



2020 Extended-Spectrum Beta-Lactamase (ESBL)-Producing Enterobacteriaceae

Multi-site Gram-Negative Surveillance Initiative (MuGSI)

Form Approved
OMB No. 0920-0978

Healthcare-Associated Infections Community Interface (HAIC) Case Report

Patient's Name: _____		Phone no. () _____	
Address: _____			MRN: _____
City: _____	State _____	ZIP: _____	Hospital: _____
----Patient Identifier information is not transmitted to CDC----			
DEMOGRAPHICS			
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: Extended-Spectrum Cephalosporin-resistant: <input type="checkbox"/> <i>Escherichia coli</i> <input type="checkbox"/> <i>Klebsiella pneumoniae</i> <input type="checkbox"/> <i>Klebsiella oxytoca</i>		
11. INCIDENT SPECIMEN COLLECTION SITE: <input type="checkbox"/> Blood <input type="checkbox"/> Bone <input type="checkbox"/> CSF <input type="checkbox"/> Internal body site (specify): _____ <input type="checkbox"/> Joint/synovial fluid <input type="checkbox"/> Muscle <input type="checkbox"/> Peritoneal fluid <input type="checkbox"/> Pericardial fluid <input type="checkbox"/> Pleural fluid <input type="checkbox"/> Urine <input type="checkbox"/> Other normally sterile site (specify): _____			
12. LOCATION OF SPECIMEN COLLECTION: <input type="checkbox"/> OUTPATIENT: 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		<input type="checkbox"/> INPATIENT: Facility ID: _____ <input type="checkbox"/> ICU <input type="checkbox"/> OR <input type="checkbox"/> Radiology <input type="checkbox"/> Other inpatient	
		<input type="checkbox"/> LTCF Facility ID: _____ <input type="checkbox"/> LTACH Facility ID: _____ <input type="checkbox"/> Autopsy <input type="checkbox"/> Other (specify): _____ <input type="checkbox"/> Unknown	
14. WAS THE PATIENT HOSPITALIZED ON THE DAY OF OR IN THE 29 CALENDAR DAYS AFTER THE DISC? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown IF YES, DATE OF ADMISSION: ____ - ____ - ____		13. WHERE WAS THE PATIENT LOCATED ON THE 3RD CALENDAR DAY BEFORE THE DISC? <input type="checkbox"/> Private residence <input type="checkbox"/> LTACH Facility ID: _____ <input type="checkbox"/> LTCF Facility ID: _____ <input type="checkbox"/> Hospital inpatient Facility ID: _____ <input type="checkbox"/> Homeless <input type="checkbox"/> Incarcerated <input type="checkbox"/> Other (specify): _____ <input type="checkbox"/> Unknown Was the patient transferred from this hospital? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown	
15a. WAS THE PATIENT IN AN ICU IN THE 7 DAYS BEFORE THE DISC? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown IF YES, DATE OF ICU ADMISSION: ____ - ____ - ____ OR <input type="checkbox"/> Date unknown		15b. WAS THE PATIENT IN AN ICU ON THE DAY OF INCIDENT SPECIMEN COLLECTION OR IN THE 6 DAYS AFTER THE DISC? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown IF YES, DATE OF ICU ADMISSION: ____ : ____ - ____ OR <input type="checkbox"/> Date unknown	
16. PATIENT OUTCOME: <input type="checkbox"/> Survived <input type="checkbox"/> Died <input type="checkbox"/> Unknown DATE OF DISCHARGE: ____ - ____ - ____ OR <input type="checkbox"/> Date unknown <input type="checkbox"/> Left against medical advice (AMA) DATE OF DEATH: ____ - ____ - ____ OR <input type="checkbox"/> Date unknown IF SURVIVED, DISCHARGED TO: <input type="checkbox"/> Private residence <input type="checkbox"/> LTACH Facility ID: _____ <input type="checkbox"/> LTACH Facility ID: _____ <input type="checkbox"/> Other (specify): _____ <input type="checkbox"/> 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? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> 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).



