NHSN Metrics

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HAI and Ebola Supplement Grantees' Meeting
November 17, 2015

National Center for Emerging and Zoonotic Infectious Diseases
Division of Healthcare Quality Promotion

Agenda

- **Update to National Risk-Adjustment of HAI Data**
  - Maggie Dudeck
- **Data Quality Outreach**
  - Scott Decker
- **Introduction to the Standardized Antimicrobial Administration Ratio (SAAR)**
  - Katharina van Santen

Update to National Risk-Adjustment of HAI Data

Maggie Dudeck, MPH, CPH
Acting Lead – NHSN Methods and Analytics Team

National Center for Emerging, Zoonotic, and Infectious Diseases
Division of Healthcare Quality Promotion

Update to National Risk-Adjustment

- **Standardized Infection Ratios (SIRs) use a static baseline for the calculation of observed infections to predicted infections**
- **Current baselines vary for each HAI type and/or facility type**
  - CLABSI: 2006-08 (ACH), 2013 (LTACH)
  - CAUTI: 2009 (ACH), 2013 (LTACH, IRF)
  - SSI: 2006-2008
  - MRSA bacteremia, CDI LabID: 2010-2011 (ACH)
- **Risk adjustment methods for # predicted infections vary**
  - CLABSI, CAUTI: based on National Pooled Mean rates, stratified by location
  - SSI: logistic regression model
  - LabID: negative binomial regression

Update to National Risk-Adjustment

- **Data reported to NHSN for 2015 will be used as a new baseline for SIRs**
  - "Re-baseline"
- **Since original baselines:**
  - Changes to NHSN definitions and surveillance protocols
  - Increase of number and types of facilities reporting to NHSN
  - Changes to facility demographics
  - Increase in reporting (types of HAIs, locations, procedures)
  - Increase in use of Group function
  - Increase in prevention activities

Re-Baseline Plans - Analysis

- **Current Analyses Planned/Prioritized:**

Event	Acute Care Hospitals	LTACHs	IRFs
CLABSI	✓	✓	
CAUTI	✓	✓	✓
SSI (3 models)	✓		
MRSA LabID	✓	✓	✓
CDI LabID	✓	✓	✓
In addition: VAE, MBI-LCBIs, Antimicrobial Resistance – HAIs, Antimicrobial Use			

Re-Baseline Plans - Analysis

- **CDC will use a complete year of data for the final risk adjustment**
  - Will use data considered "final" as of each CMS deadline date
- **Risk adjustment methods and risk models may vary from previous baselines**
- **CDC plans to move toward risk models for the new CLABSI and CAUTI baseline**
  - Location-stratified rates would not be available at the national level
  - Allows for assessment of other factors:
    - Facility type
    - Facility bedsize
    - Medical school affiliation
    - Device-utilization ratios – *to be discussed*

Re-Baseline Plans - Analysis

- **Timeline:**
  - ✓ Spring 2015: Analyzed 2014 Annual Survey data
    - Identified existing data quality issues and modified survey, as needed, for next year
    - 2015 survey, completed in early 2016, will be used for final, national risk adjustment
  - ✓ Summer 2015: Began **preliminary** analyses of reported data
  - Fall 2015-Spring 2016: Continue preliminary analyses and risk-adjustment work
  - June 1, 2016: Run final analyses and risk-adjustment
  - July 15, 2016: Complete risk-adjustment
  - August 15, 2016: 2016Q1 data will be submitted to CMS using new 2015 baseline
  - December 2016/January 2017: Incorporate new SIRs and risk-adjustment into NHSN application

Re-Baseline Plans - Implementation

- **For 2015 HAI data, CDC will continue to provide SIRs to CMS using the previous baselines and will provide replacement SIRs—using the new baselines—once they are available in the second half of 2016**
- **New baseline and risk-adjustment will be implemented in Dec. 2016/Jan. 2017 release of NHSN**
  - New output options for SIRs calculated on the new baseline, for 2015+ data
  - Legacy SIRs calculated on "old" baseline will be retained – SIRs will also be calculated on old baseline through 2016 data
  - Additional improvements to output options are planned:
    - DA output grouped by location type (e.g., WARD, CC_ONC), rather than denominator type (e.g., ICU-OTHER)
    - Indicator variable(s) for procedures/SSIs excluded from the models, with brief explanation of reason for exclusion
    - MBI-LCBI rate table(s)
    - Add clear option for cumulative rate/SIR for specified time period

QUESTIONS???

NHSN Data Quality Outreach

Scott Decker, MPH
NHSN Analyst, ORISE Fellow
Methods and Analytics Team

November 17, 2015

Overview

- **Outreach Rationale and Goals**
- **Recent Efforts**
  - LabID Summary (Denominator) Data
  - Annual Survey Bedsize Counts
  - Sample Denominator for CLABSI & CAUTI
- **New Resources Available for NHSN Users**

* Citations, references, and credits

NHSN Data Quality Goals

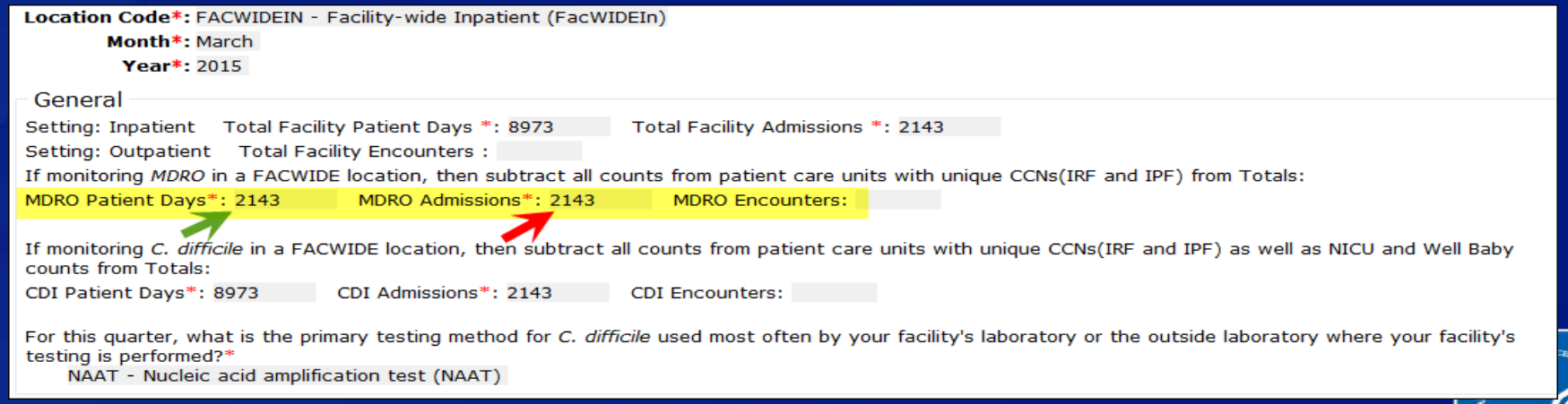
- Identify potential issues in facility-level data reporting prior to CMS deadlines
- Ensure the accuracy of data for the upcoming NHSN re-baseline
- Provide technical assistance to NHSN users
- Expand NHSN users knowledge and comfort for data use for reporting and internal applications

