UWTASP

tele-antimicrobial stewardship program

March 1, 2022

Agenda

- NHSN Data: What can it do
- COVID Update
- Case Discussion

Washington DOH – Call for Hospitals reporting to NHSN

- Forum for DOH to share NSHN hospital AU reporting
- Allow antibiotic stewards to present and discuss how they use NHSN AU module for stewardship
- Identify successful approaches for reporting and validation

Washington State Department of Health

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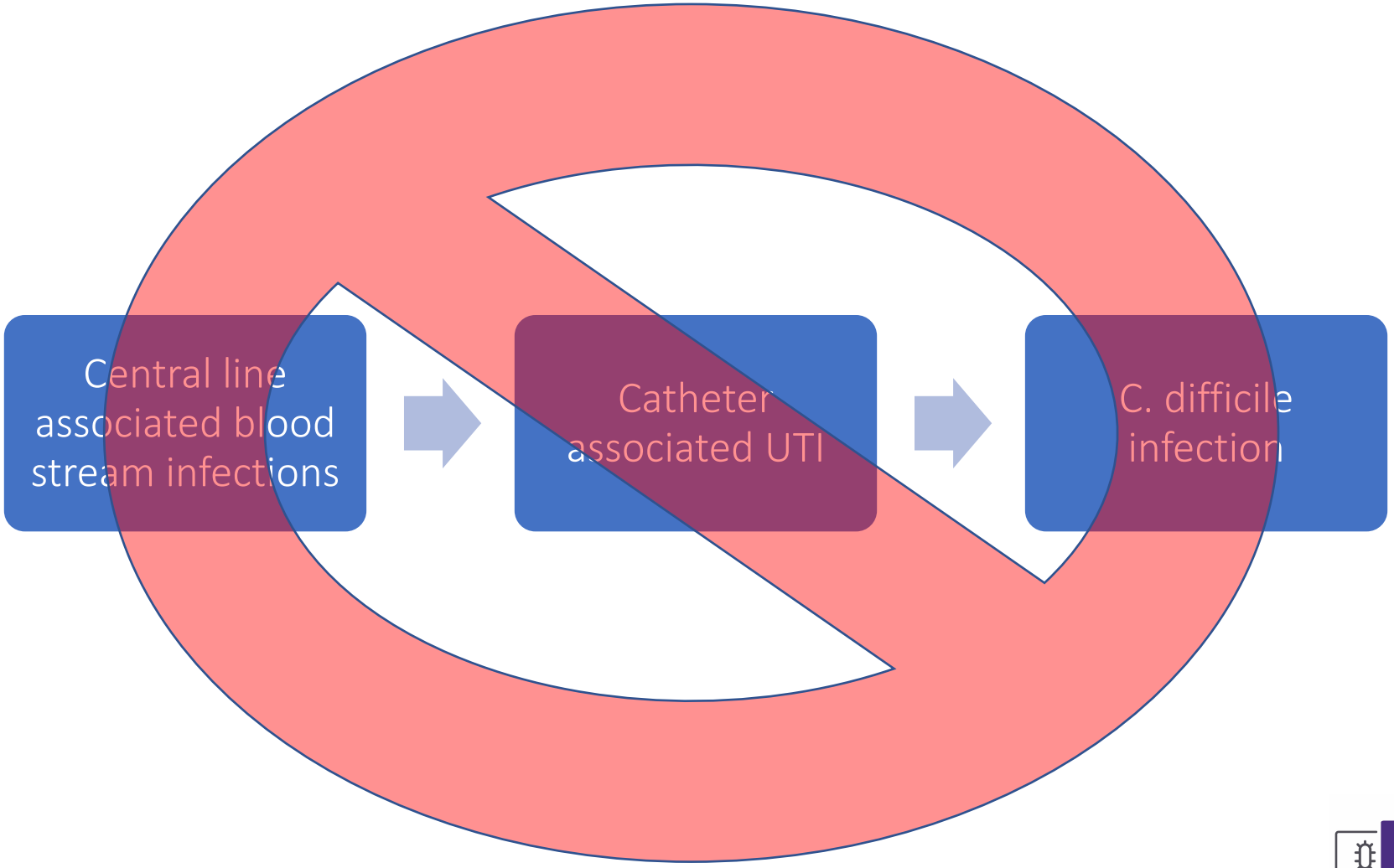
NHSN AU Module

