**HAI & ANTIMICROBIAL USE PREVALENCE SURVEY: ANTIMICROBIAL QUALITY ASSESSMENT (AQUA)**

**FORM 3c: CAP**

**CDC ID:** - **Date:** // **Data collector** **initials: \_\_\_\_\_\_\_\_\_**

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| **Clinical information** | | |
| 1. **Check any of the following ICD-10 codes that were present on admission for this patient:** None   J09.X1 J09.X2 J09.X3 J10.00 J10.01 J10.08 J10.1 J10.2 J10.81 J10.82 J10.83 J10.89 J11.00 J11.08  J11.1  J11.2  J11.81 J11.82 J11.83  J11.89 J12.0 J12.1 J12.2 J12.3 J12.81 J12.89 J12.9 J13 J14 J15.0 J15.1 J15.3 J15.4 J15.20 J15.211 J15.212 J15.29 J15.5 J15.6 J15.7 J15.8 J15.9 J16.0 J16.8 J18.0 J18.1 J18.9 A48.1 Other (specify):**\_\_\_\_\_** | | |
| **2. CAP onset date (mm/dd/yy):** \_\_\_ / \_\_\_ /\_\_\_ or  Prior to survey hospitalization but specific date unknown Unable to determine | | |
| **3. CAP signs and symptoms in first 2 hospital days; check all that apply:** None | | |
| Fever  Chills or rigors  Cough  Dyspnea  O2 saturation < 90%  Sore throat | Increased secretions/sputum production  Hemoptysis  Chest pain  Mental status changes or functional decline  Apnea  Rhinorrhea | Grunting  Nasal flaring  Head bobbing  Chest wall retractions  Wheezing  Muscle aches |
| **4. Did the patient require mechanical ventilation at any time during the hospitalization?**  Yes  No  Unknown | | |
| **4a. If yes, was the patient removed from mechanical ventilation before hospital discharge?**  Yes, clinical status improved  Yes, removed from mechanical ventilation for end-of-life care (or for reasons other than improvement)  No  Unknown | | |
| **5. Complete the chest imaging table, recording studies done in the first 5 hospital days (\_\_\_\_/\_\_\_\_/\_\_\_\_ through \_\_\_\_/\_\_\_\_/\_\_\_\_):**  **No imaging studies done:  Unknown whether imaging studies were done:** | | |
| |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | |  | **Date (mm/dd/yy)** | **Findings on chest imaging studies** | | | | | 1 | \_\_\_ / \_\_\_ / \_\_\_ | Bronchopneumonia/pneumonia  New or worsening infiltrates  Infiltrate, single lobe | Air space density/opacity  No evidence of pneumonia  Infiltrate, multiple lobes | Consolidation Cavitation  Pleural effusion | Cannot rule out pneumonia  None of these | | 2 | \_\_\_ / \_\_\_ / \_\_\_ | Bronchopneumonia/pneumonia  New or worsening infiltrates  Infiltrate, single lobe | Air space density/opacity  No evidence of pneumonia  Infiltrate, multiple lobes | Consolidation Cavitation  Pleural effusion | Cannot rule out pneumonia  None of these | | 3 | \_\_\_ / \_\_\_ / \_\_\_ | Bronchopneumonia/pneumonia  New or worsening infiltrates  Infiltrate, single lobe | Air space density/opacity  No evidence of pneumonia  Infiltrate, multiple lobes | Consolidation Cavitation  Pleural effusion | Cannot