2015 NHSN Data Quality Outreach Issues to Date

Month Sent	Facility Type	Reporting Period	Issue	# of Facilities Contacted
August	ACHs	Q1	Incorrect Summary Data	263
August	ACHs	Q1	Incorrect Summary Data	29
August	ACHs/IRFs	Q1	Missing Survey	20
August	LTACs	Q2	Incorrect Summary Data	33
September	ACHs	Q1/Q2	Misreporting Sample Denominator #'s	17
October	ACHs/IRFs	Q1/Q2	Not subtracting IRF beds from LabID Summary Data	121

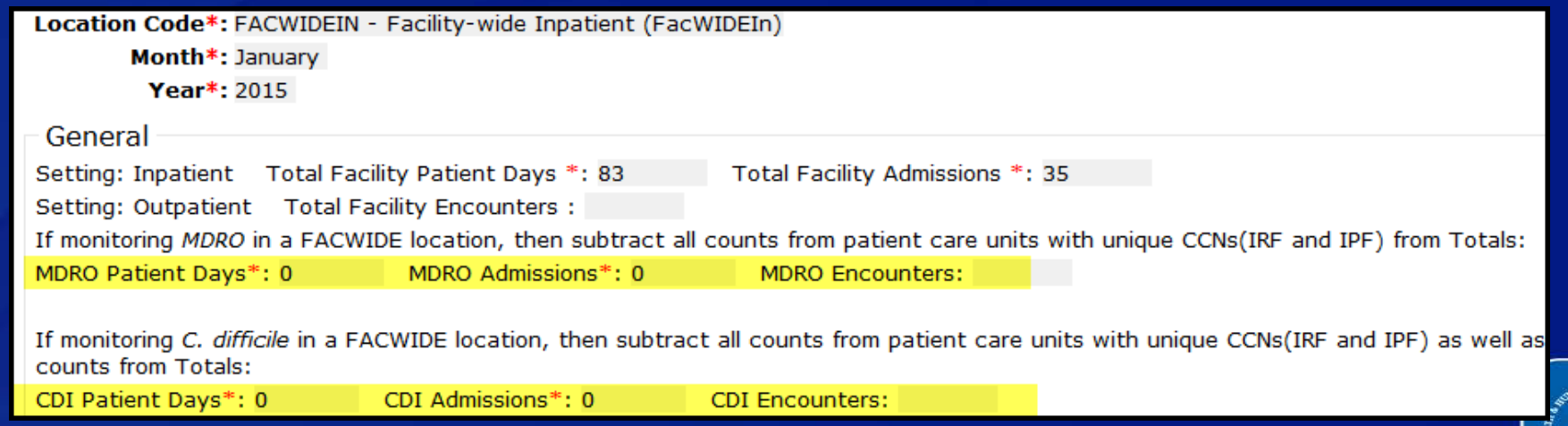
LabID Summary Data– Same Values Reported for Patient Days/Admissions

- Identical figures entered for MDRO and/or CDI Patient Days/Admissions in FACWIDEIN
- "MDRO/CDI Patient Days" = Total # of ***days*** patients are housed in an inpatient facility, regardless of infection status
- "MDRO/CDI Admission " = Total # of ***patients*** who are admitted to any inpatient location in your facility



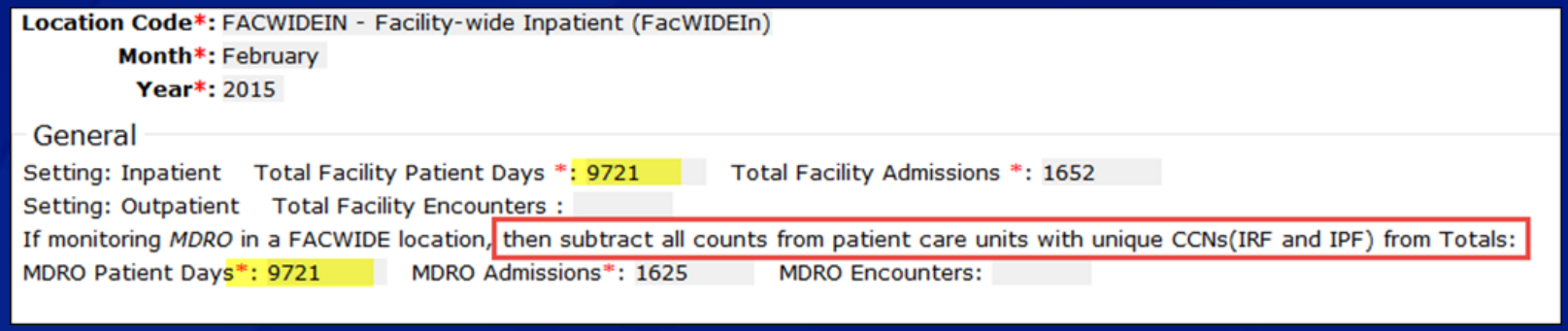
LabID Summary Data- 0 Patient Days Reported

- MDRO and CDI Patient Days/Admissions are ***not*** counts of events ***or*** # of patients with infection
- Errors impact a facility's Standardized Infection Ratio (SIR) available on Hospital Compare
- Also impact the new national baseline generated from 2015 NHSN data