- To facilitate risk-adjusted inter and intra-facility AU benchmarking and evaluate AU trends over time for facility and for nation
- Introduced in 2015, updated in 2018
- Standardized method to show and compare AU in hospitals
- Tracks DOT
  - For categories of antimicrobial agents or for all antimicrobials
  - By unit or for the entire facility
- Can produce SAAR or rates

Tracking Hospital Acquired Infection:
The Goal is Zero



citations

Tracking Antimicrobial Use:
How low can you go?

Who's setting the bar?

Is the bar appropriate?
That's not fair! I'm 6'5" and he's 4'2"

citations

SAAR is the Bar:
Standardized Antimicrobial Administration Ratio

- **WHO**: Created by the CDC as a standard way to compare antimicrobial use within and between facilities
- **WHAT**: Ratio of observed antibiotic use versus Predicted antibiotic use
- **WHERE**: "Predicted antibiotic use" comes from hospitals who submitted data in 2017 to NHSN, ~6% of them were CAH.

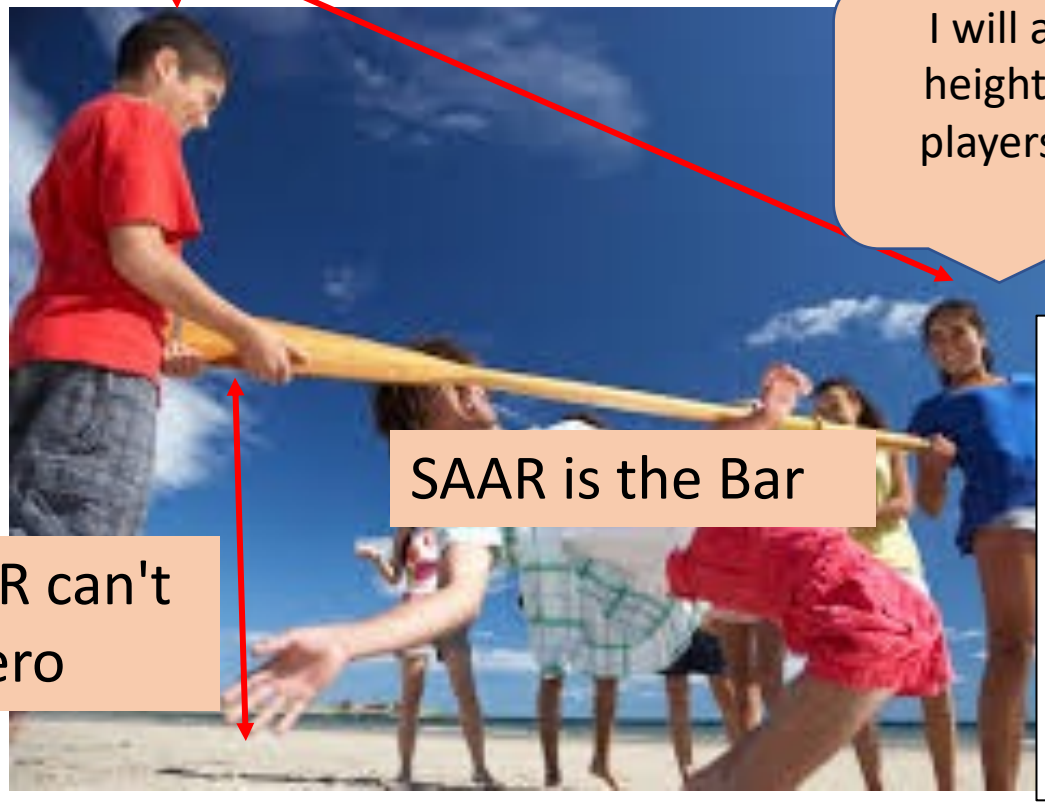
Circumstances under which NHSN cannot generate SAAR values: long-term acute care (LTAC), orthopedic, psychiatric, or rehabilitation hospital. Pediatric and neonatal CAH populations