rule out pneumonia  None of these | | 4 | \_\_\_ / \_\_\_ / \_\_\_ | Bronchopneumonia/pneumonia  New or worsening infiltrates  Infiltrate, single lobe | Air space density/opacity  No evidence of pneumonia  Infiltrate, multiple lobes | Consolidation Cavitation  Pleural effusion | Cannot rule out pneumonia  None of these | | 5 | \_\_\_ / \_\_\_ / \_\_\_ | Bronchopneumonia/pneumonia  New or worsening infiltrates  Infiltrate, single lobe | Air space density/opacity  No evidence of pneumonia  Infiltrate, multiple lobes | Consolidation Cavitation  Pleural effusion | Cannot rule out pneumonia  None of these | | | |

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| **Antimicrobial drug treatment** |
| **6. Was the patient receiving antimicrobial treatment for this episode of CAP before the survey hospitalization?**  Yes No Unknown |
| **7. CAP treatment during the survey hospitalization:**  **First date (mm/dd/yy):** \_\_\_\_ / \_\_\_\_ /\_\_\_\_ or Unknown **Last date** **(mm/dd/yy):** \_\_\_\_ / \_\_\_\_ /\_\_\_\_ or Unknown |
| **8. Complete the table for all antimicrobial drugs given to treat CAP during the survey hospitalization:**   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | **No.** | **Drug name** | **First date (mm/dd/yy)** | **First route** | **Last date (mm/dd/yy)** | **Last route** | | 1 |  | \_\_\_\_ / \_\_\_\_ / \_\_\_\_ Unk | IV IM  PO INH | \_\_\_\_ / \_\_\_\_ / \_\_\_\_ Unk | IV IM  PO INH | | *2* |  | \_\_\_\_ / \_\_\_\_ / \_\_\_\_ Unk | IV IM  PO INH | \_\_\_\_ / \_\_\_\_ / \_\_\_\_ Unk | IV IM  PO INH | | 3 |  | \_\_\_\_ / \_\_\_\_ / \_\_\_\_ Unk | IV IM  PO INH | \_\_\_\_ / \_\_\_\_ / \_\_\_\_ Unk | IV IM  PO INH | | 4 |  | \_\_\_\_ / \_\_\_\_ / \_\_\_\_ Unk | IV IM  PO INH | \_\_\_\_ / \_\_\_\_ / \_\_\_\_ Unk | IV IM  PO INH | | 5 |  | \_\_\_\_ / \_\_\_\_ / \_\_\_\_ Unk | IV IM  PO INH | \_\_\_\_ / \_\_\_\_ / \_\_\_\_ Unk | IV IM  PO INH |   **More than 5 antimicrobial drugs were given to treat CAP:** |
| **8a. Did the patient receive other antimicrobial drugs in the hospital during the CAP treatment period?**  Yes—complete table below in 8b. No Unknown  **8b. Other antimicrobial drugs given in the hospital (during the CAP treatment period defined by the dates in #7):**   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | **No.** | **Drug name\*** | **First date (mm/dd/yy)** | **First Route** | **Last date (mm/dd/yy)** | **Last Route** | | 1 |  | \_\_\_\_ / \_\_\_\_ / \_\_\_\_ Unk | IV IM  PO INH | \_\_\_\_ / \_\_\_\_ / \_\_\_\_ Unk | IV IM  PO INH | | *2* |  | \_\_\_\_ / \_\_\_\_ / \_\_\_\_ Unk | IV IM  PO INH | \_\_\_\_ / \_\_\_\_ / \_\_\_\_ Unk | IV IM  PO INH | | 3 |  | \_\_\_\_ / \_\_\_\_ / \_\_\_\_ Unk | IV IM  PO INH | \_\_\_\_ / \_\_\_\_ / \_\_\_\_ Unk | IV IM  PO INH | | 4 |  | \_\_\_\_ / \_\_\_\_ / \_\_\_\_ Unk | IV IM  PO INH | \_\_\_\_ / \_\_\_\_ / \_\_\_\_ Unk | IV IM  PO INH | | 5 |  | \_\_\_\_ / \_\_\_\_ / \_\_\_\_ Unk | IV IM  PO INH | \_\_\_\_ / \_\_\_\_ / \_\_\_\_ Unk | IV IM  PO INH | | **\*Enter separate records for vancomycin IV and vancomycin PO.