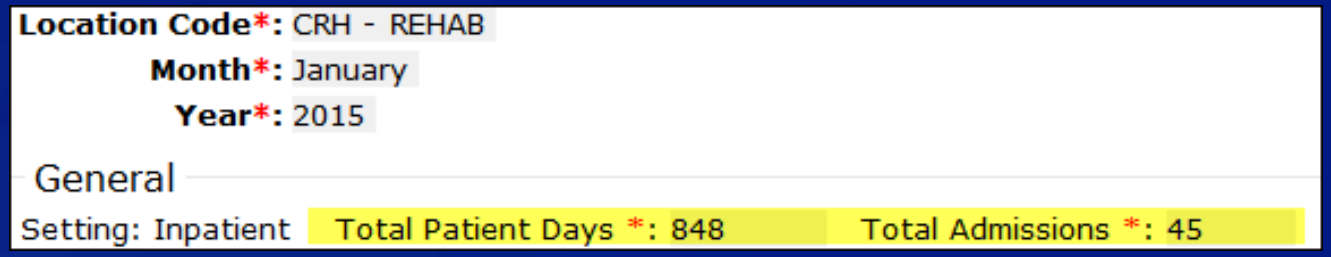


LabID Summary Data- IRF Bed Subtraction

- ACHs with IRFs who have not subtracted LabID counts from FACWIDEIN summary data



- Facilities instructed to review individual summary data for IRF locations to identify figure to subtract



9721 Total Inpatient Days – 848 IRF Patient Days = 8873 MDRO Patient Days for FACWIDEIN

Sample Denominator

- As of January 2015 a new alternative method to report CLABSI & CAUTI denominator data **in ICU and ward location types only** was introduced
- Must have an average of 75 central line (CL) days per month
- Average number of device days per month= Total number of device days (numcldays) / number of months (*use the past 12 months in NHSN as sample period)*

Example 1:

location	summaryYr	months	clabcount	numcldays	CLABRate	CLAB_Mean	IDR_pval
5G	2014	12	3	150	20.000	1.0	0.0005

5G average CL days per month: 150 CL days/12= 12.5

Since the average CL days per month is less than 75 the denominator sampling method can't be used for this location.

Example 2:

location	summaryYr	months	clabcount	numcldays	CLABRate	CLAB_Mean	IDR_pval
MD	2014	12	0	1500	0.000	0.9	0.2674

MD average CL days per month: 1500 CL days/12= 125

Since the average CL days per month is above 75 the denominator sampling method can be used for this location.

*** Total # of patient days must still be counted and reported monthly**

Additional Resources

- Copies of correspondence sent to facilities with these potential issues are available by request (nhsn@cdc.gov) – including instructions to resolve data entry errors

- Information about how to report LabID denominator data found here: http://www.cdc.gov/nhsn/pdfs/cms/how-to-set-up-and-report-mrsa-cdi.pdf

- Instructions on how to view, create, and modify dates for NHSN reports available: http://www.cdc.gov/nhsn/pdfs/analysis/how2view-create-modify-dates-in-nhsn.pdf

For additional support and guidance about data reporting in NHSN please contact nhsn@cdc.gov

QUESTIONS???

Intro to the Standardized Antimicrobial Administration Ratio (SAAR)

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Division of Healthcare Quality Promotion
CDC

Outline

- **NQF SAAR measure development**
- **Building the models**
- **SAAR Output Options**
  - Facility level output
  - Group function output
- **Additional Resources**

NQF MEASURE DEVELOPMENT

Antimicrobial Use Option of the AUR Module

- The Antimicrobial Use Option of the Antimicrobial Use and Resistance Module was first implemented in NHSN in 2011
- We have data from some facilities for as early as 2010
- 119 facilities have ever reported data, ~85 currently actively reporting
- Electronic data submission only (eMAR/BCMA, CDA)
- Data aggregated by unit, no patient level data

Antibiotic Use Option of the AUR Module

- Voluntary Reporting
- Minimum reporting requirements
  - Data submission for the following locations
    1. All Medical, Medical/Surgical, and Surgical ICUs
    2. All Medical, Medical/Surgical, and Surgical Wards
    3. At least one specialty care area
    4. Facility-wide inpatient
  - The following data fields:
    - Antimicrobial days (days of therapy)
    - Days present
    - Admissions

$$\text{Antimicrobial Use Rate} = \frac{Antimicrobial\ Days}{Days\ Present}$$

SAAR Development

- NHSN AU Measure Proposal submitted to the National Quality Forum in May 2015. Endorsement decision expected by early 2016
- New analytic functionality in NHSN—scheduled for release in January 2016—will enable AU option users to calculate quarterly, half-year and annual SAARs
- DHQP seeks input from AU users on the value and limitations of the SAAR in their antimicrobial stewardship programs

NHSN's Metric for Summarizing AU Data – Standardized Antimicrobial Administration Ratio (SAAR)

SAAR is an Observed-to-Expected (O-to-E) ratio

- **Observed antibacterial use –** Days of therapy reported by a healthcare facility for a specified category of antimicrobial agents in a specified patient care location or group of locations
- **Expected antibacterial use –** Days of therapy predicted for a healthcare facility's use of a specified category of antimicrobial agents in a specified category patient care location or group of locations on the basis negative binomial regression modeling applied to nationally aggregated AU data

The SAAR metric is constructed by using an indirect standardization method for comparing observed to expected days of therapy

Interpreting SAAR values

The SAAR is a ratio. The calculated SAAR value is always greater than 0, and a value of 1.0 suggests equivalency between observed and predicted antimicrobial use.

- A high SAAR (above 1.0) that achieves statistical significance (i.e., different from 1.0) may indicate excessive antimicrobial use.
- A SAAR that is not statistically different from 1.0 indicates antimicrobial use is equivalent to the referent population's antimicrobial use.
- A low SAAR (below 1.0) that achieves statistical significance (i.e., different from 1.0) may indicate antimicrobial under use.

Note: A SAAR alone is not a definitive measure of the appropriateness or judiciousness of antimicrobial use, and any SAAR may warrant further investigation. For example, a SAAR above 1.0 that does not achieve statistical significance may be associated with meaningful excess of antimicrobial use and further investigation may be needed. Also, a SAAR that is statistically different from 1.0 does not mean that further investigation will be productive.

