



**2019 Extended-Spectrum Beta-Lactamase (ESBL)-Producing Enterobacteriaceae**

**Multi-site Gram-Negative Surveillance Initiative (MuGSI)**

**Healthcare-Associated Infections Community Interface (HAIC) Case Report**

Form Approved  
OMB No. 0920-0978  
Exp. Date: XX-XX-XXXX

Patient's Name: _____		Phone no. ( ) _____	
Address: _____		MRN: _____	
City: _____	State: _____	ZIP: _____	Hospital: _____
----Patient Identifier information is not transmitted to CDC----			

<b>DEMOGRAPHICS</b>			
1. STATE: _____	2. COUNTY: _____	3. STATE ID: _____	4a. LABORATORY ID WHERE INCIDENT SPECIMEN IDENTIFIED: _____
4b. FACILITY ID WHERE PATIENT TREATED: _____			

5. DATE OF BIRTH: _____	7. SEX AT BIRTH: <input type="checkbox"/> MALE <input type="checkbox"/> FEMALE <input type="checkbox"/> Unknown <input type="checkbox"/> Check if transgender	8a. ETHNIC ORIGIN: <input type="checkbox"/> Hispanic or Latino <input type="checkbox"/> Not Hispanic or Latino <input type="checkbox"/> Unknown	8b. RACE: (Check all that Apply) <input type="checkbox"/> American Indian or Alaska Native <input type="checkbox"/> Asian <input type="checkbox"/> Black or African American <input type="checkbox"/> Native Hawaiian or Other Pacific Islander <input type="checkbox"/> White <input type="checkbox"/> Unknown
6. AGE: _____ <input type="checkbox"/> Days <input type="checkbox"/> Mos. <input type="checkbox"/> Yrs.			

9. DATE OF INCIDENT SPECIMEN COLLECTION (DISC): _____	10. ORGANISM: <b>Extended-Spectrum Cephalosporin-resistant:</b> <input type="checkbox"/> <i>Escherichia coli</i> <input type="checkbox"/> <i>Klebsiella pneumoniae</i> <input type="checkbox"/> <i>Klebsiella oxytoca</i>
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11. INCIDENT SPECIMEN COLLECTION SITE:

Blood  Bone  CSF  Internal body site (specify): \_\_\_\_\_  Joint/synovial fluid  Muscle

Peritoneal fluid  Pericardial fluid  Pleural fluid  Urine  Other normally sterile site (specify): \_\_\_\_\_

<p>12. LOCATION OF SPECIMEN COLLECTION:</p> <p><input type="checkbox"/> <b>OUTPATIENT:</b> Facility ID: _____ <input type="checkbox"/> Emergency room <input type="checkbox"/> Clinic/Doctor's office <input type="checkbox"/> Dialysis center <input type="checkbox"/> Surgery <input type="checkbox"/> Observational/Clinical decision unit <input type="checkbox"/> Other outpatient</p> <p><input type="checkbox"/> <b>INPATIENT:</b> Facility ID: _____ <input type="checkbox"/> ICU <input type="checkbox"/> OR <input type="checkbox"/> Radiology <input type="checkbox"/> Other inpatient</p> <p><input type="checkbox"/> <b>LTCF:</b> Facility ID: _____ <input type="checkbox"/> <b>LTACH:</b> Facility ID: _____ <input type="checkbox"/> <b>Autopsy</b> <input type="checkbox"/> <b>Other (specify):</b> _____ <input type="checkbox"/> <b>Unknown</b></p>	<p>13. WHERE WAS THE PATIENT LOCATED ON THE 3<sup>RD</sup> CALENDAR DAY BEFORE THE DISC?</p> <p><input type="checkbox"/> Private residence <input type="checkbox"/> LTACH <input type="checkbox"/> LTACH Facility ID: _____ <input type="checkbox"/> Homeless <input type="checkbox"/> Hospital inpatient <input type="checkbox"/> Incarcerated <input type="checkbox"/> Other (specify): _____ <input type="checkbox"/> Unknown</p> <p>Was the patient transferred from this hospital? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown</p>
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<p>14. WAS THE PATIENT HOSPITALIZED ON THE DAY OF OR IN THE 29 CALENDAR DAYS AFTER THE DISC?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown IF YES, DATE OF ADMISSION: _____ - _____ - _____</p>	<p>15a. WAS THE PATIENT IN AN ICU IN THE 7 DAYS BEFORE THE DISC?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown IF YES, DATE OF ICU ADMISSION: _____ - _____ - _____ OR <input type="checkbox"/> Date unknown</p> <p>15b. WAS THE PATIENT IN AN ICU ON THE DAY OF INCIDENT SPECIMEN COLLECTION OR IN THE 6 DAYS AFTER THE DISC?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown IF YES, DATE OF ICU ADMISSION: _____ : _____ - _____ OR <input type="checkbox"/> Date unknown</p>
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16. PATIENT OUTCOME:  Survived  Died  Unknown