**  **More drugs than fit in the table:** | | | | | |   **9. Were antimicrobial drugs prescribed at hospital discharge (i.e., prescribed to be administered to the patient for additional days after hospital discharge) to treat CAP or for other reasons?**  Yes No Unknown  **9a. Antimicrobial drugs prescribed at discharge for CAP or other reasons (enter CAP drugs first):**   |  |  |  |  | | --- | --- | --- | --- | | **No.** | **Drug name** | **Route (check all that apply)** | **Indication (check all that apply)** | | 1 |  | IV IM PO INH Unk | CAP Other Unknown | | 2 |  | IV IM PO INH Unk | CAP Other Unknown | | 3 |  | IV IM PO INH Unk | CAP Other Unknown | | 4 |  | IV IM PO INH Unk | CAP Other Unknown | | 5 |  | IV IM PO INH Unk | CAP Other Unknown |   **More drugs than fit in the table:**  **9b. If antimicrobials were prescribed at discharge for CAP, what was the total duration of the post-discharge CAP treatment?**  \_\_\_\_\_ days, OR the prescription end date is \_\_\_\_ / \_\_\_\_ / \_\_\_\_\_, OR Duration is unknown |

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| **Laboratory testing** |
| **10. Complete table below for POSITIVE cultures collected in the first 5 hospital days:**  **No positive cultures:  Culture data unknown:** |
| | **No.** | **Specimen** | **Collect date (mm/dd/yy)** | **Culture result final date (mm/dd/yy)** | **Pathogens identified (insert codes)** | **Culture growth quantity\* for lower respiratory cultures only** | **Antimicrobial drugs given on the DAY AFTER the test result was final** | **Were pathogens susceptible (S) to ≥1 antimicrobial the patient was getting the DAY AFTER the test result was final?** | | --- | --- | --- | --- | --- | --- | --- | --- | | 1 | Sputum Blood  ETA Urine  BAL Stool  Upper resp  Other \_\_\_\_\_ | \_\_\_\_ / \_\_\_ / \_\_\_ | \_\_\_\_ / \_\_\_ / \_\_\_ | Path1 \_\_\_\_\_\_\_\_  Path2 \_\_\_\_\_\_\_\_  Path3 \_\_\_\_\_\_\_\_ | Path1: ≥104 CFU/ml or similar <104 or similar Unk  Path2: ≥104 CFU/ml or similar <104 or similar Unk  Path3: ≥104 CFU/ml or similar <104 or similar Unk | Drug1 \_\_\_\_\_\_\_\_  Drug2 \_\_\_\_\_\_\_\_  Drug3 \_\_\_\_\_\_\_\_  Drug4 \_\_\_\_\_\_\_\_ | Path1: Y N U  Path2: Y N U  Path3: Y N U | | 2 | Sputum Blood  ETA Urine  BAL Stool  Upper resp  Other \_\_\_\_\_ | \_\_\_\_ / \_\_\_ / \_\_\_ | \_\_\_\_ / \_\_\_ / \_\_\_ | Path1 \_\_\_\_\_\_\_\_  Path2 \_\_\_\_\_\_\_\_  Path3 \_\_\_\_\_\_\_\_ | Path1: ≥104 CFU/ml or similar <104 or similar Unk  Path2: ≥104 CFU/ml or similar <104 or similar Unk  Path3: ≥104 CFU/ml or similar <104 or similar Unk | Drug1 \_\_\_\_\_\_\_\_  Drug2 \_\_\_\_\_\_\_\_  Drug3 \_\_\_\_\_\_\_\_  Drug4 \_\_\_\_\_\_\_\_ | Path1: Y N U  Path2: Y N U  Path3: Y N U | | 3 | Sputum Blood  ETA Urine  BAL Stool  Upper resp  Other \_\_\_\_\_ | \_\_\_\_ / \_\_\_ / \_\_\_ | \_\_\_\_ / \_\_\_ / \_\_\_ | Path1 \_\_\_\_\_\_\_\_  Path2 \_\_\_\_\_\_\_\_  Path3 \_\_\_\_\_\_\_\_ | Path1: ≥104 CFU/ml or similar <104 or similar Unk  Path2: ≥104 CFU/ml or similar <104 or similar Unk  Path3: ≥104 CFU/ml or similar <104 or similar Unk | Drug1 \_\_\_\_\_\_\_\_  Drug2 \_\_\_\_\_\_\_\_  Drug3 \_\_\_\_\_\_\_\_  Drug4 \_\_\_\_\_\_\_\_ | Path1: Y N U  Path2: Y N U  Path3: Y N U | | 4 | Sputum Blood  ETA Urine  BAL Stool  Upper resp  Other \_\_\_\_\_ | \_\_\_\_ / \_\_\_ / \_\_\_ | \_\_\_\_ / \_\_\_ / \_\_\_ | Path1 \_\_\_\_\_\_\_\_  Path2 \_\_\_\_\_\_\_\_  Path3 \_\_\_\_\_\_\_\_ | Path1: ≥104 CFU/ml or similar <104 or similar Unk  Path2: ≥104 CFU/ml or similar <104 or similar Unk  Path3: ≥104 CFU/ml or similar <104 or similar Unk | Drug1 \_\_\_\_\_\_\_\_  Drug2 \_\_\_\_\_\_\_\_  Drug3 \_\_\_\_\_\_\_\_  Drug4 \_\_\_\_\_\_\_\_ | Path1: Y N U  Path2: Y N U  Path3: Y N U | | 5 | Sputum Blood  ETA Urine  BAL Stool  Upper resp  Other \_\_\_\_\_ | \_\_\_\_ / \_\_\_ / \_\_\_ | \_\_\_\_ / \_\_\_ / \_\_\_ | Path1 \_\_\_\_\_\_\_\_  Path2 \_\_\_\_\_\_\_\_  Path3 \_\_\_\_\_\_\_\_ | Path1: ≥104 CFU/ml or similar <104 or similar Unk  Path2: ≥104 CFU/ml or similar <104 or similar Unk  Path3: ≥104 CFU/ml or similar <104 or similar Unk | Drug1 \_\_\_\_\_\_\_\_  Drug2 \_\_\_\_\_\_\_\_  Drug3 \_\_\_\_\_\_\_\_  Drug4 \_\_\_\_\_\_\_\_ | Path1: Y N U  Path2: Y N U  Path3: Y N U | | 6 | Sputum Blood  ETA Urine  BAL Stool  Upper resp  Other \_\_\_\_\_ | \_\_\_\_ / \_\_\_ / \_\_\_ | \_\_\_\_ / \_\_\_ / \_\_\_ | Path1 \_\_\_\_\_\_\_\_  Path2 \_\_\_\_\_\_\_\_  Path3 \_\_\_\_\_\_\_\_ | Path1: ≥104 CFU/ml or similar <104 or similar Unk  Path2: ≥104 CFU/ml or similar <104 or similar Unk  Path3: ≥104 CFU/ml or similar <104 or similar Unk | Drug1 \_\_\_\_\_\_\_\_  Drug2 \_\_\_\_\_\_\_\_  Drug3 \_\_\_\_\_\_\_\_  Drug4 \_\_\_\_\_\_\_\_ | Path1: Y N U  Path2: Y N U  Path3: Y N U | | 7 | Sputum Blood  ETA Urine  BAL Stool  Upper resp  Other \_\_\_\_\_ | \_\_\_\_ / \_\_\_ / \_\_\_ | \_\_\_\_ / \_\_\_ / \_\_\_ | Path1 \_\_\_\_\_\_\_\_  Path2 \_\_\_\_\_\_\_\_  Path3 \_\_\_\_\_\_\_\_ | Path1: ≥104 CFU/ml or similar <104 or similar Unk  Path2: ≥104 CFU/ml or similar <104 or similar Unk  Path3: ≥104 CFU/ml or similar <104 or similar Unk | Drug1 \_\_\_\_\_\_\_\_  Drug2 \_\_\_\_\_\_\_\_  Drug3 \_\_\_\_\_\_\_\_  Drug4 \_\_\_\_\_\_\_\_ | Path1: Y N U  Path2: Y N U  Path3: Y N U | | 8 | Sputum Blood  ETA Urine  BAL Stool  Upper resp  Other \_\_\_\_\_ | \_\_\_\_ / \_\_\_ / \_\_\_ | \_\_\_\_ / \_\_\_ / \_\_\_ | Path1 \_\_\_\_\_\_\_\_  Path2 \_\_\_\_\_\_\_\_  Path3 \_\_\_\_\_\_\_\_ | Path1: ≥104 CFU/ml or similar <104 or similar Unk  Path2: ≥104 CFU/ml or similar <104 or similar Unk  Path3: ≥104 CFU/ml or similar <104 or similar Unk | Drug1 \_\_\_\_\_\_\_\_  Drug2 \_\_\_\_\_\_\_\_  Drug3 \_\_\_\_\_\_\_\_  Drug4 \_\_\_\_\_\_\_\_ | Path1: Y N U  Path2: Y N U  Path3: Y N U |   **More positive cultures than fit in the table:**  ETA=endotracheal aspirate (or tracheal aspirate). BAL=bronchoalveolar lavage (includes bronchial lavage, mini-BAL).  \*Check “≥104 CFU/ml or similar” if quantity of growth in the culture is reported to be as follows: moderate, many, heavy, abundant, etc. Check “<104 or similar” if quantity of growth in the culture is reported to be <104 CFU/ml or as follows: few, scarce, scant, rare, etc. Check “unknown” if no organism quantity is noted in the culture report. |

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| **11. During the first 5 hospital days, did the patient have a Gram stain of lower respiratory secretions (sputum, BAL, ETA, etc.)?** Yes No Unknown  **11a. If yes, did the Gram stain report indicate the following:**  Heavy, 4+, or ≥25 neutrophils (or white blood cells) per low power field [x100]  Rare, occasional, few, 1+ or 2+, or ≤10 squamous epithelial cells per low power field [x100]  Neither of the above  Unknown |
| **12. Complete the table for NEGATIVE cultures collected during the first 5 hospital days:**  **No negative cultures:**  **Culture data unknown:**   |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **No.** | **Collect date**  **(mm/dd/yy)** | **Specimen** | **Culture result final date (mm/dd/yy)** |  | **No.** | **Collect date**  **(mm/dd/yy)** | **Specimen** | **Culture result final date (mm/dd/yy)** | | 1 | \_\_\_ / \_\_\_ / \_\_\_ | Blood Lower resp  Urine Stool  Other \_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_ / \_\_\_ / \_\_\_ |  | 6 | \_\_\_ / \_\_\_ / \_\_\_ | Blood Lower resp  Urine Stool  Other \_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_ / \_\_\_ / \_\_\_ | | 2 | \_\_\_ / \_\_\_ / \_\_\_ | Blood Lower resp  Urine Stool  Other \_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_ / \_\_\_ / \_\_\_ |  | 7 | \_\_\_ / \_\_\_ / \_\_\_ | Blood Lower resp  Urine Stool  Other \_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_ / \_\_\_ / \_\_\_ | | 3 | \_\_\_ / \_\_\_ / \_\_\_ | Blood Lower resp  Urine Stool  Other \_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_ / \_\_\_ / \_\_\_ |  | 8 | \_\_\_ / \_\_\_ / \_\_\_ | Blood Lower resp  Urine Stool  Other \_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_ / \_\_\_ / \_\_\_ | | 4 | \_\_\_ / \_\_\_ / \_\_\_ | Blood Lower resp  Urine Stool  Other \_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_ / \_\_\_ / \_\_\_ |  | 9 | \_\_\_ / \_\_\_ / \_\_\_ | Blood Lower resp  Urine Stool  Other \_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_ / \_\_\_ / \_\_\_ | | 5 | \_\_\_ / \_\_\_ / \_\_\_ | Blood Lower resp  Urine Stool  Other \_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_ / \_\_\_ / \_\_\_ |  | 10 | \_\_\_ / \_\_\_ / \_\_\_ | Blood Lower resp  Urine Stool  Other \_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_ / \_\_\_ / \_\_\_ |   **More negative cultures than fit in the table:** |
