RESOURCE AND PATIENT MANAGEMENT SYSTEM

IHS Lab Reporting System

(LR)

Addendum to User Manual (AUR)

Version 5.2 Patch 1057
June 2025

Office of Information Technology
Division of Information Resource Management

Table of Contents

1.0 Introduction

The Lab Reporting System v5.2 p1057 is designed to update the logic implemented in p1055 to identify and report on resulted microbiology lab tests and antibiotic medication administered and recorded in the Indian Health Service (IHS) Resource and Patient Management System (RPMS) and exported to files on a monthly schedule. Once these results are identified and summarized, the application will generate files consisting of a series of Health Level Seven (HL7) messages in a format that can be submitted to the National Health and Safety Network (NHSN) per the Antimicrobial Use and Reporting (AUR) specifications.

A second component of the application is an Ensemble production that will generate ARO microbiology lab detail reports, ARO summary reports, and AUP summary reports into an export directory for these HL7/XML files. The sites can then upload them to NHSN.

This document has instructions that should be followed after installing the LR v5.2 p1057 national release, as documented in the LR v5.2 p1057 Installation Addendum. This document is intended to support the facility's onboarding to the NHSN.

2.0 Patch # 1057

2.1 Summary of Changes

The primary changes for p1057 were added in support of the NHSN 2025 changes to AUR reporting, updates to LOINCs, and minor changes to address Service Now tickets from the field.

2.1.1 Patch # 1057 Features

ADO Feature ID	Description
108540	VA Lab Patch LR*5.2*571 - NLT/LOINC V2.77 UPDATE
119307	VA Lab Patch LR*5.2*576 - NLT/LOINC V2.78 UPDATE
112252	BLS interface options and routine removal
114829	Modify LRTSTOUT routine to prevent <UNDEFINED> Error
113021	LR:AUR - Update AR Patient Days Count Changes for Vendor Validation
112990	LR:AUR - Update Inpatient Therapy Day Count Changes from AU Vendor Validation
111906	LR:AUR - NHSN AU Vendor Validation for Version 5.0
101110	Ref Ranges in EHR & Lab Interim Reports do not match
110916	Correct <UNDEFINED> Error in Shipping Manifest Routines
112988	LR:AUR - Update Rule 18 Changes from Vendor Validation
112132	LR:AUR - Numerator Panel Drug Size - NHSN Upload Error
111921	LR:AUR - Research Inpatient vs. ED Location - NHSN Upload Error
113419	Create Patient X-Ref in the BLRAU ANTIMICROBIAL USE LOG (#9009026.82) file
111918	LR:AUR - Add Vendor Validation IDs as Site Parameters
114065	LR:AUR - Add Custom Location Codes in Site Parameters to Override Ward Abbreviations
114839	LR AUR - Implement changes based upon NHSN Updates for 2025 Reporting

3.0 Overview of Menu Options

The Antimicrobial User and Resistance Reporting System is menu-controlled. The options from the main menu are shown on the following page. A brief description of each option follows.

```
     ********************************************************************
     ** Antimicrobial Resistance and Use Reporting Transmission System  **
     ********************************************************************

                          DEMO HOSPITAL (INST)


   ARO    Antimicrobial Resistance Reporting System ...
   AUR    Antimicrobial Use Reporting System ...
   SP     Site Parameter Setup ...
   MGE    F6 ALERTS MAIL GROUP EDIT

Select Antimicrobial Use and Resistance Reporting (F6) Option: ARO
```

Figure 3-1: Main menu for Antimicrobial Use Resistance Reporting (AUR)

3.1 Antimicrobial Resistance Reporting System (ARO)

The ARO option displays the menu for Antimicrobial Resistance Reporting for the lab tests that resulted in antimicrobial resistance testing. These options allow users to generate the monthly transmission, display the transmission log, rerun a previous monthly transmission, generate a monthly extract for a previous period, and test the extract for a specific date range for data quality checking.

```
     ********************************************************************
     **      Antimicrobial Resistance Reporting Transmission System      **
     ********************************************************************

                          DEMO HOSPITAL (INST)


   AREX   Generate Antimicrobial Resistance Transmission
   ARDL   Display Antimicrobial Resistance Transmission Log
   ARRX   Re-Run Previously Run AM Resistance Transmission
   ARDR   Date Range Antimicrobial Resistance Transactions
   TEST   Date Range Option for Internal Testing

Select Antimicrobial Resistance Reporting System Option:
```

Figure 3-2: Sub Menu for Antimicrobial Resistance Reporting Transmission System (ARO)

3.1.1 Generate Antimicrobial Resistance Transmission (AREX)

The **AREX** option generates an export of microbiology and lab test results for antimicrobial resistance to the export directory configured in the BLRAM Ensemble Production. During the export process, lab results are compiled and then submitted to the Clinical Document Architecture (CDA) document generator to create Antimicrobial Resistance Option (ARO) Numerator and Summary Reports in CDA format (HL7 v3) documents. Once all labs are identified, output files will automatically be created and written to the export directory.

```
Select Antimicrobial Resistance Reporting System Option: AREX   Generate
Antimicrobial Resistance Transmission

This option will generate a transmission of Antimicrobial Resistance
Reporting transactions for the previous month.
You may "^" out at any prompt and will be asked to confirm your entries
prior to generating the transmission.


The date range for this run is Feb 2024.  Feb 01, 2024 to Feb 29, 2024.



In order to accurately calculate the patient days and admissions, the ADT
Census must be Recalculated up through Feb 29, 2024
The computer database location for this run is DEMO HOSPITAL (INST).

Do you want to continue? N// YES
Generating New Log entries.
Do you want to QUEUE this to run at a later time? N// O

Generating Antimicrobial Resistance Transactions.   (21)
Updating log entry.
```

Figure 3-3: Sample Interaction to Generate an Antimicrobial Resistance Transmission

Generating the ARO Numerator and Summary reports may take several minutes after executing this option. Users will not see the output files in the export directory until the CDA document generation is completed, even though the user has returned to the menu. A log entry is then created in the **BLRAM EXPORT LOG** file.

This option can be scheduled to run at a desired interval in the task manager. BLRAM QUEUE EXPORT can also be scheduled to run automatically. See the VA Kernel user manual for instructions on scheduling an option to run at a desired interval.

3.1.2 Display Antimicrobial Resistance Transmission Log (ARDL)

The **BLRAM EXPORT LOG** file is a historical record of the exports made. The **ARDL** report option allows the AUR Lab Export Manager to review various items contained in the export log file after an ARO export was executed, including the Export Log Number, Run Database/Location, Beginning Date, Ending Date, Export Type, Transmission Status, # of Lab Tests Exported and Filename Created. The details for each Lab Test exported can be displayed within each Log Entry, including the V Lab IEN, Test Name, Result, and Result Date.

```
Select Antimicrobial Resistance Reporting System Option: ARDL   Display
Antimicrobial Resistance Transmission Log


Display ANTIMICROBIAL RESISTANCE TRANSMISSION Log Entry

Type a ??  and press enter at the following prompt to view a list of RUN
DATES. Or, if you know the run date you can enter it in the format
MM/DD/YY:  e.g. 2/26/19

Select BLRAM ANTIMICROBIAL RESISTANCE LOG RUN DATE/TIME: T   MAR 25, 2024
     1   3-25-2024@10:36:42
     2   3-25-2024@10:36:59
     3   3-25-2024@10:37:21
CHOOSE 1-3: 3  3-25-2024@10:37:21
```

Figure 3-4: Sample Interaction to Display and Select an Antimicrobial Resistance Transmission Log

The data will be displayed on a **ListMan** screen, as shown below.

```
OUTPUT BROWSER                Mar 25, 2024 10:37:36      Page:    1 of    2
Antimicrobial Resistance Transmission Log Display


                  ANTIMICROBIAL RESISTANCE TRANSMISSION LOG REPORT
       Information for Log Entry 30 Run Date:  MAR 25, 2024@10:36:42

                                    Number:   30
                  Run Database/Location:   DEMO HOSPITAL (INST)
                         Beginning Date:   MAR 24, 2024
                            Ending Date:   MAR 25, 2024
                            Export Type:   DATE RANGE
                      Transmission Status:   SUCCESSFULLY COMPLETED
             # V MICRO tests transmitted:   0
                 # V MICRO tests skipped:   0
               # V LAB tests transmitted:   0
                   # V LAB tests skipped:   0
                              # Admissions:   0
                         # Inpatient Days:   0
              # Inpatient Blood Cultures:   0
                         # ER Encounters:   0
                      # ER Blood Cultures:   0
                 # Observation Encounters:   0
            # Observation Blood Cultures:   0
```

```
   V MICROBIOLOGY ENTRIES EXPORTED

V MICROBIOLOGY ENTRIES SKIPPED

   V LAB ENTRIES EXPORTED

          Enter ?? for more actions
>>>
+    NEXT SCREEN          -    PREVIOUS SCREEN      Q    QUITDONE -- Press
ENTER to Continue:
```

Figure 3-5: Sample Display for Antimicrobial Resistance Reporting Transmission Log

This option can allow a site to attest that they report to NHSN every month.

3.1.3 Re-Run Previously Run AM Resistance Transmission (ARRX)

Use the **ARRX** option if a transmission done previously has never made it to the export directory and the output files cannot be found.

```
Select Antimicrobial Resistance Reporting System Option: ARRX   Re-Run
Previously Run AM Resistance Transmission

Type a ??  and press enter at the following prompt to view a list of
ORIGINAL RUN DATES.
Alternatively, if you know the original run date you can enter it in the
format MM/DD/YY:
e.g. 2/26/19

Select BLRAM ANTIMICROBIAL RESISTANCE LOG RUN DATE/TIME: T   MAR 25, 2024
     1   3-25-2024@10:36:42
     2   3-25-2024@10:36:59
     3   3-25-2024@10:37:21
CHOOSE 1-3: 3   3-25-2024@10:37:21

Log entry 32 was for date range FEB 01, 2024 through FEB 29, 2024.
Do you want to regenerate the Antimicrobial transactions for this run? N//
YES

Generating Antimicrobial Resistance transactions.   (21)
Updating log entry.
DONE -- Press ENTER to Continue:
```

Figure 3-6: Main Sub Menu for Antimicrobial Resistance Reporting Transmission System

3.1.4 Date Range Antimicrobial Resistance Transmission (ARDR)

The **ARDR** option can export all resulting antimicrobial resistance lab tests for a selected month and year to the export directory, which can be uploaded to NHSN. This option should only be used if NHSN requests you to resubmit data from a specific period.

```
Select Antimicrobial Resistance Reporting System Option: ARDR   Date Range
Antimicrobial Resistance Transactions
```

```
                          DEMO HOSPITAL (INST)

***  ANTIMICROBIAL RESISTANCE REPORTING TRANSMISSION FOR A SELECTED MONTH
***

This program will generate Antimicrobial Resistance transactions for a
month/year that you enter.  A log entry will be created to log
the data generated.

Please enter the month/year for which Antimicrobial Resistance data
should be generated.

Enter the Month/Year for reporting: 12/23   (DEC 23, 2023)
Enter only a Month and four digit year.  E.g., 01/2021 or JAN 2021

Please enter the month/year for which Antimicrobial Resistance data
should be generated.

Enter the Month/Year for Reporting: 12/2023   (DEC 2023)

Log entry 33 will be created and data generated for
date range DEC 01, 2023 to DEC 31, 2023.

Do you wish to continue? N// YES
Generating New Log entry.

Generating Antimicrobial Resistance transactions.   (9)
Updating log entry.
DONE -- Press ENTER to Continue:
```

Figure 3-7: Sample Interaction to Generate a Transmission for a Specified Month and Year

3.1.5 Date Range Option for Internal Testing (TEST)

The **TEST** option can export all results of antimicrobial resistance lab tests for a date range to an intermediary file to allow troubleshooting of the extracted data in addition to the export directory.

```
Select Antimicrobial Resistance Reporting System Option: TEST  Date Range
Option for Internal Testing

                          DEMO HOSPITAL (INST)

   *** ANTIMICROBIAL RESISTANCE REPORTING TRANSMISSION FOR A DATE RANGE ***


This program will generate Antimicrobial Resistance transactions for a
month/year that you enter.  A log entry will be created which will log the
data generated.

Do you wish to continue? Y// ES
Please enter the date range for which Antimicrobial Resistance data should
be generated.

Enter beginning Visit Date for Search:  T-1   (MAR 24, 2024)

Enter ending Visit Date for Search:  T   (MAR 25, 2024)
```

```
Log entry 30 will be created and data generated for date range MAR 24, 2024
to MAR 25, 2024.


In order to accurately calculate the patient days and admissions,
the ADT Census must be Recalculated up through Mar 25, 2024
Recalculation can be done from the ADT Supervisor menu or by running
the ADS (Admissions and Discharges) sheet.

Do you wish to continue? N// YES
Generating New Log entry.

Generating Antimicrobial Resistance transactions.   (1)

The ^BLRTMP nodes are in G:\pub\export\
The file name is BLRAM_20240325_30.txt


Updating log entry.
DONE -- Press ENTER to Continue:
End of Job.  Press ENTER.:
```

Figure 3-8: Testing Menu Option to Extract for a Specific Date Range

3.2 Antimicrobial Use Reporting System … (AUR)

The **AUR** option displays the menu for Antimicrobial Use Reporting for the antimicrobial medications administered for antimicrobial use reporting. These options allow users to generate the monthly transmission, display the transmission log, rerun a previous monthly transmission, generate a monthly extract for a previous period, and test the extract for a specific date range for data quality checking.

```
               ************************************************
               **      Antimicrobial Use Reporting System      **
               ************************************************

                           DEMO HOSPITAL (INST)


   AUEX   Generate Antimicrobial Use Report
   AUDL   Display Antimicrobial Use Report Log
   AURX   Re-Run Previously Run AM Use Report
   AUDR   Date Range Antimicrobial Use Report
   TEST   Date Range Option for Internal Testing

Select Antimicrobial Use Reporting System Option:
```

Figure 3-9: Sub Menu Options for the Antimicrobial Use Reporting System

3.2.1 Generate Antimicrobial Use Report (AUEX)

The **AUEX** option exports antimicrobial pharmacy data for antimicrobial use to the export directory configured in the BLRAM Ensemble Production. Medication administration data is compiled and submitted during export to the CDA document generator to create Antimicrobial Use Reporting (AUP) Summary Reports in CDA format (HL7 v3) documents. Once all medications administered are identified, output files will automatically be created and written to the export directory.