- **WHEN**: Current SAAR uses 2017 data
- **WHY**: To help facilities benchmark and identify opportunities for improvement

https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/aur/au-saar-guide-508.pdf

Tracking Antimicrobial Use:
Is harder than it looks

Who: CDC



I will adjust this bar height based on the players involved and math*

SAAR is the Bar

The SAAR can't be zero

***Math**
Patient care location
Facility type
Teaching status
Bed size
Number/proportion ICU beds
Length of stay

SAAR = Standardized Antimicrobial Administration Ratio

citations

	Hospitals in Adult and/or Pediatric SAAR Referent Population[a] (n = 457)	Hospitals Reporting ≥1 Month of AU Option Data From SAAR-Eligible Location[b] (n = 1511)	Hospitals Enrolled in NHSN With ≥1 Active SAAR-Eligible Location[c] (n = 4668)
Facility type, no. hospitals (%)			
General acute care	320 (70.0)	1172 (77.6)	3378 (72.4)
Veterans Affairs	75 (16.4)	109 (7.2)	117 (2.5)
Critical access	28 (6.1)	134 (8.9)	893 (19.1)
Military	19 (4.2)	46 (3.0)	49 (1.1)
Children's	6 (1.3)	27 (1.8)	81 (1.7)
Women's and children's	4 (0.9)	7 (0.5)	15 (0.3)
Surgical	3 (0.7)	9 (0.6)	111 (2.4)
Oncology	1 (0.2)	3 (0.2)	18 (0.4)
Women's	1 (0.2)	4 (0.3)	6 (0.1)

Potential SAAR representation

Current SAAR representation

O'Leary et al. https://academic.oup.com/cid/article/71/10/e702/5812159

SAAR Interpretation

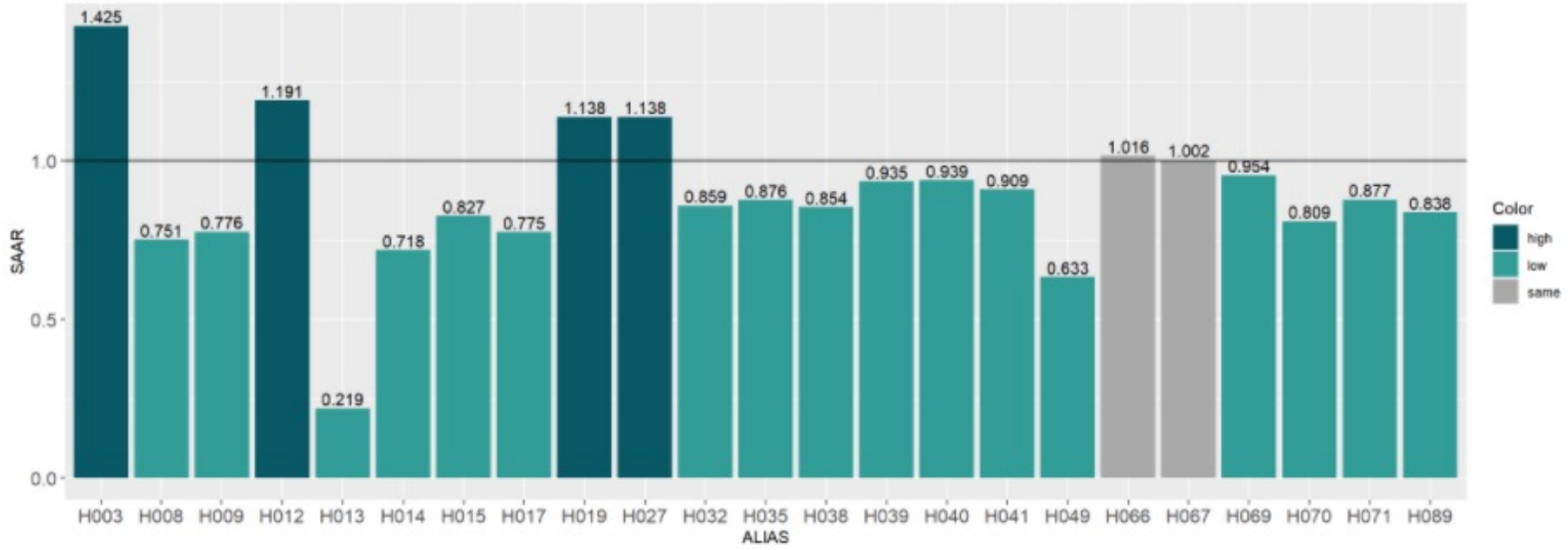
- SAAR=Observed DOT/Predicted DOT
  - SAAR > 1.0 indicates AU higher than predicted
  - SAAR = 1.0 indicates AU equal to predicted
  - SAAR < 1.0 indicates AU lower than predicted
- High or low SAAR does not indicate inappropriate use
  - Signal for exploration