DATE OF DISCHARGE: \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ OR  Date unknown  Left against medical advice (AMA)

DATE OF DEATH: \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ OR  Date unknown

IF SURVIVED, DISCHARGED TO:  Private residence  LTACH Facility ID: \_\_\_\_\_  LTACH Facility ID: \_\_\_\_\_  
 Other (specify): \_\_\_\_\_  Unknown

ON THE DAY OF OR IN THE 6 CALENDAR DAYS BEFORE DEATH, WAS THE PATHOGEN OF INTEREST ISOLATED FROM A SITE THAT MEETS THE CASE DEFINITION?  
 Yes  No  Unknown

Public reporting burden of this collection of information is estimated to average 25 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. An agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to CDC/ATSDR Information Collection Review Office, 1600 Clifton Road NE, MS D-74, Atlanta, Georgia 30329; ATTN: PRA (0920-0978).



**17. TYPES OF INFECTION ASSOCIATED WITH CULTURE(S):** (Check all that apply)  None  Unknown

<input type="checkbox"/> Abscess, not skin	<input type="checkbox"/> Cellulitis	<input type="checkbox"/> Epidural Abscess	<input type="checkbox"/> Pyelonephritis	<input type="checkbox"/> Surgical incision infection
<input type="checkbox"/> AV fistula/graft infection	<input type="checkbox"/> Chronic ulcer/wound (not decubitus)	<input type="checkbox"/> Meningitis	<input type="checkbox"/> Septic arthritis	<input type="checkbox"/> Surgical site infection (internal)
<input type="checkbox"/> Bacteremia	<input type="checkbox"/> Decubitus/pressure ulcer	<input type="checkbox"/> Osteomyelitis	<input type="checkbox"/> Septic emboli	<input type="checkbox"/> Traumatic wound
<input type="checkbox"/> Bursitis	<input type="checkbox"/> Empyema	<input type="checkbox"/> Peritonitis	<input type="checkbox"/> Septic shock	<input type="checkbox"/> Urinary tract infection
<input type="checkbox"/> Catheter site infection (CVC)	<input type="checkbox"/> Endocarditis	<input type="checkbox"/> Pneumonia	<input type="checkbox"/> Skin abscess	<input type="checkbox"/> Other (specify): _____