| **13. Complete the table for non-culture microbiology tests (positive and negative) collected during the first 5 hospital days:**  **No non-culture tests done:**  **Non-culture test data unknown:**   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | **No.** | **Collect Date (mm/dd/yy)** | **Specimen** | **Test** | **What pathogen(s) were tested for?** | **Result** | | 1 | \_\_\_\_ / \_\_\_ / \_\_\_ | Blood Lower resp  Upper resp  Urine Stool  Other \_\_\_\_\_\_ | PCR  DFA  Antigen test  Other\_\_\_\_\_ | Legionella Cdiff RSV  Pneumococcus Adeno  Influenza hMPV Paraflu  Other \_\_\_\_\_\_\_\_ | Negative Unknown  Positive (insert code):  Path1\_\_\_\_\_\_\_Path2\_\_\_\_\_\_\_  Path3\_\_\_\_\_\_\_ | | 2 | \_\_\_\_ / \_\_\_ / \_\_\_ | Blood Lower resp  Upper resp  Urine Stool  Other \_\_\_\_\_\_ | PCR  DFA  Antigen test  Other\_\_\_\_\_ | Legionella Cdiff RSV  Pneumococcus Adeno  Influenza hMPV Paraflu  Other \_\_\_\_\_\_\_\_ | Negative Unknown  Positive (insert code):  Path1\_\_\_\_\_\_\_Path2\_\_\_\_\_\_\_  Path3\_\_\_\_\_\_\_ | | 3 | \_\_\_\_ / \_\_\_ / \_\_\_ | Blood Lower resp  Upper resp  Urine Stool  Other \_\_\_\_\_\_ | PCR  DFA  Antigen test  Other\_\_\_\_\_ | Legionella Cdiff RSV  Pneumococcus Adeno  Influenza hMPV Paraflu  Other \_\_\_\_\_\_\_\_ | Negative Unknown  Positive (insert code):  Path1\_\_\_\_\_\_\_Path2\_\_\_\_\_\_\_  Path3\_\_\_\_\_\_\_ | | 4 | \_\_\_\_ / \_\_\_ / \_\_\_ | Blood Lower resp  Upper resp  Urine Stool  Other \_\_\_\_\_\_ | PCR  DFA  Antigen test  Other\_\_\_\_\_ | Legionella Cdiff RSV  Pneumococcus Adeno  Influenza hMPV Paraflu  Other \_\_\_\_\_\_\_\_ | Negative Unknown  Positive (insert code):  Path1\_\_\_\_\_\_\_Path2\_\_\_\_\_\_\_  Path3\_\_\_\_\_\_\_ | | 5 | \_\_\_\_ / \_\_\_ / \_\_\_ | Blood Lower resp  Upper resp  Urine Stool  Other \_\_\_\_\_\_ | PCR  DFA  Antigen test  Other\_\_\_\_\_ | Legionella Cdiff RSV  Pneumococcus Adeno  Influenza hMPV Paraflu  Other \_\_\_\_\_\_\_\_ | Negative Unknown  Positive (insert code):  Path1\_\_\_\_\_\_\_Path2\_\_\_\_\_\_\_  Path3\_\_\_\_\_\_\_ |   **More tests than fit in the table:** |
| **14. Did the patient have any of the following blood test results during the first 2 hospital days?**  **Check all that apply, or** None.  Arterial pH < 7.35 BUN > 30 mg/dL (11 mmol/L) Glucose > 250 mg/dL  PaO2 < 60 mmHg Sodium < 130 mmol/L Hematocrit < 30% |

**\*\*\*FORM IS COMPLETE\*\*\***