Generating the AUP Summary reports may take several minutes after executing this option. Even though you have returned to your menu, you will not see the output files in the export directory until the CDA document generation is completed. A log entry is then created in the **BLRAU EXPORT LOG** file.

This option can be scheduled to run at a desired interval in the task manager. BLRAU QUEUE EXPORT is another option that can be scheduled to run automatically. See the VA Kernel user manual for instructions on scheduling an option to run at a desired interval.

```
Select Antimicrobial Use Reporting System Option: AUEX   Generate
Antimicrobial Use Report

This option will generate a transmission of an Antimicrobial Use
Report for a specified month/year.
You may "^" out at any prompt and will be ask to confirm your entries
prior to generating the transmission.


The date range for this run is Feb 2024.  Feb 01, 2024 to Feb 29, 2024.


The computer database location for this run is DEMO HOSPITAL (INST).

Do you want to continue? N// YES
Generating New Log entry.
Do you want to QUEUE this to run at a later time? N// O

Generating Antimicrobial Use report. ... hold on .
Updating log entry.

RUN TIME (H.M.S): 0.0.3
```

Figure 3-10: Sample Interaction to Generate an Antimicrobial Use Report Extract

3.2.2 Display Antimicrobial Use Report Log (AUDL)

The **BLRAU EXPORT LOG** file is a historical record of the exports made. The **AUDL** report option allows the AUR Pharmacy Export Manager to review various items contained in the export log file after an AUR export was executed, including the Export Log Number, Run Database/Location, Beginning Date, Ending Date, Export Type, Transmission Status, # of Medications Administered Exported and Filename Created. The details for each Medication by Antimicrobial Agent (primary ingredient) exported in each Log Entry can be displayed, including the BCMA IEN, Antimicrobial Agent, Route Administered, and Therapy Days.

This option can allow a site to attest that they report to NHSN every month.

```
Select Antimicrobial Use Reporting System Option: AUDL   Display
Antimicrobial Use Log


Display ANTIMICROBIAL USE REPORT Log Entry

Type a ??  and press enter at the following prompt to view a list of RUN
DATES.
Or, if you know the run date you can enter it in the format MM/DD/YY:  e.g.
2/26/19

Select BLRAU ANTIMICROBIAL USE LOG RUN DATE/TIME: T   MAR 25, 2024
     1   3-25-2024@10:39:29
     2   3-25-2024@10:39:42
     3   3-25-2024@10:39:54

CHOOSE 1-3: 3   3-25-2024@10:39:54
```

Figure 3-11: Sample Interaction to Display an Antimicrobial Use Report Extract Log Entry

The data will be displayed on a ListMan screen, as shown below.

```
OUTPUT BROWSER               Mar 25, 2024 10:39:54          Page: 1 of  22
Antimicrobial Use Report Log Display


                  ANTIMICROBIAL USE REPORT LOG REPORT
       Information for Log Entry 49 Run Date:  MAR 25, 2024@10:39:42

                                  Number:   49
                                Facility:   DEMO HOSPITAL (INST)
                           Beginning Date:   FEB 01, 2024
                              Ending Date:   FEB 29, 2024
                     Month/Year of Report:   FEB 2024
                              Export Type:   REGULAR
                       Transmission Status:   SUCCESSFULLY COMPLETED
_____________________________________________________________________________

   FACWIDEIN (1250-0)         INPATIENT DAYS: 57    ADMISSIONS: 3
-----------------------------------------------------------------------------
     RXNORM     DRUG NAME                 ROUTE                       TOTAL #
-----------------------------------------------------------------------------
     620        amantadine                                            1
```

```
                                        2522-1 Digestive Tract    2
                                        2523-9 Respiratory tract  0
                                        47625008 Intravascular    0
                                        78421000 Intramuscular    0
     723        amoxicillin                                       1
                                        2522-1 Digestive Tract    2
                                        2523-9 Respiratory tract  0
                                        47625008 Intravascular    0
                                        78421000 Intramuscular    0
     1272       aztreonam                                         4
                                        2522-1 Digestive Tract    0
                                        2523-9 Respiratory tract  5
                                        47625008 Intravascular    0
                                        78421000 Intramuscular    0
     2191       ceftazidime                                       3
                                        2522-1 Digestive Tract    0
                                        2523-9 Respiratory tract  0
                                        47625008 Intravascular    3
                                        78421000 Intramuscular    1
+         Enter ?? for more actions
>>>
+    NEXT SCREEN          -    PREVIOUS SCREEN      Q    QUIT
```

Figure 3-12: Sample Display of a Portion of an Antimicrobial Use Report Log Display

Each reporting location is displayed above by antimicrobial agent (RXNORM) and medication route. Detailed records are displayed at the end of the log to allow for the review of specific medications that have been reviewed or skipped.

```
_____________________________________________________________________________

BCMA ANTIMICROBIAL ADMINSTRATION ENTRIES REVIEWED AND COUNTED
-----------------------------------------------------------------------------
BCMAIEN   HRN     PATIENT                    WARD              WARD CODE
-----------------------------------------------------------------------------
198       464646  DEMO,FSIX FOUR             EMERGENCY DEPARTMENT (1108-0)
   RXNORM: 310155        DRUG: ERYTHROMYCIN 250MG TAB
   ROLL UP RXNORM: 4053  erythromycin
   ACTION TIME: Feb 29, 2024@11:20:01     ROUTE: ORAL (2522-1)
199       464646  DEMO,FSIX FOUR             EMERGENCY DEPARTMENT (1108-0)
   RXNORM: 205964        DRUG: CLINDAMYCIN 600MG/4ML INJ
   ROLL UP RXNORM: 2582  clindamycin
   ACTION TIME: Feb 29, 2024@11:20:19     ROUTE: INTRAMUSCULAR (78421000)
200       464646  DEMO,FSIX FOUR             EMERGENCY DEPARTMENT (1108-0)
   RXNORM: 313890        DRUG: cefTAZidime 1gm INJ
   ROLL UP RXNORM: 2191  ceftazidime
   ACTION TIME: Feb 29, 2024@11:20:59     ROUTE: IV PIGGYBACK (47625008)
201       464646  DEMO,FSIX FOUR             EMERGENCY DEPARTMENT (1108-0)
   RXNORM: 348719        DRUG: TOBRAMYCIN 300MG/5ML INHALATION SOLUTION U/D
   ROLL UP RXNORM: 10627  tobramycin
   ACTION TIME: Feb 29, 2024@11:21:22     ROUTE: INHALATION (2523-9)
202       464646  DEMO,FSIX FOUR             EMERGENCY DEPARTMENT (1108-0)
   RXNORM: 901610        DRUG: AZTREONAM 75 MG/ML INHALATION SOLUTION
   ROLL UP RXNORM: 1272  aztreonam
   ACTION TIME: Feb 29, 2024@11:21:50     ROUTE: INHALATION (2523-9)
182       262626  DEMO,FSIX TWO              ICU WARD    (1027-2)
   RXNORM: 348719        DRUG: TOBRAMYCIN 300MG/5ML INHALATION SOLUTION U/D
   ROLL UP RXNORM: 10627  tobramycin
   ACTION TIME: Feb 20, 2024@23:23:02     ROUTE: INHALATION (2523-9)
183       262626  DEMO,FSIX TWO              ICU WARD    (1027-2)
```

```
   RXNORM: 901610        DRUG: AZTREONAM 75 MG/ML INHALATION SOLUTION
   ROLL UP RXNORM: 1272  aztreonam
   ACTION TIME: Feb 20, 2024@23:23:12     ROUTE: INHALATION (2523-9)
184       262626  DEMO,FSIX TWO            ICU WARD    (1027-2)
   RXNORM: 562508        DRUG: AMOXICILLIN/CLAVULANATE 875MG/125MG TAB
   ROLL UP RXNORM: 19711  amoxicillin / clavulanate
   ACTION TIME: Feb 20, 2024@23:25:56     ROUTE: ORAL (2522-1)
185       262626  DEMO,FSIX TWO            ICU WARD    (1027-2)
   RXNORM: 313890        DRUG: cefTAZidime 1gm INJ
   ROLL UP RXNORM: 2191  ceftazidime
   ACTION TIME: Feb 20, 2024@23:27:10     ROUTE: IV PIGGYBACK (47625008)
186       262626  DEMO,FSIX TWO            ICU WARD    (1027-2)
   RXNORM: 1668264       DRUG: ERYTHROMYCIN 50MG/ML INJECTABLE SOLUTION
   ROLL UP RXNORM: 4053  erythromycin
   ACTION TIME: Feb 20, 2024@23:29:36     ROUTE: INTRAMUSCULAR (78421000)
187       262626  DEMO,FSIX TWO            ICU WARD    (1027-2)
   RXNORM: 205964        DRUG: CLINDAMYCIN 600MG/4ML INJ
   ROLL UP RXNORM: 2582  clindamycin
   ACTION TIME: Feb 20, 2024@23:30:11     ROUTE: INTRAMUSCULAR (78421000)
168       565656  DEMO,FSIX FIVE           OBSERVATION (1162-7)
   RXNORM: 313890        DRUG: cefTAZidime 1gm INJ
   ROLL UP RXNORM: 2191  ceftazidime
   ACTION TIME: Feb 15, 2024@11:45:02     ROUTE: IV PIGGYBACK (47625008)
169       565656  DEMO,FSIX FIVE           OBSERVATION (1162-7)
   RXNORM: 348719        DRUG: TOBRAMYCIN 300MG/5ML INHALATION SOLUTION U/D
   ROLL UP RXNORM: 10627  tobramycin
   ACTION TIME: Feb 15, 2024@13:09:03     ROUTE: INHALATION (2523-9)
…
```

Figure 3-13: Sample Display of a Entries Reviewed and Counted

```
_____________________________________________________________________________

BCMA ANTIMICROBIAL ADMINSTRATION ENTRIES REVIEWED AND NOT COUNTED (SKIPPED)
-----------------------------------------------------------------------------
IEN     HRN    PATIENT        WARD                          ADM DATE/TIME
-----------------------------------------------------------------------------

172       565656  DEMO,FSIX FIVE           OBSERVATION (1162-7)
   RXNORM: 313890        DRUG: cefTAZidime 1gm INJ
   ACTION TIME: Feb 15, 2024@21:06:20     ROUTE:  ()
   REASON SKIPPED: ALREADY COUNTED THIS DATE/PATIENT/ROLLUP RXNORM/ROUTE

176       565656  DEMO,FSIX FIVE           OBSERVATION (1162-7)
   RXNORM: 901610        DRUG: AZTREONAM 75 MG/ML INHALATION SOLUTION
   ACTION TIME: Feb 15, 2024@21:12:25     ROUTE:  ()
   REASON SKIPPED: ALREADY COUNTED THIS DATE/PATIENT/ROLLUP RXNORM/ROUTE

177       565656  DEMO,FSIX FIVE           OBSERVATION (1162-7)
   RXNORM: 239191        DRUG: AMOXICILLIN 250MG/5ML SUSP
   ACTION TIME: Feb 15, 2024@21:14:33     ROUTE:  ()
   REASON SKIPPED: ALREADY COUNTED THIS DATE/PATIENT/ROLLUP RXNORM/ROUTE

179       343434  DEMO,FSIX THREE          PEDIATRIC WARD (1076-9)
   RXNORM: 901610        DRUG: AZTREONAM 75 MG/ML INHALATION SOLUTION
   ACTION TIME: Feb 15, 2024@21:27:46     ROUTE:  ()
   REASON SKIPPED: ALREADY COUNTED THIS DATE/PATIENT/ROLLUP RXNORM/ROUTE

167       565656  DEMO,FSIX FIVE           UNKNOWN/UNABLE TO FI ()
   RXNORM: 352082        DRUG: MOXIFLOXACIN 400MG PREMIX IV
   ACTION TIME: Feb 15, 2024@10:43:34     ROUTE:  ()
```

```
   REASON SKIPPED: COULD NOT MAP TO INGREDIENT RXCUI - NOT REPORTABLE

180       464646  DEMO,FSIX FOUR           UNKNOWN/UNABLE TO FI ()
   RXNORM: 313890        DRUG: cefTAZidime 1gm INJ
   ACTION TIME: Feb 15, 2024@21:39:32     ROUTE:  ()
   REASON SKIPPED: CANNOT DETERMINE WARD/LOCATION OR NOT A REPORTABLE
WARD/LOCAT
```

Figure 3-14: Sample Display of Entries Reviewed and Not Counted (Skipped)

3.2.3 Re-Run Previously Run AM Use Report (AURX)

Use the **AURX** option if a transmission done previously never made it to the export directory and the output files cannot be found.

```
Select Antimicrobial Use Reporting System Option: AURX   Re-Run Previously
Run AM  Use Report

Type a ??  and press enter at the following prompt to view a list of
ORIGINAL RUN DATES.
Or, if you know the original run date you can enter it in the format
MM/DD/YY:  e.g. 2/26/19

Select BLRAU ANTIMICROBIAL USE LOG RUN DATE/TIME: T   MAR 25, 2024
     1   3-25-2024@10:39:29
     2   3-25-2024@10:39:42
CHOOSE 1-2: 2   3-25-2024@10:39:42

Log entry 49 was for date range FEB 01, 2024 through FEB 29, 2024.
Do you want to regenerate the Antimicrobial Use Report for this run? N//
YES

Generating Antimicrobial Use report. ... hold on .
Updating log entry.

RUN TIME (H.M.S): 0.0.3
DONE -- Press ENTER to Continue:
```

Figure 3-15: Sample Interaction for Re-Run Antimicrobial Use Report

3.2.4 Date Range Antimicrobial Use Report (AUDR)

The **AUDR** option exports all administered antimicrobial use for a specified month and year range to the export directory, which can be uploaded to NHSN. This option should only be used if NHSN requests that you resubmit data from a specific period.

```
Select Antimicrobial Use Reporting System Option: AUDR   Date Range
Antimicrobial Use Report

                          DEMO HOSPITAL (INST)

          *****   ANTIMICROBIAL USE REPORT IN A SELECTED MONTH   *****


This program will generate an Antimicrobial Use report for a
```

```
month/year that you enter.  A log entry will be created which will log
the data generated.

Please enter the month/year for which Antimicrobial Resistance data
should be generated.

Enter the Month/Year for reporting: 12/2023   (DEC 2023)

Log entry 50 will be created and data generated for
date range DEC 01, 2023 to DEC 31, 2023.

Do you wish to continue? N// YES
Generating New Log entry.

Generating Antimicrobial Use report. ... hold on .
Updating log entry.

RUN TIME (H.M.S): 0.0.4
DONE -- Press ENTER to Continue:
```