**18. RECURRENT UTI**

Yes  
 No  
 Unknown

**19. UNDERLYING CONDITIONS:** (Check all that apply)  None  Unknown

<b>CHRONIC LUNG DISEASE</b>	<b>IMMUNOCOMPROMISED CONDITION</b>	<b>NEUROLOGIC CONDITION</b>	<b>SKIN CONDITION</b>
<input type="checkbox"/> Cystic fibrosis	<input type="checkbox"/> HIV infection	<input type="checkbox"/> Cerebral palsy	<input type="checkbox"/> Burn
<input type="checkbox"/> Chronic pulmonary disease	<input type="checkbox"/> AIDS/CD4 count < 200	<input type="checkbox"/> Chronic cognitive deficit	<input type="checkbox"/> Decubitus/pressure ulcer
<b>CHRONIC METABOLIC DISEASE</b>	<input type="checkbox"/> Primary immunodeficiency	<input type="checkbox"/> Dementia	<input type="checkbox"/> Surgical wound
<input type="checkbox"/> Diabetes mellitus	<input type="checkbox"/> Transplant, hematopoietic stem cell	<input type="checkbox"/> Epilepsy/seizure/seizure disorder	<input type="checkbox"/> Other chronic ulcer or chronic wound
<input type="checkbox"/> With chronic complications	<input type="checkbox"/> Transplant, solid organ	<input type="checkbox"/> Multiple sclerosis	<input type="checkbox"/> Other (specify): _____
<b>CARDIOVASCULAR DISEASE</b>	<b>LIVER DISEASE</b>	<input type="checkbox"/> Neuropathy	<b>OTHER</b>
<input type="checkbox"/> CVA/Stroke/TIA	<input type="checkbox"/> Chronic liver disease	<input type="checkbox"/> Parkinson's disease	<input type="checkbox"/> Connective tissue disease
<input type="checkbox"/> Congenital heart disease	<input type="checkbox"/> Ascites	<b>PLEGIAS/PARALYSIS</b>	<input type="checkbox"/> Obesity or morbid obesity
<input type="checkbox"/> Congestive heart failure	<input type="checkbox"/> Cirrhosis	<input type="checkbox"/> Hemiplegia	<input type="checkbox"/> Pregnant
<input type="checkbox"/> Myocardial infarction	<input type="checkbox"/> Hepatic encephalopathy	<input type="checkbox"/> Paraplegia	<b>MUGSI CONDITIONS</b>
<input type="checkbox"/> Peripheral vascular disease (PVD)	<input type="checkbox"/> Variceal bleeding	<input type="checkbox"/> Quadriplegia	<input type="checkbox"/> Urinary tract problems/abnormalities
<b>GASTROINTESTINAL DISEASE</b>	<input type="checkbox"/> Hepatitis C	<b>RENAL DISEASE</b>	<input type="checkbox"/> Premature birth
<input type="checkbox"/> Diverticular disease	<input type="checkbox"/> Treated, in SVR	<input type="checkbox"/> Chronic kidney disease	<input type="checkbox"/> Spina bifida
<input type="checkbox"/> Inflammatory bowel disease	<input type="checkbox"/> Current, chronic	Lowest serum creatinine: _____ mg/DL	
<input type="checkbox"/> Peptic ulcer disease	<b>MALIGNANCY</b>		
<input type="checkbox"/> Short gut syndrome	<input type="checkbox"/> Malignancy, hematologic		
	<input type="checkbox"/> Malignancy, solid organ (non-metastatic)		
	<input type="checkbox"/> Malignancy, solid organ (metastatic)		

**20. SUBSTANCE USE, CURRENT**

**SMOKING:** (Check all that apply)  None  Unknown

Tobacco  E-nicotine delivery system  Marijuana

**ALCOHOL ABUSE:**  Yes  No  Unknown

**OTHER SUBSTANCES:** (Check all that apply)  None  Unknown

Marijuana/cannabinoid (other than smoking)  
 Opioid, DEA schedule I (e.g., heroin)  
 Opioid, DEA schedule II-IV (e.g., methadone, oxycodone)  
 Cocaine or methamphetamine  
 Other (specify): \_\_\_\_\_  
 Unknown substance

**DOCUMENTED USE DISORDER (DUD)/ABUSE:**  DUD or abuse  DUD or abuse  DUD or abuse  DUD or abuse  DUD or abuse  DUD or abuse

**MODE OF DELIVERY:** (Check all that apply)

IDU  Skin popping  Non-IDU  Unknown  
 IDU  Skin popping  Non-IDU  Unknown  
 IDU  Skin popping  Non-IDU  Unknown  
 IDU  Skin popping  Non-IDU  Unknown  
 IDU  Skin popping  Non-IDU  Unknown  
 IDU  Skin popping  Non-IDU  Unknown