https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/aur/au-saar-guide-508.pdf

All antibacterial agents

All antibacterial agents in the AUR protocol **except**: AMIKACIN LIPOSOME , CEFIDEROCOL , COLISTIN , DELAFLOXACIN , ERAVACYCLINE , IMIPENEM/CILATATIN/RELEBACTAM , LEFAMULIN , MEROPENEM/VABORBACTAM , OMADACYCLINE , PIPERACILLIN , PLAZOMICIN , TICARCILLIN/CLAVULANA

All Adult SAAR Locations | All Pediatric SAAR Locations



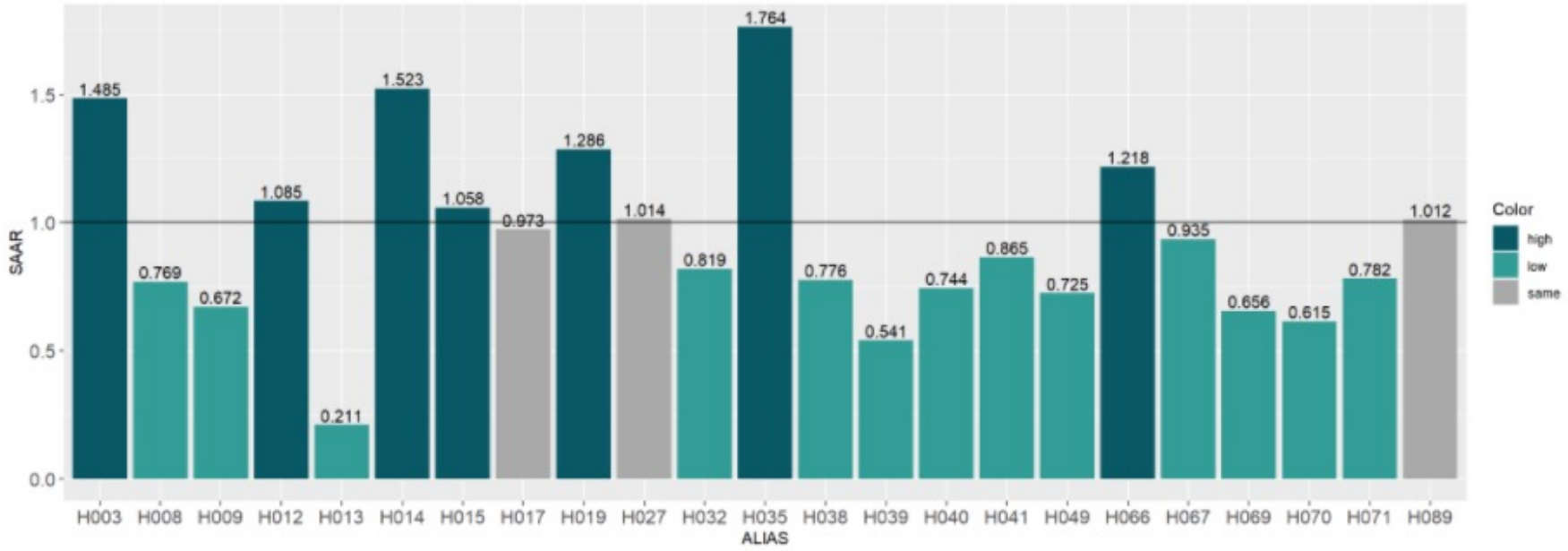
Preliminary Data. Not intended for distribution