Figure 3-16: Sample Interaction for Antimicrobial Use Reporting System Option by Date Range

3.2.5 Date Range Option for Internal Testing (TEST)

The **TEST** option can be used to export all antimicrobial use medications administered for a date range to an intermediary file to allow troubleshooting of the extracted data in addition to the export directory.

```
Select Antimicrobial Use Reporting System Option: TEST   Date Range Option
for Internal Testing

                          DEMO HOSPITAL (INST)

           *****   ANTIMICROBIAL USE REPORT IN A SELECTED MONTH   *****


This program will generate an Antimicrobial Use report for a
month/year that you enter.  A log entry will be created which will log
the data generated.

Do you wish to continue? Y// ES
Please enter the date range for which Antimicrobial Resistance data
should be generated.

Enter beginning Visit Date for Search:  T-1   (MAR 24, 2024)

Enter ending Visit Date for Search:  T   (MAR 25, 2024)

Log entry 48 will be created and data generated for
date range MAR 24, 2024 to MAR 25, 2024.


In order to accurately calculate the patient days and admissions,
the ADT Census must be Recalculated up through Mar 25, 2024
Recalculation can be done from the ADT Supervisor menu or by running
the ADS (Admissions and Discharges) sheet.

Do you wish to continue? N// YES
```

```
Generating New Log entry.

Generating Antimicrobial Use report. ... hold on .

The ^BLRTMP nodes are in G:\pub\export\
The file name is BLRAU_20240325_48.txt


Updating log entry.

RUN TIME (H.M.S): 0.0.1
DONE -- Press ENTER to Continue:
End of Job.  Press ENTER.:
```

Figure 3-17: Sample Interaction for Antimicrobial User Reporting System Option for Testing a Specific Date Range

3.3 Site Parameter Setup (SP)

The **BLRZMENU** security key restricts the SP option and can be used to display and update their Antimicrobial Use and Resistance Reporting site parameters. This option has four submenu options, as described below.

```
   SPD    Display AU Site Parameters
   WS     Site Parameter and Ward Setup (NHSN Codes)
   MR     Medication Route Setup
   FMR    Find Medication Routes Used
```

Figure 3-18: Menu Options for the Site Parameters Setup Sub Menu

3.3.1 Display AU Site Parameters (SPD)

The **SPD** option displays the current site parameters associated with the AUR reporting functionality including the NHSN Facility OID and Ward and Medication Route mappings to NHSN codes.

Please note this option should only be used with guidance from the AUR project team in order to allow the export to function effectively based on the site's lab setup and configuration.

```
Display ANTIMICROBIAL USE SITE PARAMETERS

Select your facility.  Type ?? to see a list of facilities.

OUTPUT BROWSER                Nov 13, 2024 10:26:28          Page:   1 of 3
Antimicrobial Use Site Parameter Display


                    ANTIMICROBIAL USE REPORT SITE PARAMETERS

Site:  2021 DEMO HOSPITAL (INST)
```

```
NHSN ASSIGNED FACILITY OID:  1.111.222.333.580
AR VENDOR VALIDATION: AR_2022
AU VENDOR VALIDATION: AU_2020

EMERGENCY DEPARTMENT NHSN CODE:  1108-0  Emergency Department
NHSN-YOUR CODE EMERGENCY ROOM:  ED

OBSERVATION NHSN CODE:  1162-7  24-Hour Observation Area
NHSN-YOUR CODE OBSERVATION:  OBS

   WARDS
     GEN L&D WARD                  1060-3         Medical Ward
        NHSN-YOUR CODE: GEN LD
     ICU WARD                      1027-2         Medical Critical Care
        NHSN-YOUR CODE: ICUW1
     PEDS WARD                     1076-9         Pediatric Medical Ward
        NHSN-YOUR CODE: PEDS WD
     ED BOARDER OBS1               1162-7         24-Hour Observation Area
     ED BOARDER OBS2               1108-0         Emergency Department
     ED BOARDER OBS3               1108-0         Emergency Department
     WARD (NO ABBR)                1060-3         Medical Ward
        NHSN-YOUR CODE: TESTWARD

   MEDICATION ROUTES
     ORAL                          2522-1         Digestive tract
     G TUBE                        47625008       Intravascular
     RECTAL                        2522-1         Digestive tract
     INTRAVENOUS                   47625008       Intravascular
     INTRAMUSCULAR                 78421000       Intramuscular
     RIGHT EYE
     BOTH EARS                     78421000       Intramuscular
     INHALATION                    2523-9         Respiratory tract
     INHALATION                    2523-9         Respiratory tract
     INTRAMUSCULAR INTRA-ARTICULAR 78421000       Intramuscular
     IV PIGGYBACK                  47625008       Intravascular
     INFILTRATION INTRAVENOUS      47625008       Intravascular
     INTRAVASCULAR                 47625008       Intravascular
     ORAL PO                       2522-1         Digestive tract
     INHALATION NEBULIZER          2523-9         Respiratory tract

          Enter ?? for more actions
>>>
+    NEXT SCREEN          -    PREVIOUS SCREEN      Q    QUIT
```

Figure 3-19: Display Site Parameters for Antimicrobial Use and Resistance Reporting (AUR)

3.3.2 Site Parameter and Ward Setup (NHSN Codes) (WS)

The **WS** option can be used to map Wards, ER and Observation units to NHSN location codes and the NHSN Facility OID.

```
Select Site Parameter Setup Option: WS   Site Parameter and Ward Setup
(NHSN Codes)

This option is used to map wards, the ER and observation units to an
NHSN CODE and an NHSN-YOUR CODE, enter NHSN ASSIGNED SITE FACILITY OID
and enter AR/AU VENDOR VALIDATION YEAR. Each ward, ER and observation unit
must be assigned an appropriate NHSN CODE. If sites already have existing
NHSN locations defined, use the NHSN-YOUR CODE to match existing locations.
```

```
The site parameters will be pre-populated with all wards defined in the
RPMS Ward Location file. If a ward is not active leave the NHSN CODE blank.
Only wards that are assigned an NHSN CODE will be reported.


Do you wish to continue? Y// ES


Enter the ANTIMICROBIAL USE SITE: DEMO HOSPITAL (INST)
         ...OK? Yes// <return>   (Yes)

EMERGENCY ROOM NHSN CODE: Emergency Department//
NHSN-YOUR CODE FOR EMERGENCY ROOM: ED//
OBSERVATION NHSN CODE: 24-Hour Observation Area//
NHSN-YOUR CODE FOR OBSERVATION: OBS//
NHSN ASSIGNED FACILITY OID: 1.111.222.333.580//
AR VENDOR VALIDATION YEAR: 2022// ?
     Answer with a 4 digit year that is greater than 2021.  E.g. 2025
AR VENDOR VALIDATION YEAR: 2022//
AU VENDOR VALIDATION YEAR: 2020// ?
     Answer with a 4 digit year that is greater than 2019.  E.g. 2025
AU VENDOR VALIDATION YEAR: 2020//

The next screen will present all Wards and associated NHSN codes.
```

Figure 3-20: Sample Interaction to Update Site Parameters for Antimicrobial Use and Resistance Reporting (AUR)

```
Update Ward NHSN Codes        Mar 25, 2024 10:42:45          Page: 1 of   1
     WARD                                NHSN CODE


1)  GEN L&D WARD                         1060-3  Medical Ward
     (NHSN-YOUR CODE: GEN LD)
2)  ICU WARD                             1027-2  Medical Critical Care
     (NHSN-YOUR CODE: ICUW1)
3)  PEDS WARD                            1076-9  Pediatric Medical Ward
     (NHSN-YOUR CODE: PEDSWD)
4)  ED BOARDER OBS1                      1162-7  24-Hour Observation Area
5)  ED BOARDER OBS2                      1108-0  Emergency Department
6)  ED BOARDER OBS3                      1108-0  Emergency Department
7)  WARD (NO ABBR)                       1060-3  Medical Ward
     (NHSN-YOUR CODE: TESTWARD)

          Enter ?? for more actions
S    Select Ward                          Q    Quit
Select Action: S// S   Select Ward

Which item(s):  (1-7): 3




PEDS WARD
WARDS: PEDS WARD//
NHSN HEALTHCARE SERV LOC CODE: Pediatric Medical Ward
         // ?
 Answer with BLRAU NHSN LOCATION (WARD) CODES NAME, or NHSN CODE
 Do you want the entire 217-Entry BLRAU NHSN LOCATION (WARD) CODES List? N
```

```
  (No)
NHSN HEALTHCARE SERV LOC CODE: Pediatric Medical Ward
         //
NHSN-YOUR CODE: PEDSWD// PEDSS    Select Ward                        Q
Quit
```

Figure 3-21: Listing of Wards Mapped to NHSN Location Codes

In the **Update Ward NHSN Codes** screen, enter **S** to select the **Ward** to update by choosing the item number in the display. Once selected, the user will be prompted to enter the **NHSN Location Code** associated with the Location in the NHSN reporting system. Additionally, the user can enter the NHSN-YOUR CODE value already existing in the NHSN reporting system, if it does not match the Ward's abbreviation in the RPMS system.

3.3.3 Medication Route Setup (MR)

The **MR** option can be used to map the medication routes identified in the **Find Medication Routes in Use** option to the four values that NHSN wants the site to report on. The user will be asked to select the site for reporting and then in the ListMan, the user will select a medication route from the list and if it can be categorized as Digestive tract, Intramuscular, Intravascular, or Respiratory tract,

```
Select Site Parameter Setup Option: MR   Medication Route Setup

This option is used to map Medication Routes to NHSN Codes.
The site parameters have been pre-populated with common Medication Routes
used in BCMA, the IV Pharmacy System and Unit Dose for drugs with a
VA Drug Class indicating it is an Antimicrobial drug.

This list must be mapped to the codes below.  You can add additional
Medication Routes to the list.

The 4 codes are:
     - Digestive tract route      2522-1
     - Intramuscular route (IM)   78421000
     - Intravascular route (IV)   47625008
     - Respiratory tract route    2523-9


Do you wish to continue? Y// ES


BLRAU ANTIMICROB USE SITE: DEMO HOSPITAL (INST)
         ...OK? Yes//   (Yes)

Update Med Route NHSN Codes   Mar 25, 2024 10:43:03          Page: 1 of   1
    MED ROUTE                                  NHSN CODE DESCRIPTION


1)  ORAL                                       2522-1    Digestive tract
2)  J TUBE                                     2522-1    Digestive tract
3)  G TUBE                                     2522-1    Digestive tract
4)  RECTAL                                     2522-1    Digestive tract
5)  INTRAVENOUS                                47625008  Intravascular
6)  INTRAMUSCULAR                              78421000  Intramuscular
```

```
7)  TOPICAL
8)  INHALATION                                2523-9    Respiratory tract
9)  IV PIGGYBACK                              47625008  Intravascular
10) IV PUSH                                   47625008  Intravascular
11) ORAL PO                                   2522-1    Digestive tract



          Enter ?? for more actions
U    Update NHSN Code     AD   Add Medication Route Q    Quit
```

Figure 3-22: Display of Medication Routes with NHSN Codes Assigned

3.3.4 Find Medication Routes Used (FMR)

The **FMR** option can be used to identify the medication routes used at the site. This list can be used with the **MR** option to map those medication routes that need to be reported to NHSN. Queuing the process is recommended to allow the search to be complete without the user waiting for an undetermined amount of time.

```
This option is used to scan the BCMA, IV Med and Unit Dose medication files
to find all Medication Routes used with Antimicrobial drugs (VA DRUG CLASS
AM*). Those that are found will be put into the Medication Route site
parameter so they can be assigned an NHSN code.


This process could take up to an hour depending on how large those files
are so it is recommended that you queue to run in the background.


BLRAU ANTIMICROB USE SITE: DEMO HOSPITAL (INST)
         ...OK? Yes//   (Yes)

Won't you queue this ? Y// NO
<CR> to continue:
```

Figure 3-23: Sample Interaction to Find Medication Routes Used at the Site to be Mapped

3.3.5 F6 ALERTS MAIL GROUP EDIT (MGE)

The **MGE** option can be used to manage the RPMS users who should be alerted to the AUR Reporting transmission generation tasks status. This option allows users to be added or removed from the F6 ALERTS mail group.

```
Select Antimicrobial Use and Resistance Reporting (F6) Option: MGE   F6
ALERTS MAIL GROUP

                              DEMO HOSPITAL (INST)
Date: 03/25/24                       RPMS Lab
Time: 10:44 AM
                                   F6 ALERTS
BLREMERA
                            Mail Group Modifications
                                   MAIN MENU
------------------------------------------------------------------------------
    1) Add User to Mail Group             2) Delete User From Mail Group
    3) List Users on Mail Group

Select:  (1-3):
```

Figure 3-24: AUR ALERTS Mail Group Modifications main menu

From the main menu, type **3** to list the users assigned to the mail group.

```
                              DEMO HOSPITAL (INST)
Date: 03/25/24                       RPMS Lab
Time: 10:44 AM
                                   F6 ALERTS
BLREMERA
                            Mail Group Modifications
                                   MAIN MENU
------------------------------------------------------------------------------
    1) Add User to Mail Group             2) Delete User From Mail Group
    3) List Users on Mail Group

Select:  (1-3):3
```

Figure 3-25: AUR ALERTS Mail Group main menu–Select 3 to List Users

```
                                DEMO HOSPITAL (INST)
Date: 03/25/24                    IHS Laboratory                     Page 1
Time: 10:44 AM                      F6 ALERTS
BLREMERA
                               Mail Group Members

    DUZ       Name
------------------------------------------------------------------------------
    1111      LABORATORY, USER
    2222      PHARMACY, USER
    3333      INFORMATICIST, USER
    4444      INFECTION CONTROL, USER
    5555      AREA SUPPORT, USER

         5 Members
```

Figure 3-26: AUR ALERTS Mail Group Members List

From the main menu, type **2** to delete users from the mail group.

```
                                DEMO HOSPITAL (INST)
Date: 03/25/24                        RPMS Lab
Time: 10:44 AM
                                    F6 ALERTS
BLREMERA
                            Mail Group Modifications
                                    MAIN MENU
------------------------------------------------------------------------------
    1) Add User to Mail Group              2) Delete User From Mail Group
    3) List Users on Mail Group

Select:  (1-3): 2
```