**21. RISK FACTORS:** (Check all that apply)  None  Unknown

**WAS INCIDENT SPECIMEN COLLECTED 3 OR MORE CALENDAR DAYS AFTER HOSPITAL ADMISSION?**  Yes  No

**PREVIOUS HOSPITALIZATION IN THE YEAR BEFORE DISC:**  Yes  No  Unknown

If YES, DATE OF DISCHARGE CLOSEST TO DISC: \_\_\_\_ - \_\_\_\_ - \_\_\_\_

OR, DATE UNKNOWN

Facility ID: \_\_\_\_\_

**OVERNIGHT STAY IN LTCF IN THE YEAR BEFORE DISC:**  Yes  No  Unknown

Facility ID: \_\_\_\_\_

**OVERNIGHT STAY IN LTACH IN THE YEAR BEFORE DISC:**  Yes  No  Unknown

Facility ID: \_\_\_\_\_

**SURGERY IN THE YEAR BEFORE DISC:**  Yes  No  Unknown

**CURRENT CHRONIC DIALYSIS:**  Yes  No  Unknown

IF YES, TYPE:  Hemodialysis  Peritoneal  Unknown

IF HEMODIALYSIS, TYPE OF VASCULAR ACCESS:

AV fistula/graft  Hemodialysis central line  Unknown

**CENTRAL LINE IN PLACE ON THE DISC (UP TO THE TIME OF COLLECTION), OR AT ANY TIME IN THE 2 CALENDAR DAYS BEFORE DISC:**  Yes  No  Unknown

Check here if central line in place for > 2 calendar days:

**URINARY CATHETER IN PLACE ON THE DISC (UP TO THE TIME OF COLLECTION), OR AT ANY TIME IN THE 2 CALENDAR DAYS BEFORE DISC:**  Yes  No  Unknown

IF YES, CHECK ALL THAT APPLY:

Indwelling Urethral Catheter  Suprapubic Catheter  
 Condom Catheter  Other (specify): \_\_\_\_\_

**ANY OTHER INDWELLING DEVICE IN PLACE ON THE DISC (UP TO THE TIME OF COLLECTION), OR AT ANY TIME IN THE 2 CALENDAR DAYS BEFORE DISC:**  Yes  No  Unknown

IF YES, CHECK ALL THAT APPLY:

ET/NT Tube  Gastrostomy Tube  NG Tube  
 Tracheostomy  Nephrostomy Tube  Other (specify): \_\_\_\_\_

**22a. WEIGHT:** \_\_\_\_\_ lbs. \_\_\_\_\_ oz. OR \_\_\_\_\_ kg  Unknown

**22b. HEIGHT:** \_\_\_\_\_ ft. \_\_\_\_\_ in. OR \_\_\_\_\_ cm  Unknown

**22c. BMI:** \_\_\_\_\_  Unknown

**PATIENT TRAVELED INTERNATIONALLY IN THE YEAR BEFORE DISC:**  Yes  No  Unknown

COUNTRY: \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

**PATIENT HOSPITALIZED WHILE VISITING COUNTRY(IES) ABOVE:**  Yes  No  Unknown



**URINE CULTURES ONLY:**

**23a. RECORD THE COLONY COUNT:**

\_\_\_\_\_

**URINE CULTURES ONLY:**

**23b. SIGNS AND SYMPTOMS ASSOCIATED WITH URINE CULTURE.**

Please indicate if any of the following symptoms were reported during the 5 day time period including the 2 calendar days before through the 2 calendar days after the DISC.

