol]	<input type="radio"/> yes (1) <input type="radio"/> no (0) <input type="radio"/> unk (9) [so157isol]	<input type="radio"/> yes (1) <input type="radio"/> no (0) <input type="radio"/> unk (9) [fo157isol]
Was a culture for <i>E. coli</i> non-O157 performed?	N/A	<input type="radio"/> yes (1) <input type="radio"/> no (0) <input type="radio"/> unk (9) [snono157cult]	N/A
Was <i>E. coli</i> non-O157 isolated?	N/A	<input type="radio"/> yes (1) <input type="radio"/> no (0) <input type="radio"/> unk (9) [snono157isol]	<input type="radio"/> yes (1) <input type="radio"/> no (0) <input type="radio"/> unk (9) [fnono157isol]
O Antigen	N/A	<input type="radio"/> O26(1) <input type="radio"/> O111(2) <input type="radio"/> O103(3) <input type="radio"/> O121 (4) <input type="radio"/> O45(5) <input type="radio"/> O145(6) <input type="radio"/> rough(-2) <input type="radio"/> und (-3) <input type="radio"/> not found(-1) [soant]	[foant] [foantoth]
H Antigen	<input type="radio"/> H7 pos (1) <input type="radio"/> H7 neg (2) <input type="radio"/> non-motile(3) <input type="radio"/> not tested(4) [chant]	[shant] [shantoth]	[fhant] [fhantoth]

5B. Was immunomagnetic separation (IMS) used to identify common STEC serogroups? [ims]  yes (1)  no (0)  unknown (9)

6B. What serogroup(s) did the IMS procedure target? (check all that apply) (0,1)

O157 [imssero\_O157]  O26 [imssero\_O26]  
 O45 [imssero\_O45]  O103 [imssero\_O103]  
 O111 [imssero\_O111]  O121 [imssero\_O121]  O145 [imssero\_O145]

**B****FoodNet** **B**7B. Was whole genome sequencing (WGS) performed on this isolate? (at state or CDC) [wgs]  yes (1)  no (0)  unknown (9)

8B. Sequencing ID [wgsid] \_\_\_\_\_

8B-1. O antigen gene identified by WGS [wgs\_oant] \_\_\_\_\_

8B-2. H antigen gene identified by WGS [wgs\_hant] \_\_\_\_\_

**CDC Serology Tests**9B. Has patient serum or plasma been sent to CDC for testing for antibodies to O157 or other STEC? [antio157]  yes (1)  no (0)  unknown (9)

10B. Date serology specimen collected? [dserum] \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_

11B. State laboratory ID for serum [serumslabsid] \_\_\_\_\_

12B. Was there more than one serology result for this case? [multiserol]  yes (1)  no (0)  unknown (9)**13B. Questions**

LPS type	Titer IgG	Interpretation of IgG		Titer IgM	Interpretation of IgM	
		Positive	Negative		Positive	Negative
<input type="radio"/> O157(1) <input type="radio"/> O111(2) [lpstype1]	[igg1]	[igginterp1] (1)	(2)	[igm1]	[igminterp1] (1)	(2)
[lpstype2]	[igg2]	[igginterp2] (1)	(2)	[igm2]	[igminterp2] (1)	(2)
[lpstype3]	[igg3]	[igginterp3] (1)	(2)	[igm3]	[igminterp3] (1)	(2)

**Other Pathogens (co-infections) and Other Specimens**

14B. Questions	Clinical Lab	State or Local PHL	CDC Lab (federal)
Were any other pathogens identified?	<input type="radio"/> yes(1) <input type="radio"/> no(0) <input type="radio"/> unk(9) [cothpath]	<input type="radio"/> yes(1) <input type="radio"/> no(0) <input type="radio"/> unk(9) [sothpath]	<input type="radio"/> yes(1) <input type="radio"/> no(0) <input type="radio"/> unk(9) [fothpath]
Specimen source	Same stool used for STEC testing	Same stool used for STEC testing	Same stool used for STEC testing
Test type	<input type="radio"/> culture(1) <input type="radio"/> CIDT(2) [cothpathtyp]	<input type="radio"/> culture(1) <input type="radio"/> CIDT(2) [sothpathtyp]	<input type="radio"/> culture(1) <input type="radio"/> CIDT(2) [fothpathtyp1]
Pathogen	[cpath]	[spath]	[fpath]
Other Specimens (second specimen)			
Was any other specimen collected?	<input type="radio"/> yes(1) <input type="radio"/> no(0) <input type="radio"/> unk(9) [othspec]		
Date other specimen collection	____/____/____ [dothspec]		
Specimen source	[specsrc]		
Test type 1	<input type="radio"/> culture(1) <input type="radio"/> non-culture (CIDT)(2) [othspectyp1]		
Pathogen 1	[othspecpath1]		
Test type 2	<input type="radio"/> culture(1) <input type="radio"/> non-culture (CIDT)(2) [othspectyp2]		
Pathogen 2	[othspecpath2]		
Where positive? (check all that apply) (0,1)	<input type="checkbox"/> clinic [osp_clinic] <input type="checkbox"/> State or local [osp_phl] <input type="checkbox"/> CDC [osp_cdc]		
Other specimen state lab id	[osslabsid]		