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

<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): _____

17V. F97I FF9BH1 H-
 Yes
 No
 Unknown

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

CHRONIC LUNG DISEASE <input type="checkbox"/> Cystic fibrosis <input type="checkbox"/> Chronic pulmonary disease	IMMUNOCOMPROMISED CONDITION <input type="checkbox"/> HIV infection <input type="checkbox"/> AIDS/CD4 count < 200 <input type="checkbox"/> Primary immunodeficiency <input type="checkbox"/> Transplant, hematopoietic stem cell <input type="checkbox"/> Transplant, solid organ	NEUROLOGIC CONDITION <input type="checkbox"/> Cerebral palsy <input type="checkbox"/> Chronic cognitive deficit <input type="checkbox"/> Dementia <input type="checkbox"/> Epilepsy/seizure/seizure disorder <input type="checkbox"/> Multiple sclerosis <input type="checkbox"/> Neuropathy <input type="checkbox"/> Parkinson's disease <input type="checkbox"/> Other (specify): _____	SKIN CONDITION <input type="checkbox"/> Burn <input type="checkbox"/> Decubitus/pressure ulcer <input type="checkbox"/> Surgical wound <input type="checkbox"/> Other chronic ulcer or chronic wound <input type="checkbox"/> Other (specify): _____
CHRONIC METABOLIC DISEASE <input type="checkbox"/> Diabetes mellitus <input type="checkbox"/> With chronic complications	LIVER DISEASE <input type="checkbox"/> Chronic liver disease <input type="checkbox"/> Ascites <input type="checkbox"/> Cirrhosis <input type="checkbox"/> Hepatic encephalopathy <input type="checkbox"/> Variceal bleeding <input type="checkbox"/> Hepatitis C <input type="checkbox"/> Treated, in SVR <input type="checkbox"/> Current, chronic	PLEGIAS/PARALYSIS <input type="checkbox"/> Hemiplegia <input type="checkbox"/> Paraplegia <input type="checkbox"/> Quadriplegia	OTHER <input type="checkbox"/> Connective tissue disease <input type="checkbox"/> Obesity or morbid obesity <input type="checkbox"/> Pregnant
CARDIOVASCULAR DISEASE <input type="checkbox"/> CVA/Stroke/TIA <input type="checkbox"/> Congenital heart disease <input type="checkbox"/> Congestive heart failure <input type="checkbox"/> Myocardial infarction <input type="checkbox"/> Peripheral vascular disease (PVD)	MALIGNANCY <input type="checkbox"/> Malignancy, hematologic <input type="checkbox"/> Malignancy, solid organ (non-metastatic) <input type="checkbox"/> Malignancy, solid organ (metastatic)	RENAL DISEASE <input type="checkbox"/> Chronic kidney disease Lowest serum creatinine: _____ mg/DL <input type="checkbox"/> Unknown or not done	MUGSI CONDITIONS <input type="checkbox"/> Urinary tract problems/abnormalities <input type="checkbox"/> Premature birth <input type="checkbox"/> Spina bifida

19. SUBSTANCE USE

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

DOCUMENTED USE DISORDER (DUD)/ABUSE:

<input type="checkbox"/> Marijuana, cannabinoid (other than smoking)	<input type="checkbox"/> DUD or abuse
<input type="checkbox"/> Opioid, DEA schedule I (e.g., heroin)	<input type="checkbox"/> DUD or abuse
<input type="checkbox"/> Opioid, DEA schedule II-IV (e.g., methadone, oxycodone)	<input type="checkbox"/> DUD or abuse
<input type="checkbox"/> Opioid, NOS	<input type="checkbox"/> DUD or abuse
<input type="checkbox"/> Cocaine	<input type="checkbox"/> DUD or abuse
<input type="checkbox"/> Methamphetamine	<input type="checkbox"/> DUD or abuse
<input type="checkbox"/> Other (specify): _____	<input type="checkbox"/> DUD or abuse
<input type="checkbox"/> Unknown substance	<input type="checkbox"/> DUD or abuse

