

## Antimicrobial Resistant Phenotype Definitions

### NHSN Analysis Reports for AR Option data

Note: The phenotypes defined here are for the AR Option only and may not match phenotype definitions used in other NHSN Modules. Additionally, the drug classes listed below are specific to laboratory testing and, in some cases, do not match to the specific class defined in the AU Option. The drugs included in each phenotype definition are specific to those included in the reportable drug panel for that organism. Please refer to Appendix F of the AUR Module Protocol for the complete list of drug panels for each organism.

Phenotype Name	Phenotype Code	Phenotype Definition <sup>a</sup>
Methicillin-resistant <i>Staphylococcus aureus</i>	MRSA_AR	<i>Staphylococcus aureus</i> that has tested Resistant (R) to at least one of the following: oxacillin or ceftiofuran
Carbapenem-resistant Enterobacterales (expanded)	CREexpanded_AR	Any <i>Citrobacter amalonaticus</i> , <i>Citrobacter freundii</i> , <i>Citrobacter koseri</i> , <i>Enterobacter</i> spp., <i>E. coli</i> , <i>Klebsiella aerogenes</i> , <i>Klebsiella oxytoca</i> , <i>Klebsiella pneumoniae</i> , and <i>Serratia marcescens</i> that has tested Resistant (R) to at least one of the following: imipenem, meropenem, doripenem, ertapenem, meropenem/vaborbactam, or imipenem/relebactam  OR  Any <i>Proteus mirabilis</i> , <i>Proteus penneri</i> , <i>Proteus vulgaris</i> , and <i>Morganella morganii</i> that has tested Resistant (R) to at least one of the following: meropenem, doripenem, ertapenem, or meropenem/vaborbactam
Carbapenem-resistant Enterobacterales ( <i>E.coli</i> , <i>Klebsiella</i> , or <i>Enterobacter</i> )	CREall_AR	Any <i>Escherichia coli</i> , <i>Klebsiella aerogenes</i> , <i>Klebsiella oxytoca</i> , <i>Klebsiella pneumoniae</i> , or <i>Enterobacter</i> spp. that has tested Resistant (R) to at least one of the following: imipenem, meropenem, doripenem, ertapenem, meropenem/vaborbactam, or imipenem/relebactam
Carbapenem-resistant <i>E.coli</i>	CREecoli_AR	Any <i>Escherichia coli</i> that has tested Resistant (R) to at least one of the following: imipenem, meropenem, doripenem, ertapenem, meropenem/vaborbactam, or imipenem/relebactam



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Carbapenem-resistant <i>Enterobacter</i> spp. and <i>Klebsiella aerogenes</i>	CREenterobacter_AR	Any <i>Enterobacter</i> spp. or <i>Klebsiella aerogenes</i> that has tested Resistant (R) to at least one of the following: imipenem, meropenem, doripenem, ertapenem, meropenem/vaborbactam, or imipenem/relebactam
Carbapenem-resistant <i>Klebsiella pneumoniae/oxytoca</i>	CREklebsiella_AR	Any <i>Klebsiella oxytoca</i> or <i>Klebsiella pneumoniae</i> that has tested Resistant (R) to at least one of the following: imipenem, meropenem, doripenem, ertapenem, meropenem/vaborbactam, or imipenem/relebactam
Carbapenem-non-susceptible <i>Pseudomonas aeruginosa</i>	carbNS_PA_AR	<i>Pseudomonas aeruginosa</i> that has tested either Intermediate (I) or Resistant (R) to at least one of the following: imipenem, meropenem, doripenem, or imipenem/relebactam
Extended-spectrum cephalosporin-resistant <i>E.coli</i>	ESCecoli_AR	Any <i>Escherichia coli</i> that has tested Resistant (R) or Intermediate (I) to at least one of the following: cefepime, ceftriaxone, cefotaxime, ceftazidime, ceftazidime-avibactam, or ceftolozane-tazobactam.
Extended-spectrum cephalosporin-resistant <i>Klebsiella pneumoniae/oxytoca</i>	ESCKlebsiella_AR	Any <i>Klebsiella oxytoca</i> or <i>Klebsiella pneumoniae</i> that has tested Resistant (R) or Intermediate (I) to at least one of the following: cefepime, ceftriaxone, cefotaxime, ceftazidime, ceftazidime-avibactam, or ceftolozane-tazobactam
Multidrug-resistant <i>Pseudomonas aeruginosa</i>	MDR_PA_AR	<p><i>Pseudomonas aeruginosa</i> that has tested either Intermediate (I) or Resistant (R) to at least one drug in at least three of the following six categories<sup>b</sup>:</p> <ul style="list-style-type: none"> <li>• Extended-spectrum cephalosporin (cefepime, ceftazidime, ceftazidime-avibactam, ceftolozane-tazobactam)</li> <li>• Fluoroquinolones (ciprofloxacin, levofloxacin)</li> <li>• Aminoglycosides (amikacin, gentamicin, tobramycin)</li> <li>• Carbapenems (imipenem, meropenem, doripenem, imipenem/relebactam)</li> <li>• Piperacillin/tazobactam</li> <li>• Cefiderocol</li> </ul>
Carbapenem-non-susceptible <i>Acinetobacter</i> spp.	carbNS_Acine_AR	Any <i>Acinetobacter</i> spp. that has tested either Intermediate (I) or Resistant (R) to at least one of the following: imipenem, meropenem, or doripenem



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Multidrug-resistant <i>Acinetobacter</i> spp.	MDR_Acine_AR	Any <i>Acinetobacter</i> spp. that has tested either Intermediate (I) or Resistant (R) to at least one drug in at least three of the following seven categories <sup>b</sup> : <ul style="list-style-type: none"> <li>• Extended-spectrum cephalosporin (cefepime, ceftazidime, ceftriaxone, cefotaxime)</li> <li>• Fluoroquinolones (ciprofloxacin, levofloxacin)</li> <li>• Aminoglycosides (amikacin, gentamicin, tobramycin)</li> <li>• Carbapenems (imipenem, meropenem, doripenem)</li> <li>• Piperacillin/tazobactam</li> <li>• Ampicillin/sulbactam</li> <li>• Cefiderocol</li> </ul>
Vancomycin-resistant <i>Enterococcus faecalis</i>	VREfaecalis_AR	<i>Enterococcus faecalis</i> that has tested Resistant (R) to vancomycin
Vancomycin-resistant <i>Enterococcus faecium</i>	VREfaecium_AR	<i>Enterococcus faecium</i> that has tested Resistant (R) to vancomycin
Fluconazole-resistant <i>Candida albicans/auris/glabrata/parapsilosis/tropicalis</i>	FR_Candi_AR	Any <i>Candida albicans</i> , <i>Candida auris</i> , <i>Candida glabrata</i> , <i>Candida parapsilosis</i> , or <i>Candida tropicalis</i> that has tested Resistant (R) to fluconazole
Drug-resistant <i>Streptococcus pneumoniae</i>	DR_SP_AR	<i>Streptococcus pneumoniae</i> that has tested either Intermediate (I) or Resistant (R) to at least one of the antimicrobials listed in the NHSN AR Option defined drug panel

<sup>a</sup> Adapted from CLSI M100

<sup>b</sup> The category names are for grouping purposes and are not inclusive of all drugs in that drug class.