Broad-spectrum antibacterial agents used for community-acquired infections

Adult: CEFACLOR , CEFDINIR , CEFIXIME , CEFOTAXIME , CEFPODOXIME , CEFPROZIL , CEFTRIAXONE , CEFUROXIME , CIPROFLOXACIN , ERTAPENEM , GEMIFLOXACIN , LEVOFLOXACIN , MOXIFLOXACIN

Pediatric: AMOXICILLIN/CLAVULANATE , AMPICILLIN/SULBACTAM , CEFACLOR , CEFDINIR , CEFIXIME , CEFOTAXIME , CEFPODOXIME , CEFPROZIL , CEFTRIAXONE , CEFUROXIME

Adult ICU | Adult Step | **Adult Ward** | Pediatric Ward



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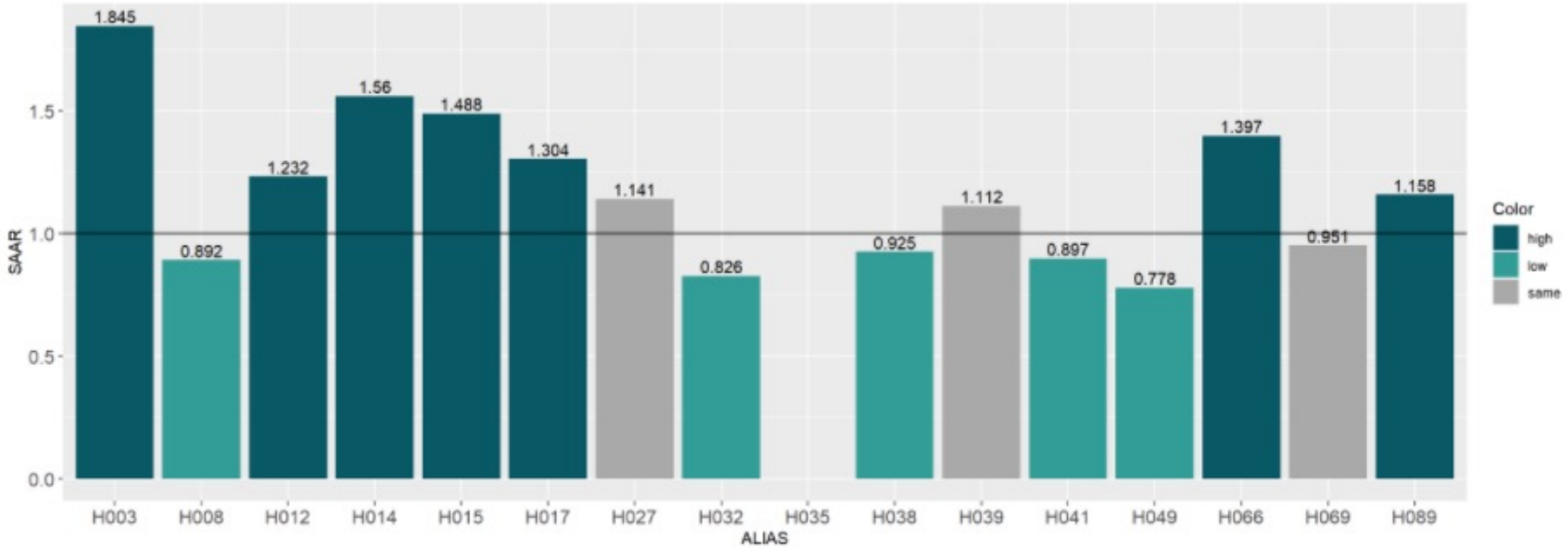
Adult ICU | Adult Step | Adult Ward | Pediatric Ward