Figure 3-27: AUR ALERTS Mail Group main menu–Select 2 to Delete User

```
                                DEMO HOSPITAL (INST)
Date: 03/25/24                    IHS Laboratory
Time: 10:44 AM
                                    F6 ALERTS
BLREMERA
                          Delete User from Mail Group
------------------------------------------------------------------------------

Select one of the users below to delete:

     1 LABORATORY, USER
     2 PHARMACY, USER
     3 INFORMATICIST, USER
     4 INFECTION CONTROL, USER
     5 AREA SUPPORT, USER

Enter Number: 2

    PHARMACY, USER deleted from F6 ALERTS Mail Group
```

Figure 3-28: AUR ALERTS–Successfully Deleted User from Mail Group

```
                                DEMO HOSPITAL (INST)
Date: 03/25/24                    IHS Laboratory
Time: 10:44 AM
                                    F6 ALERTS
BLREMERA
                          Delete User from Mail Group
------------------------------------------------------------------------------

Select one of the users below to delete:

     1 LABORATORY, USER
     2 INFORMATICIST, USER
     3 INFECTION CONTROL, USER
     4 AREA SUPPORT, USER

Enter Number:

    Exit/No Entry.
```

```
         Press RETURN Key: ^

    1 User deleted from F6 ALERTS

    0 Errors when trying to delete users from F6 ALERTS
```

Figure 3-29: AUR ALERTS–Successfully Deleted User from Mail Group

From the main menu, type **1** to add users from the mail group.

```
                                DEMO HOSPITAL (INST)
Date: 03/25/24                        RPMS Lab
Time: 10:44 AM
                                     F6 ALERTS
BLREMERA
                              Mail Group Modifications
                                     MAIN MENU
------------------------------------------------------------------------------
    1) Add User to Mail Group              2) Delete User From Mail Group
    3) List Users on Mail Group

Select:  (1-3): 1
```

Figure 3-30: AUR ALERTS Mail Group main menu–Select 1 to Add User

```
                                 DEMO HOSPITAL (INST)
Date: 03/25/24                      IHS Laboratory
Time: 10:44 AM
                                     F6 ALERTS
BLREMERA
                               Add User to Mail Group
------------------------------------------------------------------------------

Select NEW PERSON: PHARMACY NEW, USER       BHS

    PHARMCY NEW, USER added to F6 ALERTS
```

Figure 3-31: AUR ALERTS Mail Group main menu–Select an RPMS User to Add

```
                                 DEMO HOSPITAL (INST)
Date: 03/25/24                      IHS Laboratory
Time: 10:44 AM
                                     F6 ALERTS
BLREMERA
                               Add User to Mail Group
------------------------------------------------------------------------------

Select NEW PERSON: ^

    Exit/No Entry.

         Press RETURN Key:
```

```
    1 Users added to F6 ALERTS

    0 Errors when trying to add users to F6 ALERTS
```

Figure 3-32: AUR ALERTS Mail Group main menu–Select an RPMS User to Add

```
BLRAU ANTIMICROB USE SITE: DEMO HOSPITAL (INST)
         ...OK? Yes//   (Yes)

Won't you queue this ? Y// NO
<CR> to continue:
```

Figure 3-33: Main menu for Antimicrobial Use Resistance Reporting (AUR)

4.0 System Setup for Regular Lab Exports

The following section addresses configuration items that should have been discussed in the Install Guide when the software was initially installed. However, this material is presented here in case there are remaining configuration settings that were not addressed during installation and configuration.

4.1 Confirm Laboratory Test Attributes–Assign SNOMED Codes to **ORGANISM NAMES** (Etiology Field) for Reporting

Using FileMan, assign SNOMED codes to each eligible organism using the ETIOLOGY FIELD file (# 61.2) for NHSN AR reporting.

> **Note:** The 2025 AUR Module Reporting Updates – AR Option Pathogens include the addition of Group A Streptococcus and the expansion to include the genus (and all species codes) Candida, Citrobacter, Klebsiella, and Proteus.

See Appendix A for the complete list of Organism names and their assigned SNOMED CODES.

```
Access the VA FileMan 22.0

Select VA FileMan Option: ENter or Edit File Entries


INPUT TO WHAT FILE: ETIOLOGY FIELD// 61.2  ETIOLOGY FIELD
EDIT WHICH FIELD: ALL//


Select ETIOLOGY FIELD NAME: STREPTOCOCCUS P
     1   STREPTOCOCCUS PARASANGUIS       2508
     2   STREPTOCOCCUS PNEUMONIAE       9861002
     3   STREPTOCOCCUS PYOGENES, GROUP A       80166006
CHOOSE 1-3: 3  STREPTOCOCCUS PYOGENES, GROUP A     80166006
NAME: STREPTOCOCCUS PYOGENES, GROUP A
CLASS/GROUP-TRIBE/FAMILY: BSTREP//
SNOMED CODE: 80166006//
GRAM STAIN: GRAM POSITIVE//
Select *BIOCHEMICAL WORKUP:
IDENTIFIER: BACTERIUM//
Select TITLE OF ARTICLE:
ABBREVIATION: STREPA//
Select SYNONYM: STREPA//
SUSCEPTIBILITY EDIT TEMPLATE: LR STREP A/B ANTI P28
*SENSITIVITY DISPLAY TEMPLATE:
HEALTH DEPT REPORT: YES//
Select ETIOLOGY WKLD CODE:

Select ETIOLOGY FIELD NAME:
```

Figure 4-1: ETIOLOGY FIELD file example

4.2 Confirm Laboratory Test Attributes–Assign LOINC Codes to **ANTIBIOTIC NAMES** (Antimicrobial Susceptibility) for Reporting

Using FileMan, assign LOINC codes to each listed antibiotic name using the ANTIMICROBIAL SUSCEPTIBILITY file (# 62.06) for NHSN AR reporting.

> **Note:** The 2025 AUR Module Reporting Updates – AR Option Antimicrobial Susceptibility Testing (AST) include the addition of Amphotericin B, Ceftibuten, and Plazomicin. It is required to create these antibiotic names within the RPMS system regardless of whether the laboratory performs testing on them.

See Appendix B for the complete list of Antibiotic names and their assigned LOINC CODES.

To create the new antibiotic names in the Antimicrobial Susceptibility file# 62.06, follow the two steps provided below:

1. Create a new internal name for an antibiotic for the new Antimicrobial Susceptibility name.

```
Access the Laboratory DHCP MENU:

  11. supervisor menu
      Lab Liaison menu
         Add a new internal name for an
antibiotic
CHOOSE 1-3: 2   Add a new internal name for an antibiotic.

Enter the name of the new antibiotic you wish to create: AMPHOTERICIN B
Are you sure you wish to create AMPHOTERICIN B
 (DRUG NODE will be 2.00290609)? Yes//    (Yes)

AMPHOTERICIN B  has now been created.
You must now add a new antibiotic in the ANTIMICROBIAL SUSCEPTIBILITY file
and use AMPHOTERICIN B as the entry for the INTERNAL NAME field.
```

Figure 4-2: Creating the internal name for ANTIMICROBIAL SUSCEPTIBILITY

2. Create the new Antimicrobial Susceptibility drug name entry using the newly created internal name.

```
Access the VA FileMan 22.0

Select VA FileMan Option: ENter or Edit File Entries


INPUT TO WHAT FILE: ETIOLOGY FIELD// 62.06   ANTIMICROBIAL SUSCEPTIBILITY
EDIT WHICH FIELD: ALL//
```

```
Select ANTIMICROBIAL SUSCEPTIBILITY NAME: AMPHOTERCIN B
  Are you adding 'AMPHOTERCIN B' as
    a new ANTIMICROBIAL SUSCEPTIBILITY (the 135TH)? No// y  (Yes)
   ANTIMICROBIAL SUSCEPTIBILITY NUMBER: 144//
     ANTIMICROBIAL SUSCEPTIBILITY INTERNAL NAME: AMPHOTERICIN B
     1   AMPHOTERICIN B
     2   AMPHOTERICIN B  INTERP
     3   AMPHOTERICIN B  SCREEN
CHOOSE 1-3: 1  AMPHOTERICIN B
PRINT ORDER: 10.052
Select SUSCEPTIBILITY RESULT: S
  DEFAULT INTERPRETATION: S
  Select *ORGANISM: ^
Select SUSCEPTIBILITY RESULT: R
  DEFAULT INTERPRETATION: R
  Select *ORGANISM: ^
Select SUSCEPTIBILITY RESULT: I+C14
  DEFAULT INTERPRETATION: I
  Select *ORGANISM: ^
Select SUSCEPTIBILITY RESULT:
Select *SPECIMEN:
DISPLAY COMMENT:
INTERNAL NAME: AMPHOTERICIN B //
ABBREVIATION: AMPH B
DEFAULT SCREEN:
Select ALTERNATE SCREEN:
NATIONAL VA LAB CODE:
LOINC: 18863    -1 VUID 4660645
   AMPHOTERICIN B:SUSC:PT:ISOLATE:ORDQN:


Select ANTIMICROBIAL SUSCEPTIBILITY NAME:
```

Figure 4-3: Create new ANTIMICROBIAL SUSCEPTIBILITY file entry

4.3 Confirm Laboratory Test Attributes–Assign SNOMED Codes to SPECIMEN TYPES (Topography Field) for Reporting

Using FileMan, assign SNOMED codes to each specimen type (Urine, Blood, Lower Respiratory [Sputum], and CSF) sample, utilizing the TOPOGRAPHY FIELD file (#61) for NHSN AR reporting.

> **Note:** The 2025 AUR Module Reporting Updates – AR Option Specimens include the addition of Skin, Soft Tissue, Wound, Musculoskeletal, and Indwelling Catheter specimen sources.

Table 4-1: Specimen sample to SNOMED code assignment

Specimen	SNOMED CODE
URINE CATH URINE INDWELLING Cath UR	122575003 122565001 446846006
BLOOD VENOUS BLOOD ARTERIAL BLOOD WHOLE BLOOD	119297000 122555007 122552005 258580003
SPUTUM LOWER RESPIRATORY	119334006 258606004
WOUND WOUND-ABSCESS WOUND-DEEP/SURGICAL WOUND-DRAINAGE WOUND-EXUDATE WOUND-SUPERFICAL	119365002 119366001 16211011000119108 122566000 122568004 734381007
SKIN	608969007
CSF	258450006
SOFT TISSUES SYNOVIAL BURSA	309072003 309123007 309109005
SKELETAL MUSCLE BONE CARTILAGE TENDON JOINT	119331003 430268003 309102001 309107007 309125000

```
Access the VA FileMan 22.0

Select VA FileMan Option: Enter or Edit File Entries


INPUT TO WHAT FILE: HOSPITAL LOCATION// TOPOGRAPHY FIELD
EDIT WHICH FIELD: ALL//


Select TOPOGRAPHY FIELD NAME: WOUND
     1   WOUND       119365002
     2   WOUND-ABSCESS       119366001
     3   WOUND-DEEP/SURGICAL       16211011000119108
     4   WOUND-DRAINAGE       122566000
     5   WOUND-EXUDATE       122568004
Press <RETURN> to see more, '^' to exit this list, OR
CHOOSE 1-5: 1  WOUND     119365002
NAME: WOUND//
ICDO CODE:
HL7 CODE: WND//
```

```
LEDI HL7: Wound//
TIME ASPECT:
SNOMED CODE: 119365002//
SEX SPECIFIC:
Select SYNONYM: WND//
WEIGH:
COLLECTION SAMPLE:
Select TITLE OF ARTICLE:
ABBREVIATION: WND//
*NEGATIVE BACTERIOLOGY COMMENT:

NAME: WOUND-ABSCESS//
ICDO CODE:
HL7 CODE: WNDA//
LEDI HL7: Wound abscess//
TIME ASPECT:
SNOMED CODE: 119366001//
SEX SPECIFIC:
Select SYNONYM:
WEIGH:
COLLECTION SAMPLE:
Select TITLE OF ARTICLE:
ABBREVIATION: WAB//
*NEGATIVE BACTERIOLOGY COMMENT:

NAME: URINE//
ICDO CODE:
HL7 CODE: UR//
LEDI HL7: Urine//
TIME ASPECT:
SNOMED CODE: 122575003//
SEX SPECIFIC:
Select SYNONYM:
WEIGH:
COLLECTION SAMPLE:
Select TITLE OF ARTICLE:
ABBREVIATION:
*NEGATIVE BACTERIOLOGY COMMENT:


Select TOPOGRAPHY FIELD NAME: BLOOD
     1   BLOOD       119297000
     2   BLOOD BAND CELL       0X161
     3   BLOOD BASOPHIL       0X180
     4   BLOOD EOSINOPHIL       0X170
     5   BLOOD ERYTHROCYTE       0X120
Press <RETURN> to see more, '^' to exit this list, OR
CHOOSE 1-5: 1   BLOOD     119297000
NAME: BLOOD//
ICDO CODE:
HL7 CODE: BLD//
LEDI HL7: Whole blood//
TIME ASPECT:
SNOMED CODE: 119297000//
SEX SPECIFIC:
Select SYNONYM:
WEIGH:
COLLECTION SAMPLE:
Select TITLE OF ARTICLE:
ABBREVIATION:
*NEGATIVE BACTERIOLOGY COMMENT:
```

```
Select TOPOGRAPHY FIELD NAME: SPUTUM       119334006
NAME: SPUTUM//
ICDO CODE:
HL7 CODE: SPT//
LEDI HL7: Sputum//
TIME ASPECT:
SNOMED CODE: 119334006//
SEX SPECIFIC:
Select SYNONYM:
WEIGH:
COLLECTION SAMPLE:
Select TITLE OF ARTICLE:
ABBREVIATION:
*NEGATIVE BACTERIOLOGY COMMENT:


Select TOPOGRAPHY FIELD NAME: CSF          258450006
NAME: CSF//
ICDO CODE:
HL7 CODE: CSF//
LEDI HL7: Cerebral spinal fluid//
TIME ASPECT:
SNOMED CODE: 258450006//
SEX SPECIFIC:
Select SYNONYM:
WEIGH:
COLLECTION SAMPLE:
Select TITLE OF ARTICLE:
ABBREVIATION:
*NEGATIVE BACTERIOLOGY COMMENT:

Select TOPOGRAPHY FIELD NAME:
```

Figure 4-4: TOPOGRAPHY file examples

4.4 Confirm Laboratory Test Attributes–Verify that the **COLLECTION SAMPLE** file entries accurately reflect the specimen types