- |  |  |  |
|--|--|--|
| <input type="checkbox"/> <b>None</b>                             | <input type="checkbox"/> <b>Unknown</b>        | <b>Symptoms for patients<br/>≤ 1 year of age only:</b> |
| <input type="checkbox"/> Costovertebral angle pain or tenderness | <input type="checkbox"/> Frequency             | <input type="checkbox"/> Apnea                         |
| <input type="checkbox"/> Dysuria                                 | <input type="checkbox"/> Suprapubic tenderness | <input type="checkbox"/> Bradycardia                   |
| <input type="checkbox"/> Fever [temperature ≥ 100.4 °F (38 °C)]  | <input type="checkbox"/> Urgency               | <input type="checkbox"/> Lethargy                      |
|  |  | <input type="checkbox"/> Vomiting                      |

**24a. WAS THE INCIDENT SPECIMEN POLYMICROBIAL?**

- Yes
- No
- Unknown

**24b. WHAT SCREENING/ CONFIRMATORY METHOD WAS USED FOR ESBL IDENTIFICATION?**

(Check all that apply):  None  Unknown

- Broth Microdilution (ATI detection)
  - ESBL well
  - Expert rule (ATI flag)
  - Unknown
- Broth Microdilution (Manual)
- Disk Diffusion
- E-test
- Molecular test (specify): \_\_\_\_\_
- Other non-molecular test (specify): \_\_\_\_\_

**24c. IF SCREENING/ CONFIRMATORY METHOD WAS USED, WHAT WAS THE RESULT?**

- |                                   |                                   |  |                                  |
|-----------------------------------|-----------------------------------|--|----------------------------------|
| <input type="checkbox"/> Positive | <input type="checkbox"/> Negative | <input type="checkbox"/> Indeterminate | <input type="checkbox"/> Unknown |
| <input type="checkbox"/> Positive | <input type="checkbox"/> Negative | <input type="checkbox"/> Indeterminate | <input type="checkbox"/> Unknown |
| <input type="checkbox"/> Positive | <input type="checkbox"/> Negative | <input type="checkbox"/> Indeterminate | <input type="checkbox"/> Unknown |
| <input type="checkbox"/> Positive | <input type="checkbox"/> Negative | <input type="checkbox"/> Indeterminate | <input type="checkbox"/> Unknown |
| <input type="checkbox"/> Positive | <input type="checkbox"/> Negative | <input type="checkbox"/> Indeterminate | <input type="checkbox"/> Unknown |
| <input type="checkbox"/> Positive | <input type="checkbox"/> Negative | <input type="checkbox"/> Indeterminate | <input type="checkbox"/> Unknown |
| <input type="checkbox"/> Positive | <input type="checkbox"/> Negative | <input type="checkbox"/> Indeterminate | <input type="checkbox"/> Unknown |
| <input type="checkbox"/> Positive | <input type="checkbox"/> Negative | <input type="checkbox"/> Indeterminate | <input type="checkbox"/> Unknown |