SAAR Calculations Cover 5 Antibacterial Agent Categories

High value targets for antimicrobial stewardship programs:

1. **Broad spectrum agents predominantly used for hospital-onset/multi-drug resistant bacteria –** aminoglycosides, some carbapenems, some cephalosporins, some fluoroquinolones, penicillin B-lactam/b-lactamase inhibitor combinations, and other agents
2. **Broad spectrum agents predominantly used for community-acquired infection –** ertapenem, some cephalosporins, and some fluroquinolones
3. **Anti-MRSA agents –** ceftaroline, dalbavancin, daptomycin, linezolid, oritavancin, quinupristin/dalfopristin, tedizolid, telavancin, and vancomycin (IV route only)
4. **Agents predominantly used for surgical site infection prophylaxis –** cefazolin, cefotetan, cefoxitin, cefuroxime (IV route only)

High level indicators for antimicrobial stewardship programs:

5. **All antibacterial agents –** All agents included in NHSN AUR protocol

NHSN AU Measure Proposal – SAARs for High Value Targets

SAARs for broad spectrum antibacterial agents predominantly used for hospital-onset/multidrug resistant infections:

1. Adult medical, medical/surgical, and surgical ICUs
2. Adult medical, medical/surgical, and surgical wards
3. Pediatric medical, medical/surgical, and surgical ICUs
4. Pediatric medical, medical/surgical, and surgical wards

SAARs for broad spectrum antibacterial agents predominantly used for community-acquired infections:

5. Adult medical, medical/surgical, and surgical ICUs
6. Adult medical, medical/surgical, and surgical wards
7. Pediatric medical, medical/surgical, and surgical ICUs
8. Pediatric medical, medical/surgical, and surgical wards

NHSN AU Measure Proposal – SAARs for High Value Targets (continued)

SAARs for anti-MRSA antibacterial agents:

9. Adult medical, medical/surgical, and surgical ICUs
10. Adult medical, medical/surgical, and surgical wards
11. Pediatric medical, medical/surgical, and surgical ICUs
12. Pediatric medical, medical/surgical, and surgical wards

SAARs for antibacterial agents predominantly used for surgical site infection prophylaxis:

13. Adult ICUs and wards (medical, medical/surgical, and surgical)
14. Pediatric ICUs and wards (medical, medical/surgical, and surgical)

NHSN AU Measure Proposal – High Level Indicator SAARs

SAARs for all antibacterial agents:

15. Adult ICUs and wards (medical, medical/surgical, and surgical)
16. Pediatric ICUs and wards (medical, medical/surgical, and surgical)

NHSN AU Measure Proposal – A Limited Set of Initial, Intended Uses

- [x] Public health/disease surveillance
- [x] Quality improvement (internal to the specific organization)
- [x] Quality improvement (external benchmarking involving multiple organizations)
- [ ] Public reporting
- [ ] Payment program
- [ ] Regulatory and accreditation programs
- [ ] Professional certification or recognition program

BUILDING THE MODELS

Building the Models: Part I

- Dataset for modeling restricted to:
  - Calendar year 2014
  - Minimum reporting locations:
    - Adult Medical, Med/Surg, and Surgical ICUs
    - Adult Medical, Med/Surg, and Surgical Wards
    - Pediatric Medical, Med/Surg, and Surgical ICUs
    - Pediatric Medical, Med/Surg, and Surgical Wards
- Developed 5 separate models for each of the antimicrobial groups

Building the Models: Part II

- Building a Model:
  - No patient level data, only unit and facility-level data
- Factors/variables considered:
  - **Facility Level:** Hospital bedsize, ICU bedsize, hospital teaching status
  - **Location Level:** Location bedsize**,** ICU status, ward types: medical, medical/surgical, and surgical wards, pediatric location
- **Modeling details:**
  - Negative Binomial Regression
  - Binary or Nominal variables
  - Calculates the number of expected antimicrobial days

Building the Models: Part III

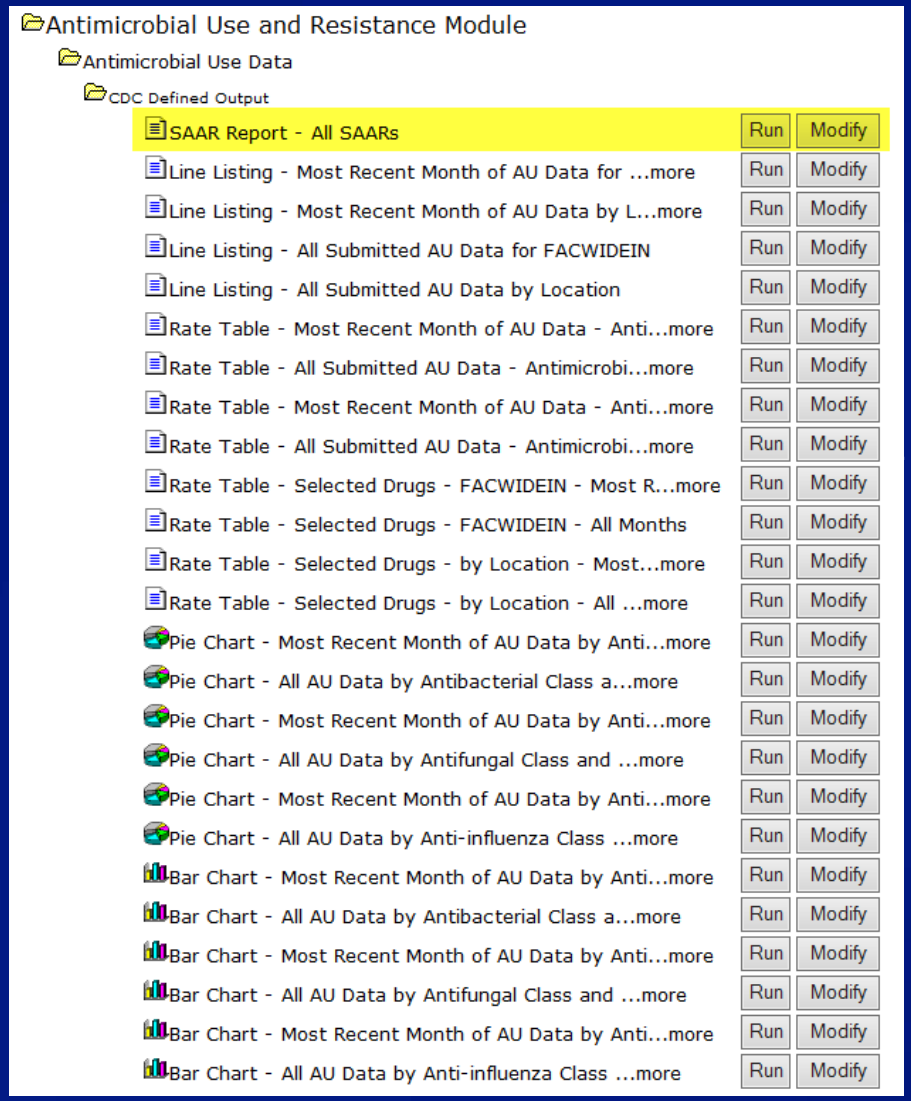
- Final Models:
  - Model A: Broad Spectrum Agents Predominantly Used for Hospital-Onset/multi-drug resistant infections
    - ICU, 4 way location-type variable: Medical Unit, Med/Surg Unit, Surgical Unit, Pediatric Unit*
  - Model B: Broad Spectrum Agents Predominantly Used for Community Acquired infections
    - Teaching Status, ICU, Pediatric Location
  - Model C: Anti MRSA
    - ICU, 4 way location-type variable: Medical Unit, Med/Surg Unit, Surgical Unit, Pediatric Unit*, Interaction Term: ICU and 4 way location-type variable
  - Model D: Agents Predominantly used or Surgical Site Infection Prophylaxis
    - ICU, Surgical Location
  - Model E: All Antimicrobial Agents
    - ICU, 4 way location-type variable: Medical Unit, Med/Surg Unit, Surgical Unit, Pediatric Unit*