Using FileMan, confirm that the DEFAULT SPECIMEN field includes the specimens used for ordering Culture Laboratory Tests, as specified in the COLLECTION SAMPLE file (# 62) for NHSN AR reporting.

```
Access the VA FileMan 22.0

Select VA FileMan Option: ENter or Edit File Entries

INPUT TO WHAT FILE: ANTIMICROBIAL SUSCEPTIBILITY// 62   COLLECTION SAMPLE
EDIT WHICH FIELD: ALL//


Select COLLECTION SAMPLE NAME: SPUTUM CULTURE
NAME: SPUTUM CULTURE//
DEFAULT SPECIMEN: SPUTUM//
TUBE TOP COLOR: STERILE CUP//
VOLUME LARGE:
```

```
VOLUME SMALL:
LAB SECTION:
CAN LAB COLLECT:
Select SYNONYM:
Select ACCESSION AREA:


Select COLLECTION SAMPLE NAME: CSF CULTURE
NAME: CSF CULTURE//
DEFAULT SPECIMEN: CSF//
TUBE TOP COLOR: STERILE//
VOLUME LARGE:
VOLUME SMALL:
LAB SECTION:
CAN LAB COLLECT:
Select SYNONYM:
Select ACCESSION AREA:


Select COLLECTION SAMPLE NAME: URINE, STERILE
NAME: URINE, STERILE//
DEFAULT SPECIMEN: URINE//
TUBE TOP COLOR: STERILE CUP//
VOLUME LARGE:
VOLUME SMALL:
LAB SECTION:
CAN LAB COLLECT:
Select SYNONYM:
Select ACCESSION AREA:


Select COLLECTION SAMPLE NAME: BLOOD CULTURE
NAME: BLOOD CULTURE//
DEFAULT SPECIMEN: BLOOD//
TUBE TOP COLOR: BLOOD BTL//
VOLUME LARGE:
VOLUME SMALL:
LAB SECTION:
CAN LAB COLLECT:
Select SYNONYM:
Select ACCESSION AREA:


Select COLLECTION SAMPLE NAME:
```

Figure 4-5: COLLECTION SAMPLE file examples

4.5 Confirm Laboratory Test Attributes–Verify that the **LABORATORY TEST** file includes the collection sample with the default specimen

Using FileMan, confirm that the Laboratory Test and Collection Sample includes the default specimen for specimen types used for NHSN AR reporting within the LABORATORY TEST file #60.

```
Access the VA FileMan 22.0
```

```
Select VA FileMan Option: INquire to File Entries


OUTPUT FROM WHAT FILE: 60    LABORATORY TEST
Select LABORATORY TEST NAME:    URINE CULTURE
ANOTHER ONE: BLOOD CULTURE
ANOTHER ONE: SPUTUM CULTURE
ANOTHER ONE: CSF CULTURE
ANOTHER ONE:
STORE THESE ENTRY ID'S IN TEMPLATE:
STANDARD CAPTIONED OUTPUT? Yes//
Include COMPUTED fields:  (N/Y/R/B): NO//
DISPLAY AUDIT TRAIL? No//

LABTEST IEN: 2000107                    NAME: URINE CULTURE
  TYPE: BOTH                            SUBSCRIPT: MICROBIOLOGY
  UNIQUE ACCESSION #: YES               UNIQUE COLLECTION SAMPLE: NO
  EDIT CODE: BACTERIOLOGY1              HIGHEST URGENCY ALLOWED: ROUTINE
  REQUIRED TEST: YES                    PRINT NAME: URINE CULTURE
COLLECTION SAMPLE: URINE, STERILE
INSTITUTION: DEMO HOSPITAL              ACCESSION AREA: MICROBIOLOGY
SITE NOTES DATE: FEB 20, 2024
 NOTE:   REVIEWED FOR AUR. KR


LABTEST IEN: 1142                       NAME: BLOOD CULTURE
  TYPE: BOTH                            SUBSCRIPT: MICROBIOLOGY
  UNIQUE ACCESSION #: YES               *QUICK INDEX: YES
  EDIT CODE: BACTERIOLOGY2              EXTRA LABELS: 1
  HIGHEST URGENCY ALLOWED: ROUTINE      REQUIRED TEST: YES
  PRINT NAME: BLOOD CULTURE
COLLECTION SAMPLE: BLOOD CULTURE
INSTITUTION: DEMO HOSPITAL             ACCESSION AREA: MICROBIOLOGY
SITE NOTES DATE: FEB 09, 2024
 NOTE:   REVIEWED FOR AUR. KR


LABTEST IEN: 2001378                    NAME: SPUTUM CULTURE
  TYPE: BOTH                            SUBSCRIPT: MICROBIOLOGY
  UNIQUE ACCESSION #: YES               UNIQUE COLLECTION SAMPLE: YES
  EDIT CODE: BACTERIOLOGY2              HIGHEST URGENCY ALLOWED: ROUTINE
  REQUIRED TEST: YES                    PRINT NAME: SPUTUM CULTURE
COLLECTION SAMPLE: SPUTUM CULTURE
INSTITUTION: DEMO HOSPITAL              ACCESSION AREA: MICROBIOLOGY
SITE NOTES DATE: FEB 20, 2024
 NOTE:   REVIWED FOR AUR KR


LABTEST IEN: 2001396                    NAME: CSF CULTURE
  TYPE: BOTH                            SUBSCRIPT: MICROBIOLOGY
  UNIQUE ACCESSION #: YES               UNIQUE COLLECTION SAMPLE: YES
  EDIT CODE: BACTERIOLOGY2              HIGHEST URGENCY ALLOWED: ROUTINE
  REQUIRED TEST: YES                    PRINT NAME: CSF CULTURE
COLLECTION SAMPLE: CSF CULTURE
INSTITUTION: DEMO HOSPITAL              ACCESSION AREA: MICROBIOLOGY
SITE NOTES DATE: FEB 20, 2024
 NOTE:   REVIEWED FOR AUR KR

Select LABORATORY TEST NAME:
```

Figure 4-6: LABORATORY TEST file examples

5.0 Maintenance

The site parameter menu options below should not be used without guidance and support to ensure that uploads to NHSN for AUR are successful. Each option is described below, but it is strongly recommended that they be used without consideration to ensure that new medication routes and wards are mapped to NHSN locations for accurate reporting.

5.1 Edit the Site Parameters

The **SP** option is restricted by the BLRZMENU security key and can be used to display and update their Antimicrobial Use and Resistance Reporting site parameters. This option has four submenu options, as described below.

```
SPD    Display AU Site Parameters
WS     Site Parameter and Ward Setup (NHSN Codes)
MR     Medication Route Setup
FMR    Find Medication Routes Used
```

Figure 5-1: Menu Options for the Site Parameters Setup Sub Menu

5.1.1 Site Parameter and Ward Setup (NHSN Codes) (WS)

The **WS** option can be used to map wards, ER, and observation units to NHSN location codes and the NHSN facility OID.

```
Select Site Parameter Setup Option: WS   Site Parameter and Ward Setup
(NHSN Codes)

This option is used to map wards, the ER and observation units to an
NHSN CODE and an NHSN-YOUR CODE, enter NHSN ASSIGNED SITE FACILITY OID
and enter AR/AU VENDOR VALIDATION YEAR. Each ward, ER and observation unit
must be assigned an appropriate NHSN CODE. If sites already have existing
NHSN locations defined, use the NHSN-YOUR CODE to match existing locations.
The site parameters will be pre-populated with all wards defined in the
RPMS Ward Location file. If a ward is not active leave the NHSN CODE blank.
Only wards that are assigned an NHSN CODE will be reported.


Do you wish to continue? Y// ES


Enter the ANTIMICROBIAL USE SITE: DEMO HOSPITAL (INST)
         ...OK? Yes// <return>   (Yes)

EMERGENCY ROOM NHSN CODE: Emergency Department//
NHSN-YOUR CODE FOR EMERGENCY ROOM: ED//
OBSERVATION NHSN CODE: 24-Hour Observation Area//
NHSN-YOUR CODE FOR OBSERVATION: OBS//
NHSN ASSIGNED FACILITY OID: 1.111.222.333.580//
AR VENDOR VALIDATION YEAR: 2022// ?
     Answer with a 4 digit year that is greater than 2021.  E.g. 2025
AR VENDOR VALIDATION YEAR: 2022//
AU VENDOR VALIDATION YEAR: 2020// ?
     Answer with a 4 digit year that is greater than 2019.  E.g. 2025
AU VENDOR VALIDATION YEAR: 2020//



The next screen will present all Wards and associated NHSN codes.
```

Figure 5-2: Sample Interaction to Update Site Parameters for Antimicrobial Use and Resistance Reporting (AUR)

```
Update Ward NHSN Codes        Mar 25, 2024 10:42:45          Page: 1 of   1
     WARD                                NHSN CODE


1)  GEN L&D WARD                         1060-3  Medical Ward
     (NHSN-YOUR CODE: GEN LD)
2)  ICU WARD                             1027-2  Medical Critical Care
     (NHSN-YOUR CODE: ICUW1)
3)  PEDS WARD                            1076-9  Pediatric Medical Ward
     (NHSN-YOUR CODE: PEDSWD)
4)  ED BOARDER OBS1                      1162-7  24-Hour Observation Area
5)  ED BOARDER OBS2                      1108-0  Emergency Department
6)  ED BOARDER OBS3                      1108-0  Emergency Department
7)  WARD (NO ABBR)                       1060-3  Medical Ward
     (NHSN-YOUR CODE: TESTWARD)

          Enter ?? for more actions
S    Select Ward                          Q    Quit
Select Action: S// S   Select Ward

Which item(s):  (1-7): 3

PEDS WARD
WARDS: PEDS WARD//
NHSN HEALTHCARE SERV LOC CODE: Pediatric Medical Ward
         // ?
 Answer with BLRAU NHSN LOCATION (WARD) CODES NAME, or NHSN CODE
 Do you want the entire 217-Entry BLRAU NHSN LOCATION (WARD) CODES List? N
  (No)
NHSN HEALTHCARE SERV LOC CODE: Pediatric Medical Ward
         //
NHSN-YOUR CODE: PEDSWD// PEDSS    Select Ward                    Q    Quit
```

Figure 5-3: Listing of Wards Mapped to NHSN Location Codes

In the **Update Ward NHSN Codes** screen, enter **S** to Select the Ward to update by choosing the item number in the display. Once selected, the user will be prompted to enter the **NHSN Location Code** associated with the Location in the NHSN reporting system. Additionally, the user can enter the NHSN-YOUR CODE value already existing in the NHSN reporting system, if it does not match the Ward's abbreviation in the RPMS system.

5.1.2 Medication Route Setup (MR)

The **MR** option can be used to map the medication routes identified in the **Find Medication Routes in Use** option to the four values that NHSN wants the site to report on. The user will be asked to select the site for reporting, and then in the ListMan, the user will select a medication route from the list and if it can be categorized as digestive tract, intramuscular, intravascular, or respiratory tract.

```
Select Site Parameter Setup Option: MR   Medication Route Setup

This option is used to map Medication Routes to NHSN Codes.
The site parameters have been pre-populated with common Medication Routes
used in BCMA, the IV Pharmacy System and Unit Dose for drugs with a
VA Drug Class indicating it is an Antimicrobial drug.

This list must be mapped to the codes below.  You can add additional
Medication Routes to the list.

The 4 codes are:
     - Digestive tract route      2522-1
     - Intramuscular route (IM)   78421000
     - Intravascular route (IV)   47625008
     - Respiratory tract route    2523-9


Do you wish to continue? Y// ES


BLRAU ANTIMICROB USE SITE: DEMO HOSPITAL (INST)
         ...OK? Yes//   (Yes)

Update Med Route NHSN Codes   Mar 25, 2024, 10:43:03          Page: 1 of
1
    MED ROUTE                                NHSN CODE DESCRIPTION


1)  ORAL                                     2522-1    Digestive tract
2)  J TUBE                                   2522-1    Digestive tract
3)  G TUBE                                   2522-1    Digestive tract
4)  RECTAL                                   2522-1    Digestive tract
5)  INTRAVENOUS                              47625008  Intravascular
6)  INTRAMUSCULAR                            78421000  Intramuscular
7)  TOPICAL
8)  INHALATION                               2523-9    Respiratory tract
9)  IV PIGGYBACK                             47625008  Intravascular
10) IV PUSH                                  47625008  Intravascular
11) ORAL PO                                  2522-1    Digestive tract



          Enter ?? for more actions
U    Update NHSN Code     AD   Add Medication Route Q    Quit
```

Figure 5-4: Display of Medication Routes with NHSN Codes Assigned

5.1.3 Find Medication Routes Used (FMR)

The **FMR** option can be used to identify the medication routes used at the site. This list can be used with the MR option to map those medication routes that need to be reported to NHSN. Queuing the process is recommended to allow the search to be completed without the user waiting for an undetermined amount of time.

```
This option is used to scan the BCMA, IV Med and Unit Dose medication files
to find all Medication Routes used with Antimicrobial drugs (VA DRUG CLASS
AM*). Those that are found will be put into the Medication Route site
parameter so they can be assigned an NHSN code.


This process could take up to an hour depending on how large those files
are so it is recommended that you queue to run in the background.


BLRAU ANTIMICROB USE SITE: DEMO HOSPITAL (INST)
         ...OK? Yes//   (Yes)

Won't you queue this ? Y// NO
<CR> to continue:
```

Figure 5-5: Sample interaction to find medication routes used at the site to be mapped

5.1.4 F6 ALERTS MAIL GROUP EDIT (MGE)

The **MGE** option can be used to manage the RPMS users who should be alerted to the AUR Reporting transmission generation tasks status. This option allows users to be added or removed from the F6 ALERTS mail group.

```
Select Antimicrobial Use and Resistance Reporting (F6) Option: MGE   F6
ALERTS MAIL GROUP

                              DEMO HOSPITAL (INST)
Date: 03/25/24                         RPMS Lab
Time: 10:44 AM
                                    F6 ALERTS
BLREMERA
                              Mail Group Modifications
                                    MAIN MENU
------------------------------------------------------------------------------
    1) Add User to Mail Group             2) Delete User From Mail Group
    3) List Users on Mail Group

Select:  (1-3):
```

Figure 5-5-6: AUR ALERTS Mail Group Modifications main menu

From the main menu, type **3** to list the users assigned to the mail group.

```
                                DEMO HOSPITAL (INST)
Date: 03/25/24                         RPMS Lab
Time: 10:44 AM
                                    F6 ALERTS
BLREMERA
                              Mail Group Modifications
                                    MAIN MENU
------------------------------------------------------------------------------
    1) Add User to Mail Group             2) Delete User From Mail Group
    3) List Users on Mail Group

Select:  (1-3):3
```