**25a. IS ANTIMICROBIAL USE (IV OR ORAL) IN THE 30 DAYS BEFORE THE DISC DOCUMENTED?**

- Yes
- No
- Unknown

**25b. IF YES, CHECK ALL ANTIMICROBIALS USED IN THE 30 DAYS BEFORE THE DISC: (Check all that apply)**

- Unknown

- |  |   |  |  |
|--|---|--|--|
| <input type="checkbox"/> Amikacin                    | <input type="checkbox"/> Ceftazidime            | <input type="checkbox"/> Ertapenem               | <input type="checkbox"/> Polymyxin B                   |
| <input type="checkbox"/> Amoxicillin                 | <input type="checkbox"/> Ceftazidime/avibactam  | <input type="checkbox"/> Fidaxomicin             | <input type="checkbox"/> Polymyxin E (colistin)        |
| <input type="checkbox"/> Amoxicillin/clavulanic acid | <input type="checkbox"/> Ceftizoxime            | <input type="checkbox"/> Fosfomicin              | <input type="checkbox"/> Rifaximin                     |
| <input type="checkbox"/> Ampicillin                  | <input type="checkbox"/> Ceftolozane/tazobactam | <input type="checkbox"/> Gentamicin              | <input type="checkbox"/> Tedizolid                     |
| <input type="checkbox"/> Ampicillin/sulbactam        | <input type="checkbox"/> Ceftriaxone            | <input type="checkbox"/> Imipenem/cilastatin     | <input type="checkbox"/> Telavancin                    |
| <input type="checkbox"/> Azithromycin                | <input type="checkbox"/> Cefuroxime             | <input type="checkbox"/> Levofloxacin            | <input type="checkbox"/> Tigecycline                   |
| <input type="checkbox"/> Aztreonam                   | <input type="checkbox"/> Cephalexin             | <input type="checkbox"/> Linezolid               | <input type="checkbox"/> Tobramycin                    |
| <input type="checkbox"/> Cefazolin                   | <input type="checkbox"/> Ciprofloxacin          | <input type="checkbox"/> Meropenem               | <input type="checkbox"/> Trimethoprim                  |
| <input type="checkbox"/> Cefdinir                    | <input type="checkbox"/> Clarithromycin         | <input type="checkbox"/> Meropenem/vaborbactam   | <input type="checkbox"/> Trimethoprim/sulfamethoxazole |
| <input type="checkbox"/> Cefepime                    | <input type="checkbox"/> Clindamycin            | <input type="checkbox"/> Metronidazole           | <input type="checkbox"/> Vancomycin                    |
| <input type="checkbox"/> Cefixime                    | <input type="checkbox"/> Dalbavancin            | <input type="checkbox"/> Moxifloxacin            | <input type="checkbox"/> IV                            |
| <input type="checkbox"/> Cefotaxime                  | <input type="checkbox"/> Daptomycin             | <input type="checkbox"/> Nitrofurantoin          | <input type="checkbox"/> PO                            |
| <input type="checkbox"/> Cefoxitin                   | <input type="checkbox"/> Delafloxacin           | <input type="checkbox"/> Oritavancin             | <input type="checkbox"/> Other (specify): _____        |
| <input type="checkbox"/> Cefpodoxime                 | <input type="checkbox"/> Doripenem              | <input type="checkbox"/> Penicillin              | <input type="checkbox"/> Other (specify): _____        |
| <input type="checkbox"/> Ceftaroline                 | <input type="checkbox"/> Doxycycline            | <input type="checkbox"/> Piperacillin/tazobactam |  |

**REMINDER:** Any prior antimicrobial use that is not noted above should be documented in the other (specify) field.



**26. SUSCEPTIBILITY RESULTS:**

Please complete the table below based on the information found in the indicated data source. Shaded antibiotics are required to have the MIC entered into the MuGSI-CM system, if available.

Data Source	Medical Record		Microscan		Vitek		Phoenix		Kirby-Bauer		E-test		
	Antibiotic	MIC	Interp	MIC	Interp	MIC	Interp	MIC	Interp	Zone Diam	Interp	MIC	Interp
Amikacin													
Amoxicillin/Clavulanate													
Ampicillin													
Ampicillin/Sulbactam													
Aztreonam													
Cefazolin													
CEFEPIME													
CEFOTAXIME													
CEFTAZIDIME													
Ceftazidime/Avibactam													
Ceftolozane/Tazobactam													
CEFTRIAZONE													
Cephalothin													
Ciprofloxacin													
COLISTIN													
DORIPENEM													
Doxycycline													
ERTAPENEM													
Fosfomycin													
Gentamicin													
IMIPENEM													
Imipenem-relebactam													
Levofloxacin													
MEROPENEM													
Meropenem-vaborbactam													
Minocycline													
Moxifloxacin													
Nitrofurantoin													
Piperacillin/Tazobactam													
Plazomicin													
POLYMYXIN B													
Rifampin													
Tetracycline													
TIGECYCLINE													
Tobramycin													
Trimethoprim-sulfamethoxazole													

27a. WAS CASE FIRST IDENTIFIED THROUGH AUDIT?

- Yes
- No

27b. CRF STATUS:

- Complete
- Pending
- Chart unavailable after 3 requests

27c. SO INITIALS:

\_\_\_\_\_

27d. COMMENTS:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_