**Referent group in a multi-way variable*

SAAR OUTPUT OPTIONS

Individual Facility SAAR Output Options in NHSN: Part I

- **SAAR output options coming in January 2016**
- **SAARs for each of the groups:**
  - All Antimicrobial Agents
  - Broad Spectrum Agents Predominantly Used for Onset/multi-drug resistant infections
  - Broad Spectrum Agents Predominantly Used for Community Acquired infections
  - Anti MRSA
  - Agents Predominantly used for Surgical Site Prophylaxis
- **Adult and Pediatrics shown separately**



Individual Facility SAAR Output Options in NHSN: Part II

- All antimicrobials shown first: Adult combined ICU and ward

National Healthcare Safety Network

SAARs Table - All Standardized Antimicrobial Administration Ratios (SAARs) High-Level Indicators and High-Value Targets

As of: November 10, 2015 at 12:56 PM

Date Range: All AU_SAAR

All antimicrobials used in adult ICUs and wards

orgID	summaryYQ	SAARType	antimicrobialDays	numAUDaysPredicted	numDaysPresent	SAAR	SAAR_pval	SAAR95CI
13860	2014Q1	IND-Adult-1	4416	4421.364	6326	0.999	0.9437	0.970, 1.029
13860	2014Q2	IND-Adult-1	3998	3856.677	5668	1.037	0.0240	1.005, 1.069
13860	2014Q3	IND-Adult-1	3568	3952.912	5765	0.903	0.0000	0.873, 0.933
13860	2014Q4	IND-Adult-1	3035	2558.645	3779	1.186	0.0000	1.145, 1.229
13860	2015Q1	IND-Adult-1	1213	1246.749	1843	0.973	0.3466	0.919, 1.029

Includes data for January 2014 and forward.

Data restricted to medical, medical/surgical and surgical locations.

Source of aggregate data: 2014 NHSN AU Data

Data contained in this report were last generated on November 9, 2015 at 1:19 PM.

Individual Facility SAAR Output Options in NHSN: Part III

- HO/MDRO, CO, and Anti-MRSA SAAR stratified by ICU and WARD

National Healthcare Safety Network

SAARs Table - All Standardized Antimicrobial Administration Ratios (SAARs) High-Level Indicators and High-Value Targets

As of: November 10, 2015 at 12:56 PM

Date Range: All AU_SAAR

Antimicrobials used for hospital-onset/multi-drug resistant infections in adult ICUs

orgID	summaryYQ	SAARType	antimicrobialDays	numAUDaysPredicted	numDaysPresent	SAAR	SAAR_pval	SAAR95CI
13860	2014Q1	TAR-Adult-1	931	676.939	2800	1.375	0.0000	1.289, 1.466
13860	2014Q2	TAR-Adult-1	1066	563.535	2215	1.892	0.0000	1.781, 2.008
13860	2014Q3	TAR-Adult-1	926	591.879	2339	1.565	0.0000	1.466, 1.668
13860	2014Q4	TAR-Adult-1	658	368.558	1441	1.785	0.0000	1.653, 1.926
13860	2015Q1	TAR-Adult-1	265	180.954	700	1.464	0.0000	1.296, 1.649

Includes data for January 2014 and forward.

Data restricted to medical, medical/surgical and surgical locations.

Source of aggregate data: 2014 NHSN AU Data

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National Healthcare Safety Network

SAARs Table - All Standardized Antimicrobial Administration Ratios (SAARs) High-Level Indicators and High-Value Targets