Figure 5-7: AUR ALERTS Mail Group main menu – Select 3 to List Users

```
                                DEMO HOSPITAL (INST)
Date: 03/25/24                      IHS Laboratory                      Page 1
Time: 10:44 AM                        F6 ALERTS
BLREMERA
                                Mail Group Members

    DUZ       Name
-------------------------------------------------------------------------------
    1111      LABORATORY, USER
    2222      PHARMACY, USER
    3333      INFORMATICIST, USER
    4444      INFECTION CONTROL, USER
    5555      AREA SUPPORT, USER

         5 Members
```

Figure 5-8: AUR ALERTS Mail Group Members List

From the main menu, type **2** to delete users from the mail group.

```
                                DEMO HOSPITAL (INST)
Date: 03/25/24                        RPMS Lab
Time: 10:44 AM
                                     F6 ALERTS
BLREMERA
                             Mail Group Modifications
                                     MAIN MENU
-------------------------------------------------------------------------------
    1) Add User to Mail Group              2) Delete User From Mail Group
    3) List Users on Mail Group

Select:  (1-3): 2
```

Figure 5-9: AUR ALERTS Mail Group main menu–Select 2 to Delete User

```
                                DEMO HOSPITAL (INST)
Date: 03/25/24                      IHS Laboratory
Time: 10:44 AM
                                     F6 ALERTS
BLREMERA
                           Delete User from Mail Group
-------------------------------------------------------------------------------

Select one of the users below to delete:

     1 LABORATORY, USER
     2 PHARMACY, USER
     3 INFORMATICIST, USER
     4 INFECTION CONTROL, USER
     5 AREA SUPPORT, USER

Enter Number: 4

    INFECTION CONTROL, USER deleted from F6 ALERTS Mail Group
```

Figure 5-10: AUR ALERTS–Successfully Deleted User from Mail Group

```
                                DEMO HOSPITAL (INST)
Date: 03/25/24                      IHS Laboratory
Time: 10:44 AM
                                     F6 ALERTS
BLREMERA
                            Delete User from Mail Group
------------------------------------------------------------------------------

Select one of the users below to delete:

     1 LABORATORY, USER
     2 PHARMACY, USER
     3 INFORMATICIST, USER
     4 AREA SUPPORT, USER

Enter Number:

    Exit/No Entry.

         Press RETURN Key: ^

    1 User deleted from F6 ALERTS

    0 Errors when trying to delete users from F6 ALERTS
```

Figure 5-11: AUR ALERTS–Successfully Deleted User from Mail Group

From the main menu, type **1** to add users from the mail group.

```
                                DEMO HOSPITAL (INST)
Date: 03/25/24                        RPMS Lab
Time: 10:44 AM
                                     F6 ALERTS
BLREMERA
                              Mail Group Modifications
                                     MAIN MENU
------------------------------------------------------------------------------
    1) Add User to Mail Group              2) Delete User From Mail Group
    3) List Users on Mail Group

Select:  (1-3): 1
```

Figure 5-12: AUR ALERTS Mail Group main menu–Select 1 to Add Use

```
                                DEMO HOSPITAL (INST)
Date: 03/25/24                      IHS Laboratory
Time: 10:44 AM
                                     F6 ALERTS
BLREMERA
                              Add User to Mail Group
------------------------------------------------------------------------------

Select NEW PERSON: INFECTION CONTROL NEW, USER
```

```
    INFECTION CONTROL NEW, USER added to F6 ALERTS
```

Figure 5-13: AUR ALERTS Mail Group main menu–Select an RPMS User to Add

```
                                DEMO HOSPITAL (INST)
Date: 03/25/24                      IHS Laboratory
Time: 10:44 AM
                                     F6 ALERTS
BLREMERA
                               Add User to Mail Group
------------------------------------------------------------------------------

Select NEW PERSON: ^

    Exit/No Entry.

         Press RETURN Key:

    1 Users added to F6 ALERTS

    0 Errors when trying to add users to F6 ALERTS
```

Figure 5-14: AUR ALERTS Mail Group main menu–Select an RPMS User to Add

Appendix A List of Eligible Organisms for the NHSN AR Option

The following lists the organism names and their assigned SNOMED codes. Please note that organism names in the bold font indicates that the subsequent non-bold organisms are rolled up to the bolded organism for reporting purposes per NHSN AUR module protocol.

Table A-1: Organism and SNOMED code

Organism Name	SNOMED CODE
Escherichia coli (organism)	112283007
AmpC beta-lactamase producing Escherichia coli (organism)	1095001000112106
Carbapenem resistant Escherichia coli (organism)	715307006
Carbapenemase-producing Escherichia coli (organism)	737528008
Extended spectrum beta-lactamase producing Escherichia coli (organism)	409800005
Streptococcus agalactiae (organism)	43492007
Streptococcus pneumoniae (organism)	9861002
Multiple drug-resistant Streptococcus pneumoniae (organism)	409806004
Penicillin resistant Streptococcus pneumoniae (organism)	409807008
Streptococcus pyogenes (organism)	80166006
Small-colony-forming beta-hemolytic group A streptococci (organism)	415534000
Large-colony-forming beta-hemolytic group A streptococci (organism)	414577006
Beta-hemolytic Streptococcus, group A (organism)	413643004
Stenotrophomonas maltophilia (organism)	113697002
Staphylococcus aureus (organism)	3092008
Borderline oxacillin-resistant Staphylococcus aureus (organism)	1108501000112102
Glycopeptide intermediate Staphylococcus aureus (organism)	406605001
Glycopeptide intermediate/resistant Staphylococcus aureus (organism)	406606000

Organism Name	SNOMED CODE
Glycopeptide resistant Staphylococcus aureus (organism)	404679009
Methicillin susceptible Staphylococcus aureus (organism)	417943000
Methicillin resistant Staphylococcus aureus (organism)	115329001
Multiple drug resistant methicillin resistant Staphylococcus aureus (organism)	716531008
Non-multiple drug resistant methicillin resistant Staphylococcus aureus (organism)	716530009
Panton-Valentine leukocidin producing Staphylococcus aureus (organism)	710564002
Staphylococcus aureus ss aureus (organism)	113961008
Staphylococcus aureus ss. anaerobius (organism)	50269000
Vancomycin intermediate Staphylococcus aureus (organism)	406962002
Vancomycin intermediate/resistant Staphylococcus aureus (organism)	406576009
Vancomycin resistant Staphylococcus aureus (organism)	404680007
Vancomycin susceptible Staphylococcus aureus (organism)	698216001
Stenotrophomonas maltophilia (organism)	113697002
Multiple drug-resistant Stenotrophomonas maltophilia (organism)	1255941007
GENUS ACINETOBACTER (organism)	7757008
Acinetobacter albensis (organism)	3701000181108
Acinetobacter apis (organism)	3711000181105
Acinetobacter baylyi (organism)	423974000
Acinetobacter beijerinckii (organism)	771547006
Acinetobacter bereziniae (organism)	700398000
Acinetobacter boissieri (organism)	3721000181101
Acinetobacter bouvetii (organism)	424539001
Acinetobacter celticus (organism)	3731000181104
Acinetobacter chinensis (organism)	3741000181106
Acinetobacter courvalinii (organism)	890447005
Acinetobacter cumulans (organism)	3761000181107
Acinetobacter defluvii (organism)	1236812001
Acinetobacter dispersus (organism)	788668000
Acinetobacter equi (organism)	3781000181100

Organism Name	SNOMED CODE
Acinetobacter gandensis (organism)	3791000181103
Acinetobacter geminorum (organism)	1336076007
Acinetobacter genomospecies 9 (organism)	445480005
Acinetobacter genospecies (organism)	131203002
Acinetobacter genospecies 14 (organism)	113383000
Acinetobacter genospecies 16 (organism)	113385007
Acinetobacter genospecies 3 (organism)	113377003
Acinetobacter genospecies 6 (organism)	113378008
Acinetobacter gerneri (organism)	424700008
Acinetobacter grimontii (organism)	423329001
Acinetobacter guillouiae (organism)	700397005
Acinetobacter gyllenbergii (organism)	450384008
Acinetobacter halotolerans (organism)	3801000181104
Acinetobacter harbinensis (organism)	751000181107
Acinetobacter indicus (organism)	708566008
Acinetobacter larvae (organism)	3811000181102
Acinetobacter modestus (organism)	890448000
Acinetobacter nectaris (organism)	723323008
Acinetobacter parvus (organism)	423516002
Acinetobacter piscicola (organism)	3821000181106
Acinetobacter populi (organism)	3831000181108
Acinetobacter pragensis (organism)	3841000181101
Acinetobacter proteolyticus (organism)	797934007
Acinetobacter pseudolwoffii (organism)	3851000181103
Acinetobacter qingfengensis (organism)	3861000181100
Acinetobacter rudis (organism)	115391000146107
Acinetobacter schindleri (organism)	423732001
Acinetobacter sichuanensis (organism)	3871000181105
Acinetobacter soli (organism)	700396001
Acinetobacter tandoii (organism)	424021002
Acinetobacter tjernbergiae (organism)	425109008
Acinetobacter towneri (organism)	424930007
Acinetobacter variabilis (organism)	113384006
Acinetobacter venetianus (organism)	28931000087103

Organism Name	SNOMED CODE
Acinetobacter vivianii (organism)	761000181105
Acinetobacter wuhouensis (organism)	3881000181107
Asaccharolytic acinetobacter (organism)	419589005
Asaccharolytic hemolytic Acinetobacter (organism)	719030002
Asaccharolytic non-hemolytic Acinetobacter (organism)	719027009
Carbapenemase-producing Acinetobacter (organism)	1085501000112104
Saccharolytic Acinetobacter (organism)	418688000
Saccharolytic hemolytic Acinetobacter (organism)	719031003
Saccharolytic non-hemolytic Acinetobacter (organism)	719032005
Multidrug-resistant Acinetobacter (organism)	446157004
Acinetobacter baumannii (organism)	91288006
Carbapenem resistant Acinetobacter baumannii (organism)	715174007
Carbapenemase-producing Acinetobacter baumannii (organism)	737526007
Multiple drug-resistant Acinetobacter baumannii (organism)	715353004
Acinetobacter calcoaceticus (organism)	82550008
Carbapenemase-producing Acinetobacter calcoaceticus (organism)	1085301000112105
Acinetobacter baumannii group (organism)	1003795002
Acinetobacter calcoaceticus-Acinetobacter baumannii complex (organism)	113376007
Acinetobacter lactucae (organism)	787183008
Acinetobacter pittii (organism)	698244000
Acinetobacter seifertii (organism)	787184002
Carbapenemase-producing Acinetobacter baumannii-Acinetobacter calcoaceticus complex (organism)	1085401000112103
Carbapenemase-producing Acinetobacter seifertii (organism)	30731000112102
Carbapenem-resistant Acinetobacter baumannii-calcoaceticus complex (organism)	816084004
Multidrug-resistant Acinetobacter baumannii-calcoaceticus complex (organism)	44631000087104
Acinetobacter haemolyticus (organism)	77045006
Acinetobacter johnsonii (organism)	252000
Carbapenemase-producing Acinetobacter johnsonii (organism)	1085701000112109
Acinetobacter junii (organism)	13879009

Organism Name	SNOMED CODE
Carbapenemase-producing Acinetobacter junii (organism)	1085801000112101
Acinetobacter lwoffii (organism)	83088009
Carbapenemase-producing Acinetobacter lwoffii (organism)	1085901000112106
Acinetobacter nosocomialis (organism)	708859003
Carbapenemase-producing Acinetobacter nosocomialis (organism)	1086001000112103
Acinetobacter radioresistens (organism)	113381003
Carbapenemase-producing Acinetobacter radioresistens (organism)	1086101000112102
Acinetobacter ursingii (organism)	424791004
Carbapenemase-producing Acinetobacter ursingii (organism)	1086201000112108
Carbapenem resistant Acinetobacter (organism)	445721008
GENUS CITROBACTER (organism)	75972000
Carbapenemase-producing Citrobacter (organism)	1089501000112101
Citrobacter intermedius (organism)	25802000
Citrobacter pasteurii (organism)	30601000087101
Citrobacter portucalensis (organism)	541421000124109
Extended spectrum beta-lactamase producing Citrobacter (organism)	1089601000112102
Carbapenemase-producing Citrobacter amalonaticus (organism)	1089101000112105
Citrobacter amalonaticus (organism)	55744003
Carbapenemase-producing Citrobacter braakii (organism)	1089301000112107
Citrobacter braakii (organism)	114262000
Extended spectrum beta-lactamase producing Citrobacter braakii (organism)	1089401000112100
Carbapenemase-producing Citrobacter farmeri (organism)	1089701000112106
Citrobacter farmeri (organism)	114263005
Carbapenemase-producing Citrobacter freundii (organism)	1089901000112108
Citrobacter freundii (organism)	6265002
Multiple drug-resistant Citrobacter freundii (organism)	715206000
Carbapenemase-producing Citrobacter freundii complex (organism)	44601000087107
Extended spectrum beta-lactamase producing Citrobacter freundii (organism)	721909006
Citrobacter freundii complex (organism)	782522004

Organism Name	SNOMED CODE
Citrobacter gillenii (organism)	416990006
Carbapenemase-producing Citrobacter koseri (organism)	1090401000112109
Citrobacter koseri (organism)	114264004
Extended spectrum beta-lactamase producing Citrobacter koseri (organism)	1090501000112108
Citrobacter murliniae (organism)	417581000
Citrobacter rodentium (organism)	114444007
Citrobacter sedlakii (organism)	114265003
Carbapenemase-producing Citrobacter werkmanii (organism)	1091201000112104
Citrobacter werkmanii (organism)	114442006
Carbapenemase-producing Citrobacter youngae (organism)	1091401000112100
Citrobacter youngae (organism)	114443001
Citrobacter intermedius (organism)	25802000
Citrobacter pasteurii (organism)	30601000087101
Citrobacter portucalensis (organism)	541421000124109
GENUS ENTEROBACTER (organism)	58683007
Carbapenemase-producing Enterobacter (organism)	1093401000112101
Enterobacter bugandensis (organism)	113611000146106
Enterobacter chengduensis (organism)	48501000087101
Enterobacter chuandaensis (organism)	48511000087104
Enterobacter mori (organism)	738504009
Enterobacter roggenkampii (organism)	1285009006
Enterobacter siamensis (organism)	31351000087100
Enterobacter sichuanensis (organism)	48521000087107
Enterobacter soli (organism)	1285010001
Enterobacter xiangfangensis (organism)	768157006
Extended spectrum beta-lactamase producing Enterobacter (organism)	1093501000112102
Carbapenemase-producing Enterobacter asburiae (organism)	1093601000112103
Enterobacter asburiae (organism)	33115003
Multiple drug-resistant Enterobacter asburiae (organism)	714316001
Enterobacter cancerogenus (organism)	114451003
Carbapenemase-producing Enterobacter cloacae (organism)	737529000