MODE OF DELIVERY: (Check all that apply)

<input type="checkbox"/> IDU	<input type="checkbox"/> Skin popping	<input type="checkbox"/> Non-IDU	<input type="checkbox"/> Unknown
<input type="checkbox"/> IDU	<input type="checkbox"/> Skin popping	<input type="checkbox"/> Non-IDU	<input type="checkbox"/> Unknown
<input type="checkbox"/> IDU	<input type="checkbox"/> Skin popping	<input type="checkbox"/> Non-IDU	<input type="checkbox"/> Unknown
<input type="checkbox"/> IDU	<input type="checkbox"/> Skin popping	<input type="checkbox"/> Non-IDU	<input type="checkbox"/> Unknown
<input type="checkbox"/> IDU	<input type="checkbox"/> Skin popping	<input type="checkbox"/> Non-IDU	<input type="checkbox"/> Unknown
<input type="checkbox"/> IDU	<input type="checkbox"/> Skin popping	<input type="checkbox"/> Non-IDU	<input type="checkbox"/> Unknown
<input type="checkbox"/> IDU	<input type="checkbox"/> Skin popping	<input type="checkbox"/> Non-IDU	<input type="checkbox"/> Unknown

DURING THE CURRENT HOSPITALIZATION, DID THE PATIENT RECEIVE MEDICATION ASSISTED TREATMENT (MAT) FOR OPIOID USE DISORDER? Yes No N/A (patient not hospitalized or did not have DUD)

20. 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): _____

PATIENT TRAVELED INTERNATIONALLY IN THE YEAR BEFORE DISC: Yes No Unknown
 COUNTRY: _____, _____, _____

21a. WEIGHT: ____ lbs. ____ oz. OR ____ kg <input type="checkbox"/> Unknown	21b. HEIGHT: ____ ft. ____ in. OR ____ cm <input type="checkbox"/> Unknown	21c. BMI: ____ <input type="checkbox"/> Unknown
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PATIENT HOSPITALIZED WHILE VISITING COUNTRY(IES) ABOVE: Yes No Unknown



URINE CULTURES ONLY: 22. RECORD THE COLONY COUNT:

URINE CULTURES ONLY: 23. 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"/> None | <input type="checkbox"/> Unknown | Symptoms for patients ≤ 1 year of age only: | |
| <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 | |

24. WAS THE PATIENT TESTED FOR SARS-CoV-2 (MOLECULAR ASSAY, SEROLOGY OR OTHER CONFIRMATORY TEST) ON OR BEFORE THE DISC?

- Yes No Unknown

IF YES, DATE OF TEST:

____ - ____ - ____
OR Date Unknown

IF YES, WHAT TYPE OF TEST WAS USED?

- Molecular assay
- Serology
- Method unknown
- Other (specify): _____

IF YES, TEST RESULT:

- Positive
- Negative
- Indeterminate

COVID-NET CASE ID:

NNDSS IDs (please provide at least one of the following when applicable):

Local case ID: _____

Local record ID: _____

State case identifier: _____

Legacy case identifier: _____

25a. WAS THE INCIDENT SPECIMEN POLYMICROBIAL?

- Yes
 No
 Unknown

25b. 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): _____

25c. 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 |

26a. IS ANTIMICROBIAL USE (IV OR ORAL) IN THE 30 DAYS BEFORE THE DISC DOCUMENTED?

- Yes No Unknown

26b. 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.



27. 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													

28a. WAS CASE FIRST IDENTIFIED THROUGH AUDIT? **28b. CRF STATUS:** **28c. SO INITIALS:** **28d. DATE OF ABSTRACTION:**

- Yes
- No
- Complete
- Pending
- Chart unavailable after 3 requests

28e. COMMENTS:
