KNHSS

Kuwait National Healthcare-associated
Infections Surveillance System

Instructions for Completion of the Laboratory Record of Pneumonia (PNEU) form

Data Field	Instructions for Data Collection
Page 2	
Surveillance date	Write down surveillance date using the format: mm/yyyy.
Facility name	Write down the facility name
Facility code	Write down facility code using **form A**
Number of Pathogens	Write down the number of isolated pathogens as recorded on page 1
Pathogen (s) name (s)	Write the name of the isolated microorganism (s) • If multiple pathogens are identified, enter the pathogen judged to be the most important cause of infection as #1, the next most as #2 and the least as #3(usually this order will be indicated on the laboratory report). • If secondary BSI pathogens are cultured, they should be entered only after site-specific pathogens are entered. • If the species is not given on the lab report or is not found on the KNHSS list (**form D**), then select the "spp" choice for the genus.
Pathogen (s) code (s)	Write the code of each pathogen according to **Form D**
MDRO	Check "Yes" and write the code if the isolated organism(s) was/were MDRO of the following, otherwise check "No". **(MRSA):** ***S. aureus*** cultured from any specimen that tests oxacillin-resistant (R), cefoxitin-resistant, or methicillin-resistant by standard susceptibility testing methods, or any laboratory finding of MRSA (includes but not limited to PCR or other molecular based detection methods). **VRE***:* ***Enterococcus faecalis, Enterococcus faecium,*** or **any *Enterococcus*** species that is resistant (R) to vancomycin, by standard susceptibility testing methods or a laboratory finding of VRE (includes but not limited to PCR or other molecular based detection methods).

ESBL producing Gram negative bacteria: Gram negative spp. producing ESBLs enzymes that mediate resistance to extended-spectrum (third generation) cephalosporins (e.g., ceftazidime, cefotaxime, and ceftriaxone) and monobactams (e.g., aztreonam) but do not affect cephamycins (e.g., cefoxitin and cefotetan) or carbapenems (e.g., meropenem or imipenem).

CRE: ***Escherichia coli, Klebsiella oxytoca, Klebsiella pneumoniae, Klebsiella aerogenes, Enterobacter* spp*. or any Enterobacteriaceae spp.*** (see table 1 of the "Updated KNHSS MDRO definitions 2020" document for a partial list of *Enterobacteriaceae spp.*) testing resistant (R) to imipenem, meropenem, doripenem, or ertapenem by standard susceptibility testing methods (i.e., minimum inhibitory concentrations of ≥4 mcg/mL for doripenem, imipenem and meropenem or ≥2 mcg/mL for ertapenem) OR by production of a carbapenemase (specifically, KPC, NDM, VIM, IMP, OXA-48) demonstrated using a recognized test (e.g., polymerase chain reaction, metallo-β-lactamase test, modified-Hodge test, Carba-NP). For ***Morganella morganii*, *Proteus* spp and *Providencia* spp.** that have intrinsic imipenem non-susceptibility, resistance to carbapenems other than imipenem is required.

MDR-*Pseudomonas aeruginosa*: Tested intermediate or resistant (I or R) for at least one agent in at least 3 of the following 5 classes:

β-lactam/β-lactam β-lactamase inhibitor combination	**Aminoglycosides**	**Carbapenems**	**Fluoroquinolones**
Piperacillin Piperacillin/tazobactam	Amikacin Gentamicin Tobramycin	Imipenem Meropenem Doripenem	Ciprofloxacin Levofloxacin
Cephalosporins			
Cefepime Ceftazidime			

Carbapenem Non-Susceptible (C-NS) *Pseudomonas aeruginosa*: *Pseudomonas aeruginosa* testing intermediate or resistant (I or R) to imipenem, meropenem or doripenem.

<table>
<tr><td></td><td>
MDR-Acinetobacter spp.: Any Acinetobacter spp. testing <u>intermediate or resistant (I or R)</u> to at least one agent in at least 3 antimicrobial classes of the following 6 antimicrobial classes:
<table>
<tr><th>β-lactam/β-lactam β-lactamase inhibitor combination</th><th>Aminoglycosides</th><th>Carbapenems</th><th>Fluoroquinolones</th></tr>
<tr><td>Piperacillin
Piperacillin/tazobactam</td><td>Amikacin
Gentamicin
Tobramycin</td><td>Imipenem
Meropenem
Doripenem</td><td>Ciprofloxacin
Levofloxacin</td></tr>
<tr><th>Cephalosporins</th><th>Sulbactam</th><th></th><th></th></tr>
<tr><td>Cefepime
Ceftazidime</td><td>Ampicillin/sulbactam</td><td></td><td></td></tr>
</table>
Carbapenem Non-Susceptible (C-NS) Acinetobacter spp: Any Acinetobacter spp. testing <u>intermediate or resistant (I or R)</u> to imipenem, meropenem or doripenem.
</td></tr>
<tr><td>Date of sampling</td><td>Write the date the sample was taken using the format: dd/mm/yyyy</td></tr>
<tr><td>Type of infection</td><td>Write the type of pneumonia using the PNEU criteria (e.g. PNU1/VAP, PNU2/Non VAP….)</td></tr>
<tr><td>Type of sample</td><td>Write down the sample type (e.g. endotracheal aspirate, mini-BAL sample, lung tissue, pleural fluid…..)</td></tr>
<tr><td>Antimicrobial agents and susceptibility results</td><td>For each isolated organism:
In front of each antimicrobial tested, mark the susceptibility result as either:
S- Sensitive
I-Intermediate
Or
R- Resistant
Others specify: any antimicrobial other than listed can be included.</td></tr>
</table>