Organism Name	SNOMED CODE
Enterobacter cloacae (organism)	14385002
Enterobacter cloacae subspecies cloacae (organism)	721950003
Carbapenem resistant Enterobacter cloacae (organism)	714007005
Extended spectrum beta-lactamase producing Enterobacter cloacae (organism)	721910001
Multiple drug-resistant Enterobacter cloacae (organism)	714317005
Carbapenem resistant Enterobacter cloacae complex (organism)	734201007
Carbapenemase-producing Enterobacter cloacae complex (organism)	734353001
Enterobacter cloacae complex (organism)	414102007
Extended spectrum beta-lactamase producing Enterobacter cloacae complex (organism)	1094001000112107
Multidrug-resistant Enterobacter cloacae complex (organism)	816085003
Enterobacter cloacae subspecies dissolvens (organism)	56813009
Carbapenemase-producing Enterobacter hormaechei (organism)	1094301000112105
Enterobacter hormaechei (organism)	114454006
Enterobacter hormaechei subspecies hormaechei (organism)	31591000087103
Enterobacter hormaechei subspecies oharae (organism)	31601000087106
Enterobacter hormaechei subspecies steigerwaltii (organism)	31611000087108
Extended spectrum beta-lactamase producing Enterobacter hormaechei (organism)	1094401000112103
Enterobacter kobei (organism)	114456008
Enterobacter ludwigii (organism)	432763001
Enterobacter asburiae (organism)	33115003
Enterobacter cancerogenus (organism)	114451003
Enterobacter cloacae (organism)	14385002
Enterobacter cloacae complex (organism)	414102007
Enterobacter hormaechei (organism)	114454006
Enterobacter kobei (organism)	114456008
Enterobacter ludwigii (organism)	432763001
Enterobacter asburiae (organism)	33115003
GENUS CANDIDA (organism)	3265006
Candida aaseri (organism)	51151000087103

Organism Name	SNOMED CODE
Candida africana (organism)	735368005
Candida alai (organism)	3461000146104
Candida albicans (organism)	53326005
Candida albicans complex (organism)	141000112105
Candida albicans var albicans (organism)	243448008
Candida allociferrii (organism)	3471000146105
Candida ambrosiae (organism)	3481000146107
Candida anglica (organism)	67121000284107
Candida argentea (organism)	27951000284109
Candida asparagi (organism)	465751000124107
Candida auris (organism)	3491000146109
Candida bituminiphila (organism)	735366009
Candida blankii (organism)	721951004
Candida blattae (organism)	3501000146104
Candida bohiensis (organism)	3511000146102
Candida boidinii (organism)	446349005
Candida bracarensis (organism)	3521000146107
Candida buenavistaensis (organism)	3531000146109
Candida cacao (organism)	7831000146104
Candida castellii (organism)	3551000146103
Candida citrea (organism)	3571000146106
Candida claussenii (organism)	243450000
Candida colliculosa (organism)	446238001
Candida conglobata (organism)	29991000087107
Candida cylindracea (organism)	3981000146104
Candida dattila (organism)	707226007
Candida deformans (organism)	3991000146102
Candida diddensiae (organism)	735375006
Candida dubliniensis (organism)	115952006
Candida duobushaemulonii (organism)	4001000146106
Candida duobushaemulonis (organism)	717967000
Candida ernobii (organism)	4011000146108
Candida fabianii (organism)	4021000146103
Candida fermentati (organism)	713871000

Organism Name	SNOMED CODE
Candida firmetaria (organism)	716257007
Candida fluviatilis (organism)	30021000087102
Candida freyschussii (organism)	446236002
Candida friedrichii (organism)	4031000146101
Candida frijolesensis (organism)	3581000146108
Candida galacta (organism)	243451001
Candida glaebosa (organism)	30471000087109
Candida globosa (organism)	54326003
Candida gropengiesseri (organism)	735373004
Candida haemulonii (organism)	243452008
Candida haemulonii var. vulnera (organism)	3591000146105
Candida hellenica (organism)	707283002
Candida heveicola (organism)	465771000124102
Candida hyderabadensis (organism)	14191000146104
Candida inconspicua (organism)	283871001
Candida infanticola (organism)	3601000146100
Candida ingens (organism)	243454009
Candida intermedia (organism)	243455005
Candida labiduridarum (organism)	3611000146103
Candida lactis-condensi (organism)	3621000146108
Candida lactosa (organism)	541311000124106
Candida lyxosophila (organism)	30481000087106
Candida maltosa (organism)	415889007
Candida maris (organism)	788046009
Candida melibiosica (organism)	722565531000087105
Candida melinii (organism)	243456006
Candida membranifaciens (organism)	415890003
Candida mesenterica (organism)	3631000146105
Candida metapsilosis (organism)	712760003
Candida mogii (organism)	243457002
Candida mongoliae (organism)	415891004
Candida multigemmis (organism)	3651000146104
Candida neerlandica (organism)	30491000087108
Candida nemodendra (organism)	3661000146101

Organism Name	SNOMED CODE
Candida nitratophila (organism)	3671000146107
Candida nivariensis (organism)	3681000146109
Candida norvegica (organism)	903925371000087108
Candida orthopsilosis (organism)	3691000146106
Candida palmioleophila (organism)	809322241000087104
Candida parapsilosis (organism)	61302002
Candida parapsilosis complex (organism)	717979000
Candida patagonica (organism)	735372009
Candida peltata (organism)	3701000146106
Candida phangngaensis (organism)	541271000124106
Candida picinguabensis (organism)	30501000087100
Candida pini (organism)	3711000146108
Candida pintolopesii (organism)	283870000
Candida pseudoaaseri (organism)	42331000284103
Candida pseudoglaebosa (organism)	30511000087103
Candida pseudohaemulonii (organism)	10231000087103
Candida quercitrusa (organism)	735371002
Candida railenensis (organism)	30521000087106
Candida reukaufii (organism)	243461008
Candida rugopelliculosa (organism)	14201000146102
Candida saitoana (organism)	712929006
Candida sake (organism)	446283000
Candida scottii (organism)	1662009
Candida shehatae (organism)	3731000146101
Candida shehatae var. insectosa (organism)	4041000146109
Candida silvicola (organism)	109531000146104
Candida sojae (organism)	4051000146107
Candida solani (organism)	243463006
Candida soli (organism)	4061000146105
Candida sophia-reginae (organism)	415892006
Candida sorbophila (organism)	442875002
Candida sorbosivorans (organism)	712928003
Candida spandovensis (organism)	4071000146104
Candida species not Candida albicans (organism)	714313009

Organism Name	SNOMED CODE
Candida species not Candida glabrata (organism)	782948004
Candida sphaerica (organism)	446284006
Candida steatolytica (organism)	735370001
Candida steatolytica variant inositophila (organism)	735377003
Candida steatolytica variant steatolytica (organism)	735378008
Candida stellatoidea (organism)	20849004
Candida stellimalicola (organism)	735367000
Candida subhashii (organism)	541251000124101
Candida succiphila (organism)	3741000146109
Candida tenuis (organism)	982172491000087106
Candida thasaenensis (organism)	735369002
Candida thermophila (organism)	3751000146107
Candida tropicalis (organism)	47885008
Candida vini (organism)	45362004
Candida viswanathii (organism)	243465004
Candida zeylanoides (organism)	243466003
Torulopsis holmii variant holmii (organism)	497348231000087100
Trichomonascus ciferrii (organism)	415966003
Nakaseomyces glabratus (organism)	444877006
Pichia kudriavzevii (organism)	16452009
Clavispora lusitaniae (organism)	50164000
Metschnikowia pulcherrima (organism)	8211000146109
GENUS ENTEROCOCCUS (organism)	2785000
Atypical Enterococcus (organism)	127504005
Enterococcus aquimarinus (organism)	7871000146102
Enterococcus caccae (organism)	7881000146100
Enterococcus camelliae (organism)	1336099006
Enterococcus canintestini (organism)	7891000146103
Enterococcus columbae (organism)	113723000
Enterococcus devriesei (organism)4	7901000146102
Enterococcus eurekensis (organism)	31361000087102
Enterococcus lactis (organism)	708452001
Enterococcus lemanii (organism)	31371000087106
Enterococcus saccharolyticus subspecies saccharolyticus (organism)	31381000087108

Organism Name	SNOMED CODE
Enterococcus saccharolyticus subspecies taiwanensis (organism)	31391000087105
Enterococcus silesiacus (organism)	7911000146100
Enterococcus termitis (organism)	7921000146105
Enterococcus thailandicus (organism)	449322006
Enterococcus, group I (organism)	127500001
Enterococcus, group II (organism)	127501002
Enterococcus, group III (organism)	127502009
Enterococcus, group IV (organism)	127503004
Linezolid and vancomycin resistant Enterococcus (organism)	838511009
Linezolid resistant Enterococcus (organism)	838510005
Vancomycin intermediate Enterococcus (organism)	783025003
Vancomycin resistant enterococcus vanA strain (organism)	710333000
Vancomycin resistant enterococcus vanB strain (organism)	710334006
Vancomycin resistant vanB2 and vanB3 Enterococcus (organism)	707767003
Enterococcus asini (organism)	425342004
Enterococcus avium (organism)	87875008
Enterococcus caccae (organism)	7881000146100
Enterococcus camelliae (organism)	1336099006
Enterococcus canintestini (organism)	7891000146103
Enterococcus canis (organism)	424191009
Enterococcus casseliflavus (organism)	30949009
Vancomycin resistant Enterococcus casseliflavus (organism)	1117501000112104
Enterococcus cecorum (organism)	113722005
Enterococcus columbae (organism)	113723000
Enterococcus devriesei (organism)	7901000146102
Enterococcus dispar (organism)	113724006
Enterococcus durans (organism)	46464008
Enterococcus eurekensis (organism)	31361000087102
Enterococcus eurekensis (organism)	31361000087102
Enterococcus faecalis (organism)	78065002
Enterococcus faecalis type 2 (organism)	928051771000087103
Enterococcus faecalis variant (organism)	416397000

Organism Name	SNOMED CODE
Vancomycin intermediate Enterococcus faecalis (organism)	712664000
Vancomycin resistant Enterococcus faecalis genotype vanB (organism)	661000112100
Vancomycin susceptible Enterococcus faecalis (organism)	782958000
Enterococcus faecium (organism)	90272000
Enterococcus faecium genotype vanA (organism)	707768008
Enterococcus faecium genotype vanB (organism)	707769000
Vancomycin intermediate Enterococcus faecium (organism)	712666003
Vancomycin susceptible Enterococcus faecium (organism)	782956001
Enterococcus gallinarum (organism)	53233007
Enterococcus gilvus (organism)	416934000
Enterococcus haemoperoxidus (organism)	423614008
Enterococcus hermanniensis (organism)	422482003
Enterococcus hirae (organism)	73852008
Enterococcus italicus (organism)	422707007
Enterococcus lactis (organism)	708452001
Enterococcus lemanii (organism)	31371000087106
Enterococcus malodoratus (organism)	10262005
Enterococcus moraviensis (organism)	424862009
Enterococcus mundtii (organism)	38004008
Vancomycin intermediate Enterococcus mundtii (organism)	782960003
Enterococcus pallens (organism)	417099004
Enterococcus phoeniculicola (organism)	432791009
Enterococcus pseudoavium (organism)	103436009
Enterococcus raffinosus (organism)	103437000
Vancomycin resistant Enterococcus raffinosus (organism)	782959008
Enterococcus ratti (organism)	431989005
Enterococcus saccharolyticus (organism)	103438005
Enterococcus silesiacus (organism)	7911000146100
Enterococcus sulfureus (organism)	113726008
Enterococcus termitis (organism)	7921000146105
Enterococcus thailandicus (organism)	449322006
Enterococcus villorum (organism)	424710004
Vancomycin resistant Enterococcus (organism)	113727004
Vancomycin resistant Enterococcus faecalis (organism)	712663006

Organism Name	SNOMED CODE
Vancomycin resistant Enterococcus faecium (organism)	712665004
Genus Klebsiella (organism)	75032006
AmpC beta-lactamase producing Klebsiella (organism)	1096901000112103
AmpC beta-lactamase producing Klebsiella variicola (organism)	1098701000112101
Carbapenemase-producing Klebsiella (organism)	1096801000112108
Extended spectrum beta-lactamase producing Klebsiella (organism)	770390002
Klebsiella africanensis (organism)	895555002
Klebsiella grimontii (organism)	1335940002
Klebsiella group 47 (organism)	114458009
Klebsiella pasteurii (organism)	1335939004
Klebsiella pneumoniae (organism)	56415008
Klebsiella quasipneumoniae (organism)	781054004
Klebsiella quasipneumoniae subspecies quasipneumoniae (organism)	781056002
Klebsiella quasipneumoniae subspecies similipneumoniae (organism)	781055003
Klebsiella species, not Klebsiella pneumoniae and not Klebsiella oxytoca (organism)	720607001
Carbapenem resistant Klebsiella aerogenes (organism)	734200008
Carbapenemase-producing Klebsiella aerogenes (organism)	734352006
Extended spectrum beta-lactamase producing Klebsiella aerogenes (organism)	1097001000112104
Klebsiella aerogenes (organism)	62592009
Multiple drug-resistant Klebsiella aerogenes (organism)	715308001
Klebsiella granulomatis (organism)	417443008
AmpC beta-lactamase producing Klebsiella oxytoca (organism)	1097401000112108
Carbapenem resistant Klebsiella oxytoca (organism)	719792001
Carbapenemase-producing Klebsiella oxytoca (organism)	51271000087100
Klebsiella oxytoca (organism)	40886007
Extended spectrum beta-lactamase producing Klebsiella oxytoca (organism)	713928005
AmpC beta-lactamase producing Klebsiella pneumoniae (organism)	1098101000112102