As of: November 10, 2015 at 12:56 PM

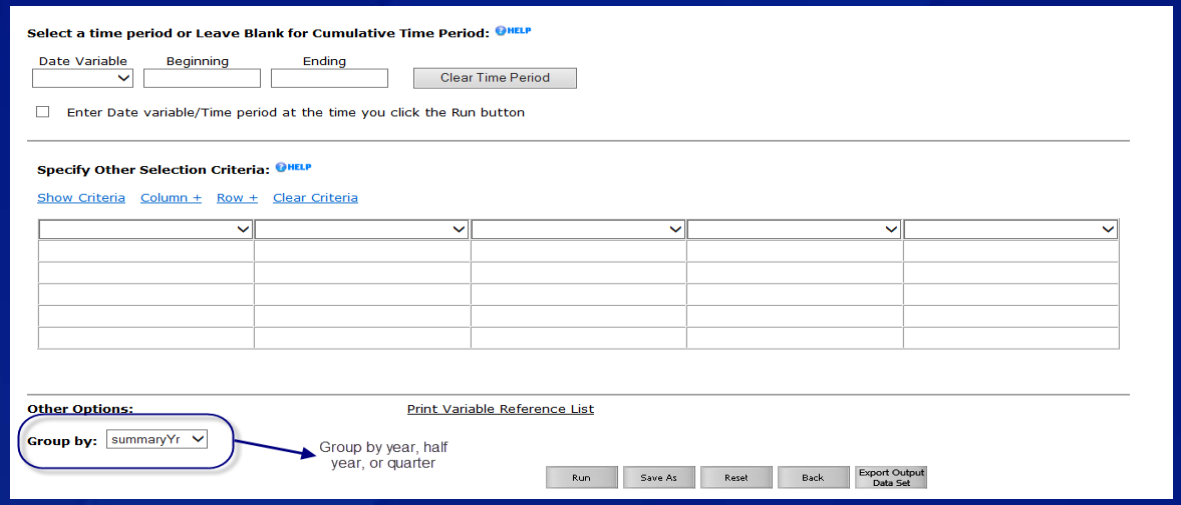
Date Range: All AU_SAAR

Antimicrobials used for hospital-onset/multi-drug resistant infections in adult wards

orgID	summaryYQ	SAARType	antimicrobialDays	numAUDaysPredicted	numDaysPresent	SAAR	SAAR_pval	SAAR95CI
13860	2014Q1	TAR-Adult-2	151	381.046	3526	0.396	0.0000	0.337, 0.463
13860	2014Q2	TAR-Adult-2	175	373.157	3453	0.469	0.0000	0.403, 0.542
13860	2014Q3	TAR-Adult-2	131	370.239	3426	0.354	0.0000	0.297, 0.418
13860	2014Q4	TAR-Adult-2	112	252.662	2338	0.443	0.0000	0.367, 0.531
13860	2015Q1	TAR-Adult-2	51	123.521	1143	0.413	0.0000	0.311, 0.539

Individual Facility SAAR Output Options in NHSN: Part IV

- Customizable Output Options



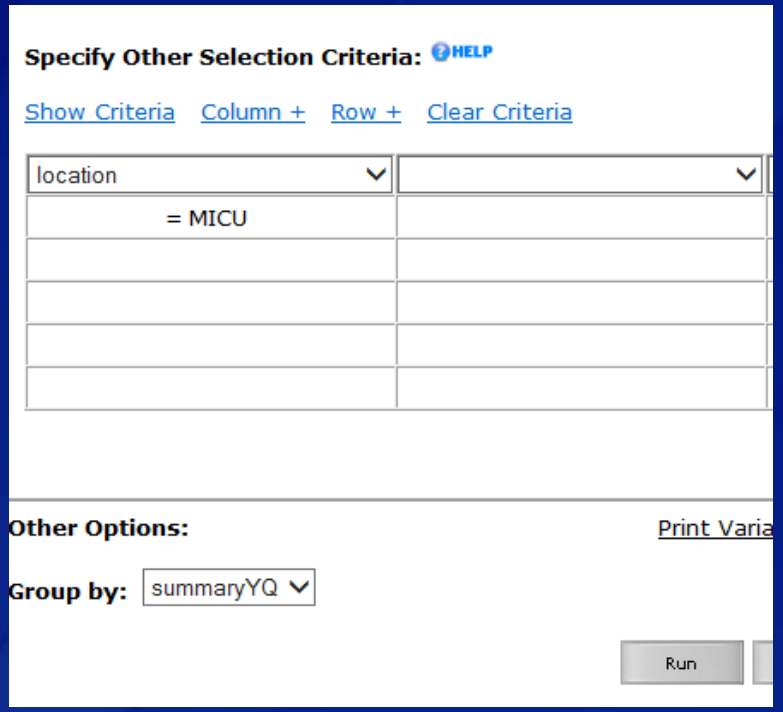
Anti-MRSA antimicrobials used in adult ICUs

orgID	summaryYr	SAARType	antimicrobialDays	numAUDaysPredicted	numDaysPresent	SAAR	SAAR_pval	SAAR95CI
13860	2014	TAR-Adult-5	1705	1734.920	8795	0.983	0.4812	0.937, 1.030

Includes data for January 2014 and forward.
Data restricted to medical, medical/surgical and surgical locations.
Source of aggregate data: 2014 NHSN AU Data
Data contained in this report were last generated on November 9, 2015 at 1:19 PM.

Individual Facility SAAR Output Options in NHSN: Part V

- Customizable Output Options



As of: November 10, 2015 at 1:30 PM
Date Range: All AU_SAAR
if (((location = "MICU")))

Antimicrobials used for hospital-onset/multi-drug resistant infections in adult ICUs

orgID	summaryYQ	SAARType	antimicrobialDays	numAUDaysPredicted	numDaysPresent	SAAR	SAAR_pval	SAAR95CI
13860	2014Q1	TAR-Adult-1	333	402.914	1306	0.826	0.0004	0.741, 0.919
13860	2014Q2	TAR-Adult-1	410	388.723	1260	1.055	0.2923	0.956, 1.161
13860	2014Q3	TAR-Adult-1	271	402.606	1305	0.673	0.0000	0.596, 0.757
13860	2014Q4	TAR-Adult-1	208	256.989	833	0.809	0.0018	0.705, 0.925
13860	2015Q1	TAR-Adult-1	100	129.883	421	0.770	0.0066	0.630, 0.932

Group SAAR Output Options in NHSN: Part I

- Standard Output includes all orgIDs in your group

National Healthcare Safety Network

SAARs Table - All Standardized Antimicrobial Administration Ratios (SAARs) High-Level Indicators and High-Value Targets