**Form B Comments, Composite Variables, and Status**

15B. Completed by (initials): [bby] \_\_\_\_\_

16B. Comments [commentsb] \_\_\_\_\_

17B. Is there an STEC isolate? [stecisolate] 1(Yes), 0 (No), blank (incomplete)

18B. Is there evidence of STEC by serology [stecbyserology] 1(Yes), 0 (No), blank (incomplete)

19B. Is there any evidence of Shiga toxin? [anystx] 1(Yes), 0 (No), blank (incomplete)

20B. Complete? [b\_microbiology\_form\_complete]  incomplete (0)  unverified (1)  complete (2)

**CDC's Foodnet Hemolytic Uremic Syndrome Surveillance****Chart Review Form**

*Instructions: Complete after patient has been discharged; use hospital discharge summary, consultation notes and DRG coding sheet. Complete one composite form for all institution where hospitalized.*

**Hospitals**

- 1C. Was patient hospitalized? [hospital]  yes(1)  no(0)  unknown(9)
- 2C. Date of first admission: [dadmis] \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_
- 3C. Date of last discharge: [ddisch] \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_

**Complications**

Did any of the following complications occur during this admission:

- |   |       |  | Date of onset |             |  |
|---|-------|--|---------------|-------------|--|
| 4C. Pneumonia                             | [pne] | <input type="radio"/> yes (1) <input type="radio"/> no (0) <input type="radio"/> unknown (9) | <u>if yes</u> | 5C. [dpne]  |  |
| 6C. Seizure                               | [szr] | <input type="radio"/> yes (1) <input type="radio"/> no (0) <input type="radio"/> unknown (9) | <u>if yes</u> | 7C. [dszr]  |  |
| 8C. Paralysis or hemiparesis              | [par] | <input type="radio"/> yes (1) <input type="radio"/> no (0) <input type="radio"/> unknown (9) | <u>if yes</u> | 9C. [dpar]  |  |
| 10C. Blindness                            | [bln] | <input type="radio"/> yes (1) <input type="radio"/> no (0) <input type="radio"/> unknown (9) | <u>if yes</u> | 11C. [dbln] |  |
| 12C. Other major neurologic sequelae      | [ner] | <input type="radio"/> yes (1) <input type="radio"/> no (0) <input type="radio"/> unknown (9) | <u>if yes</u> | 13C. [dner] |  |
| <u>if yes</u> , Describe: [nerdesc] _____ |       |  |               |             |  |

Were any of the following procedures performed during this admission:

- 14C. Peritoneal dialysis [pdial]  yes (1)  no (0)  unknown (9)
- 15C. Hemodialysis [hdial]  yes (1)  no (0)  unknown (9)
- Transfusion with:
- 16C. packed RBC or whole blood [prbc]  yes (1)  no (0)  unknown (9)
- 17C. platelets [pltt]  yes (1)  no (0)  unknown (9)
- 18C. fresh frozen plasma [ffpl]  yes (1)  no (0)  unknown (9)
- 19C. Plasmapheresis [phres]  yes (1)  no (0)  unknown (9)
- 20C. Laparotomy or other abdominal surgery\* [surg]  yes (1)  no (0)  unknown (9)
- (\*other than insertion of dialysis catheter)
- if yes Describe: [surgdesc] \_\_\_\_\_

**Discharge**

- 21C. Condition at discharge [conddc]  dead (1)  alive (0)
- if dead 22C. Date deceased [ddead] \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_
- if alive 23C. Requiring dialysis [reqdial]  yes (1)  no (0)  unknown (9)
- 24C. With neurologic deficits [neurodef]  yes (1)  no (0)  unknown (9)

**Form C Comments, Composite Variables, and Status**

- 25C. Completed by (initials): [cby] \_\_\_\_\_
- 26C. Comments [commentsc] \_\_\_\_\_
- 27C. Length of Stay? (Days) [los] \_\_\_\_\_ Number in Days**
- 28C. Complete? [c\_chart\_review\_form\_complete]  incomplete (0)  unverified (1)  complete (2)