Organism Name	SNOMED CODE
AmpC beta-lactamase producing Klebsiella pneumoniae complex (organism)	181000112100
AmpC beta-lactamase producing Klebsiella pneumoniae subspecies rhinoscleromatis (organism)	1098401000112107
Carbapenemase-producing Klebsiella pneumoniae (organism)	1098201000112108
Extended spectrum beta-lactamase producing Klebsiella pneumoniae (organism)	409801009
Multiple drug-resistant Klebsiella pneumoniae (organism)	714315002
Klebsiella pneumoniae (organism)	56415008
Klebsiella pneumoniae carbapenemase 2 producing Klebsiella pneumoniae (organism)	713171002
Carbapenem resistant Klebsiella pneumoniae (organism)	446870005
Klebsiella pneumoniae ss. pneumoniae (organism)	18400002
AmpC beta-lactamase producing Klebsiella pneumoniae subspecies ozaenae (organism)	1097801000112105
Klebsiella pneumoniae subspecies ozaenae (organism)	65186004
Multiple drug-resistant Klebsiella pneumoniae subsp. ozaenae (organism)	713926009
Klebsiella pneumoniae subspecies rhinoscleromatis (organism)	17688001
Klebsiella singaporensis (organism)	433047006
Carbapenemase-producing Klebsiella variicola (organism)	33691000087101
Extended spectrum beta-lactamase producing Klebsiella variicola (organism)	1098901000112104
Klebsiella variicola (organism)	431976004
Klebsiella variicola subspecies tropicalensis (organism)	895554003
Klebsiella variicola subspecies variicola (organism)	895553009
Morganella morganii (organism)	243301005
Carbapenem resistant Morganella morganii (organism)	541111000124108
Carbapenemase-producing Morganella morganii (organism)	1101601000112106
Extended spectrum beta-lactamase producing Morganella morganii (organism)	1101701000112102
Morganella morganii subspecies morganii (organism)	243302003
Morganella morganii subsp sibonii (organism)	243303008
Morganella morganii, biogroup 1 (organism)	114460006
Multidrug-resistant Morganella morganii (organism)	707293009
Genus Proteus (organism)	50517009

Organism Name	SNOMED CODE
Proteus hauseri (organism)	417592004
Proteus inconstans (organism)	114461005
AmpC beta-lactamase producing Proteus mirabilis (organism)	1103101000112102
Carbapenem resistant Proteus mirabilis (organism)	719793006
Carbapenemase-producing Proteus mirabilis (organism)	1103001000112103
Extended spectrum beta-lactamase producing Proteus mirabilis (organism)	713929002
Multiple drug-resistant Proteus mirabilis (organism)	714314003
Proteus mirabilis (organism)	73457008
Proteus penneri (organism)	45298005
Carbapenem resistant Proteus vulgaris (organism)	541071000124100
Extended spectrum beta-lactamase producing Proteus vulgaris (organism)	1103501000112106
Proteus genomospecies 4 (organism)	417388005
Proteus genomospecies 5 (organism)	416370007
Proteus genomospecies 6 (organism)	416146002
Proteus vulgaris (organism)	45834001
Proteus vulgaris biogroup 2 (organism)	243304002
Pseudomonas aeruginosa (organism)	52499004
Carbapenem resistant Pseudomonas aeruginosa (organism)	726492000
Carbapenemase-producing Pseudomonas aeruginosa (organism)	737527003
Extended spectrum beta-lactamase producing Pseudomonas aeruginosa (organism)	541101000124105
Extensively drug resistant Pseudomonas aeruginosa (organism)	54681000087102
Metallo-beta-lactamase producing mucoid Pseudomonas aeruginosa (organism)	1104701000112104
Metallo-beta-lactamase producing non-mucoid Pseudomonas aeruginosa (organism)	1104801000112107
Metallo-beta-lactamase producing Pseudomonas aeruginosa (organism)	1104601000112108
Mucoid Pseudomonas aeruginosa (organism)	733537009
Non-mucoid Pseudomonas aeruginosa (organism)	733538004
Pseudomonas aeruginosa Liverpool epidemic strain (organism)	772067008

Organism Name	SNOMED CODE
Multidrug-resistant Pseudomonas aeruginosa (organism)	710332005
Serratia marcescens (organism)	33522002
Carbapenemase-producing Serratia marcescens (organism)	1107201000112104
Carbapenem-resistant Serratia marcescens (organism)	816049003
Extended spectrum beta-lactamase producing Serratia marcescens (organism)	1107301000112107
Multiple drug-resistant Serratia marcescens (organism)	715354005
Serratia marcescens subspecies marcescens (organism)	438911005
Serratia marcescens subspecies sakuensis (organism)	438912003
Serratia marcescens, Biogroup I (organism)	115006001

Appendix B List of Antimicrobial Agents for the NHSN AR Option

The following is a listing of the Antibiotic names and their assigned LOINC CODES.

Table B-1: Antibiotics and LOINC codes

Antibiotic Name	LOINC code
AMIKACIN	18860-7
AMOXICILLIN	18861-5
AMOXICILLIN-CLAVULANATE	18862-3
AMPHOTERICIN B	18863-1
AMPICILLIN	18864-9
AMPICILLIN-SULBACTAM	18865-6
ANIDULAFUNGIN	57095-2
AZITHROMYCIN	18866-4
AZTREONAM	18868-0
CASPOFUNGIN	32378-2
CEFAZOLIN	18878-9
CEFEPIME	18879-7
CEFIDEROCOL	99280-0
CEFOTAXIME	18886-2
CEFOXITIN	18888-8
CEFTAROLINE	73605-8
CEFTAZIDIME-AVIBACTAM	73603-3
CEFTAZIDIME	18893-8
CEFTIBUTEN	35779-8
CEFTOLOZANE-TAZOBACTAM	73602-5
CEFTRIAXONE	18895-3
CEFUROXIME	51724-3
CIPROFLOXACIN	18906-8

Antibiotic Name	LOINC code
CLARITHROMYCIN	18907-6
CLINDAMYCIN	18908-4
COLISTIN	18912-6
CEFOTETAN	18887-0
DALBAVANCIN	41734-5
DAPTOMYCIN	35789-7
DOXYCYCLINE	18917-5
ERTAPENEM	35802-8
ERYTHROMYCIN	18919-1
FLUCONAZOLE	18924-1
FOSFOMYCIN	25596-8
GENTAMICIN	18928-2
GENTAMICIN HIGH POTENCY	18929-0
IMIPENEM	18932-4
IMIPENEM-RELEBACTAM	96372-8
LEFAMULIN	99281-8
LEVOFLOXACIN	20629-2
LINEZOLID	29258-1
MEROPENEM	18943-1
MEROPENEM-VABORBACTAM	88892-5
MICAFUNGIN	65340-2
MINOCYCLINE	18948-0
MOXIFLOXACIN	31039-1
NITROFURANTOIN	18955-5
ORITAVANCIN	41736-0
OXACILLIN	18961-3
POLYMYXIN B	18972-0

Antibiotic Name	LOINC code
PENICILLIN G	18965-4
PENICILLIN V	18966-2
PIPERACILLIN-TAZOBACTAM	18970-4
PLAZOMICIN	73592-8
POSACONAZOLE	54188-8
RIFAMPIN	18974-6
STREPTOMYCIN HIGH POTENCY	18983-7
STREPTOMYCIN	18982-9
SULFISOXAZOLE	18986-0
TEDIZOLID	73586-0
TELAVANCIN	88886-7
TETRACYCLINE	18993-6
TOBRAMYCIN	18996-9
TRIMETHOPRIM-SULFAMETHOX	18998-5
TRIMETHOPRIM	18997-7
VANCOMYCIN	19000-9
VORICONAZOLE	32379-0
PBP2a:	42721-1
PCR mec-gene	48813-0

Appendix C Groups of Eligible Organisms and Assigned Drug Panels with Specimen Types for the NHSN AR Option

The following are groups of Organism names and the assigned drug panel with specimen types.

Organism	Specimen Type	Antimicrobial Agents
All Acinetobacter species noted in Appendix A	Blood, CSF, Lower Respiratory, Skin, Soft Tissue, Wound, Musculoskeletal, Urine	Amikacin Ampicillin-sulbactam Cefepime Cefiderocol Cefotaxime Ceftazidime Ceftriaxone Ciprofloxacin Colistin Doxycycline Gentamicin Imipenem Levofloxacin Meropenem Minocycline Piperacillin-tazobactam Polymyxin B Tobramycin Trimethoprim-sulfamethoxazole Additional Agent for Urine: Tetracycline

Organism	Specimen Type	Antimicrobial Agents
All Candida species noted in Appendix A	Blood, CSF, Skin, Soft Tissue, Wound, Musculoskeletal, Urine Note: Lower respiratory will not be collected for Candida spp..	Amphotericin B Anidulafungin Caspofungin Fluconazole Micafungin Posaconazole Voriconazole Additional Agents for Urine: None

Organism	Specimen Type	Antimicrobial Agents
All Citrobacter species noted in Appendix A All Enterobacter species noted in Appendix A All Klebsiella species noted in Appendix A All Proteus species noted in Appendix A Escherichia coli Morganella morganii Serratia marcescens	Blood, CSF, Lower Respiratory, Skin, Soft Tissue, Wound, Musculoskeletal, Urine	Amikacin Amoxicillin-clavulanic acid Ampicillin Ampicillin-sulbactam Aztreonam Cefazolin Cefepime Cefiderocol Cefotaxime Cefotetan Cefoxitin Ceftaroline Ceftazidime Ceftazidime-avibactam Ceftolozane-tazobactam Ceftriaxone Cefuroxime Ciprofloxacin Colistin Ertapenem Gentamicin Imipenem Imipenem-relebactam Levofloxacin Meropenem Meropenem-vaborbactam Piperacillin-tazobactam Plazomicin Tetracycline Trimethoprim-sulfamethoxazole Tobramycin <u>Additional Agents for Urine:</u> Ceftibuten Fosfomycin Nitrofurantoin

Organism	Specimen Type	Antimicrobial Agents
All Enterococcus species noted in Appendix A. Enterococcus faecalis Enterococcus faecium	Blood, CSF, Lower Respiratory, Skin, Soft Tissue, Wound, Musculoskeletal, Urine	Ampicillin Dalbavancin Daptomycin Gentamicin Gentamicin high potency Linezolid Oritavancin Penicillin G Penicillin V Streptomycin Streptomycin high potency Tedizolid Telavancin Vancomycin Note: For Gentamicin and Streptomycin only: Synergistic = Susceptible Non-synergistic = Resistant Additional Agents for Urine: Ciprofloxacin Fosfomycin Levofloxacin Nitrofurantoin Tetracycline Additional Agents for Urine Note: Exclude Gentamicin and Streptomycin

Organism	Specimen Type	Antimicrobial Agents
Pseudomonas aeruginosa	Blood, CSF, Lower Respiratory, Skin, Soft Tissue, Wound, Musculoskeletal, Urine	Aztreonam Cefepime Cefiderocol Ceftazidime Ceftazidime-avibactam Ceftolozane-tazobactam Ciprofloxacin Colistin Imipenem Imipenem-relebactam Levofloxacin Meropenem Piperacillin-tazobactam Polymyxin B Tobramycin Additional Agents for Urine: Amikacin

Organism	Specimen Type	Antimicrobial Agents
Staphylococcus aureus Methicillin-resistant Staphylococcus Aureus (MRSA)	Blood, CSF, Lower Respiratory, Skin, Soft Tissue, Wound, Musculoskeletal, Urine	Azithromycin Cefoxitin Ceftaroline Ciprofloxacin Clarithromycin Clindamycin Dalbavancin Daptomycin Doxycycline Erythromycin Gentamicin Lefamulin Levofloxacin Linezolid Minocycline Moxifloxacin Oritavancin Oxacillin or Nafcillinc Penicillin G Penicillin V Rifampin Tedizolid Telavancin Tetracycline Trimethoprim-sulfamethoxazole Vancomycin Additional Agents for Urine: Nitrofurantoin
Stenotrophomonas maltophilia	Blood, CSF, Lower Respiratory, Skin, Soft Tissue, Wound, Musculoskeletal, Urine	Cefiderocol Levofloxacin Minocycline Trimethoprim-sulfamethoxazole Additional Agents for Urine: None

Organism	Specimen Type	Antimicrobial Agents
Streptococcus agalactiae Streptococcus pyogenes	Blood, CSF, Lower Respiratory, Skin, Soft Tissue, Wound, Musculoskeletal, Urine	Ampicillin Azithromycin Cefepime Cefotaxime Ceftaroline Ceftriaxone Clarithromycin Clindamycin Dalbavancin Daptomycin Erythromycin Levofloxacin Linezolid Oritavancin Penicillin G Penicillin V Tedizolid Telavancin Tetracycline Vancomycin Additional Agents for Urine: None

Organism	Specimen Type	Antimicrobial Agents
Streptococcus pneumoniae	Blood, CSF, Lower Respiratory, Skin, Soft Tissue, Wound, Musculoskeletal, Urine	Amoxicillin Amoxicillin-clavulanic acid Azithromycin Cefepime Cefotaxime Ceftaroline Ceftriaxone Cefuroxime Clarithromycin Clindamycin Doxycycline Ertapenem Erythromycin Imipenem Lefamulin Levofloxacin Linezolid Meropenem Moxifloxacin Penicillin G Penicillin V Rifampin Tetracycline Trimethoprim-sulfamethoxazole Vancomycin Additional Agents for Urine: None

Glossary

Health Level 7

An international standard messaging system for passing data from one site to another. The Antimicrobial Use and Resistance Reporting System exports data from RPMS to be uploaded to the NHSN platform using HL7 CDA messages.

Backloading

To populate the Public Health Authority database with existing data, each site must “backload” or send existing data to the Public Health Authority. This involves a one-time export of all lab tests that resulted in the BLE STATE REPORTING LAB TESTS taxonomy from March 1, 2020, to the present.

Acronym List

Acronym	Meaning
AUR	Antimicrobial Use and Reporting
CDA	Clinical Document Architecture
EHR	Electronic Health Record
HIPAA	Health Insurance Portability and Accountability Act
HHS	Department of Health and Human Services
HL7	Health Level Seven
ICD	International Classification of Disease
ID	Identification
IHS	Indian Health Service
IT	Information Technology
LOINC	Logical Observation Identifiers Names and Codes
NHSN	National Health Safety Network
OIT	Office of Information Technology
PC	Personal Computer
PHI	Protected Health Information
PHR	Personal Health Record
PII	Personally Identifiable Information
PPN	Patient Preferred Name
QA	Quality Assurance
ROB	Rules of Behavior
RPMS	Resource and Patient Management System
SAC	Standards and Conventions
SFTP	Secure File Transfer Protocol
SNOMED	Systemized Nomenclature of Medicine
SOP	Standard Operating Procedure
VPN	Virtual Private Network

Contact Information

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