As of: November 10, 2015 at 1:12 PM
Date Range: All AU_SAAR

All antimicrobials used in adult ICUs and wards

All orgIDs in your group listed

orgID	summaryYQ	SAARType	antimicrobialDays	numAUDaysPredicted	numDaysPresent	SAAR	SAAR_pval	SAAR95CI
10656	2014Q2	IND-Adult-1	95547	913.384	1390	104.608	0.0000	103.944, 105.272
10656	2014Q3	IND-Adult-1	106341	1054.686	1560	100.827	0.0000	100.224, 101.436
10656	2015Q2	IND-Adult-1	12933	913.384	1390	14.159	0.0000	13.917, 14.405
10656	2015Q3	IND-Adult-1	1302	2735.446	4050	0.476	0.0000	0.451, 0.502
11211	2014Q1	IND-Adult-1	519	2.595	3	200.000	0.0000	183.341, 217.772
11211	2014Q2	IND-Adult-1	504	2.595	3	194.220	0.0000	177.813, 211.749
11211	2014Q3	IND-Adult-1	516	2.595	3	198.844	0.0000	182.239, 216.569
11211	2015Q1	IND-Adult-1	519	2.595	3	200.000	0.0000	183.341, 217.772
11211	2015Q2	IND-Adult-1	1539	7.785	9	197.688	0.0000	187.991, 207.749
11211	2015Q3	IND-Adult-1	0	0.000	0	.	.	
13860	2014Q1	IND-Adult-1	4416	4421.364	6326	0.999	0.9437	0.970, 1.029
13860	2014Q2	IND-Adult-1	3998	3856.677	5668	1.037	0.0240	1.005, 1.069
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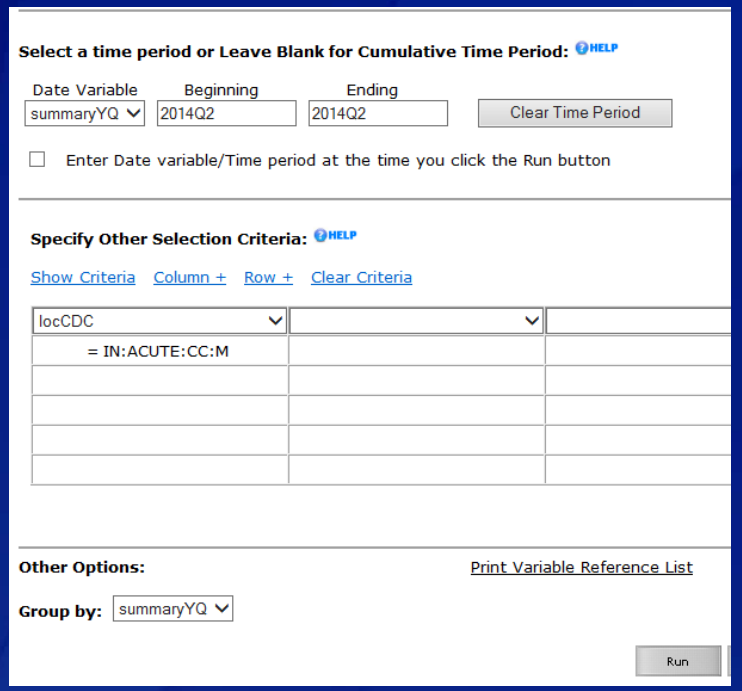
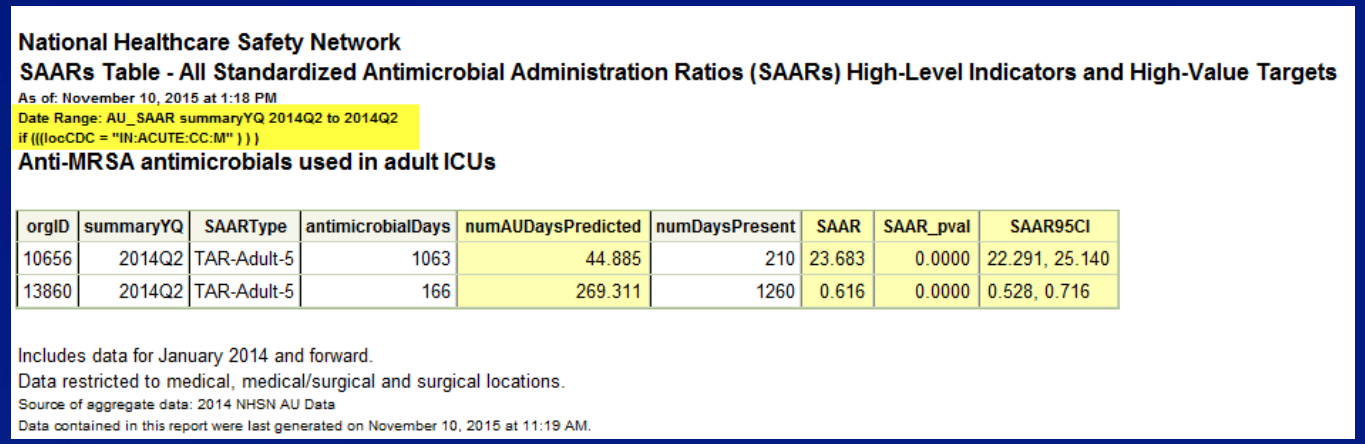
Group SAAR Output Options in NHSN: Part II

- Customizable Output: Specific location types and dates





National Healthcare Safety Network

SAARs Table - All Standardized Antimicrobial Administration Ratios (SAARs) High-Level Indicators and High-Value Targets

As of: November 10, 2015 at 1:18 PM

Date Range: AU_SAAR summaryYQ 2014Q2 to 2014Q2

if (((locCDC = "IN:ACUTE:CC:M")))

Anti-MRSA antimicrobials used in adult ICUs

orgID	summaryYQ	SAARType	antimicrobialDays	numAUDaysPredicted	numDaysPresent	SAAR	SAAR_pval	SAAR95CI
10656	2014Q2	TAR-Adult-5	1063	44.885	210	23.683	0.0000	22.291, 25.140
13860	2014Q2	TAR-Adult-5	166	269.311	1260	0.616	0.0000	0.528, 0.716

Includes data for January 2014 and forward.

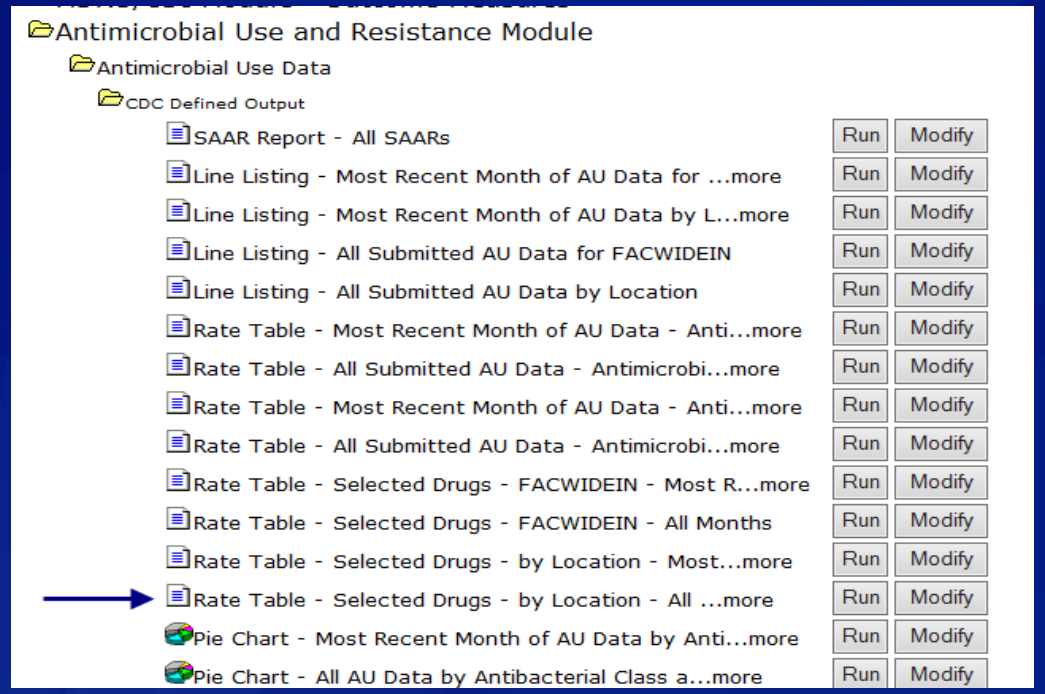
Data restricted to medical, medical/surgical and surgical locations.

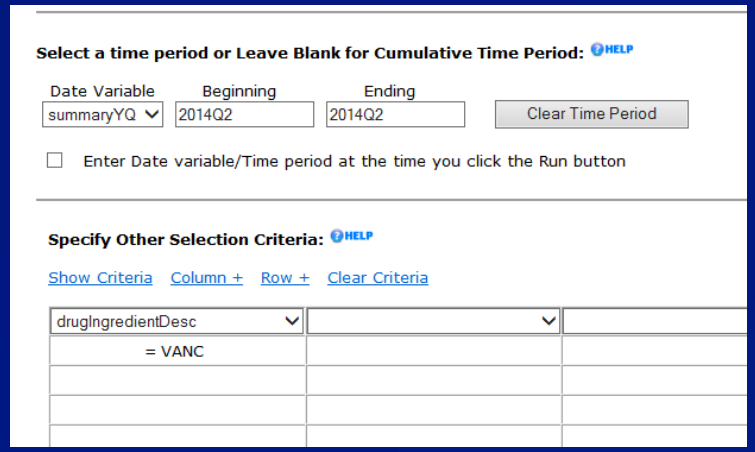
Source of aggregate data: 2014 NHSN AU Data

Data contained in this report were last generated on November 10, 2015 at 11:19 AM.

Other AU Output Options in NHSN

- Drug specific rates





National Healthcare Safety Network
Rate Table - Selected Drugs from All AU Data - Antimicrobial Utilization Rates by Location
Rate per 1,000 Days Present

As of: November 10, 2015 at 1:26 PM
Date Range: AU_DRUGRATESLOCATION summaryYQ 2014Q2 to 2014Q2
if (((drugIngredientDesc = "VANC")))

orgID=10656 locCDC=IN:ACUTE:CC:M location=AMICU-1

summaryYQ	antimicrobialDays	numDaysPresent	RateDaysPresent
2014Q2	3	100	30.00

Additional Resources

- **NHSN AUR Protocol:**
  - http://www.cdc.gov/nhsn/PDFs/pscManual/11pscAURcurrent.pdf
- **List of Antimicrobial Agents Eligible for AUR Module:**
  - http://www.cdc.gov/nhsn/xls/aur/aur-eligible-antimicrobial-agents.xlsx
- **Participating 3rd party vendors for AU CDA:**
  - http://www.sidp.org/aurvendors

NHSN Antibacterial Agents by SAAR category

- **Broad spectrum agents predominantly used for hospital-onset/multi-drug resistant bacteria**

- **Aminoglycoside**
  - Amikacin
  - Gentamycin
  - Tobramycin
- **Carbapenem**
  - Doripenem
  - Imipenem/Cilastin
  - Meropenem
- **Cephalosporin**
  - Cefepime
  - Ceftazadime
- **Cephalosporin - Beta lacatamase inhibitor combination**
  - Ceftolozane/tazobactam
  - Ceftazadime/avibacatam
- **Penicillin Beta-lactam/Beta-lactamase inhbitor combination**
  - Piperacillin (Ureidopenicillin)
  - Piperacillin-Tazobactam
  - Ticarcillin-Clavulanate
- **Other**
  - Aztreonam (Monobactam)
  - Colistimethate (Polymyxin)
  - Polymixin B (Polymixin)
  - Tigecycline

NHSN Antibacterial Agents by SAAR category

- **Broad spectrum agents predominantly used for community-acquired infection**

- **Carbapenem**
  - Ertapenem
- **Cephalosporin**
  - Cefotaxime
  - Ceftriaxone
- **Fluroquinolone**
  - Ciprofloxacin
  - Gemifloxacin
  - Levofloxacin
  - Moxifloxacin

NHSN Antibacterial Agents by SAAR category

- **Anti-MRSA Agents**

  Ceftaroline
  Dalbavancin
  Daptomycin
  Linezolid
  Oritavancin
  Quinupristin/Dalfopristin
  Tedizolid
  Telavancin
  Vancomycin

NHSN Antibacterial Agents by SAAR category

- **Agents predominantly used for surgical site infection prophylaxis**

  Cefazolin
  Cefotetan
  Cefoxitin
  Cefuroxime
  Cephalexin

Questions?

For more information please contact Centers for Disease Control and Prevention

1600 Clifton Road NE, Atlanta, GA 30333
Telephone, 1-800-CDC-INFO (232-4636)/TTY: 1-888-232-6348
E-mail: cdcinfo@cdc.gov Web: www.cdc.gov