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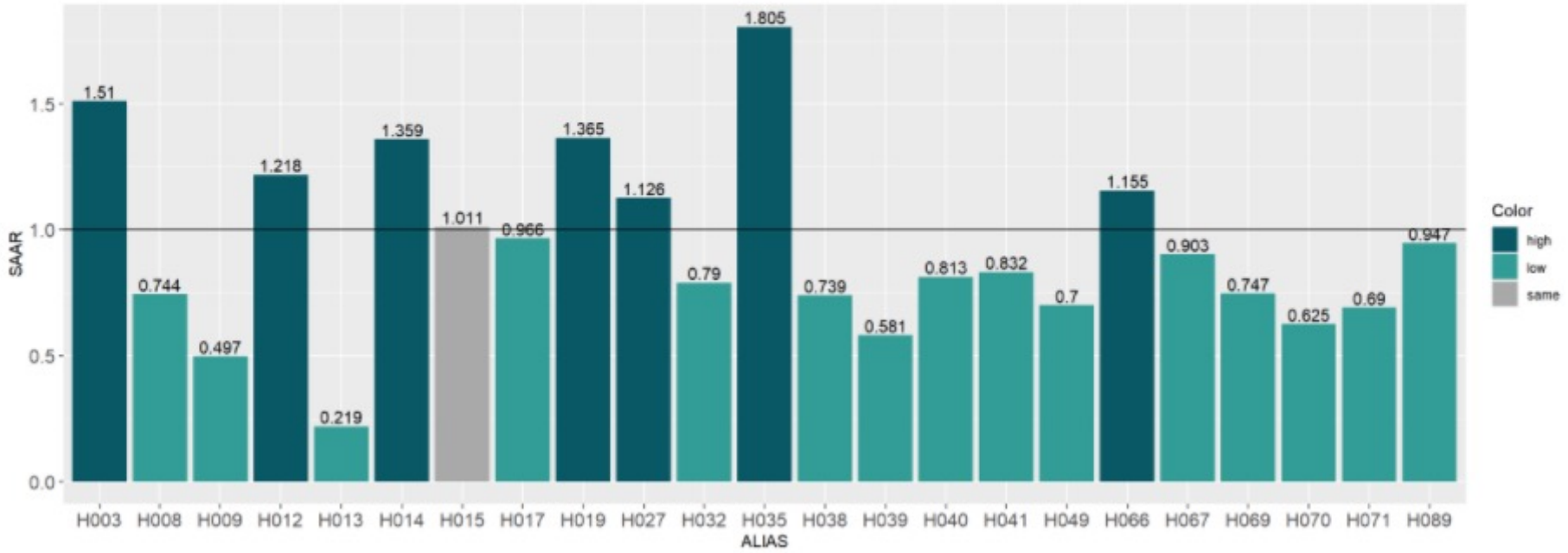
Antibacterial agents posing highest risk for CDI

Adult and Pediatric: CEFDINIR , CEFEPIME , CEFIXIME , CEFOTAXIME , CEFPODOXIME , CEFTAZIDIME , CEFTRIAXONE , CIPROFLOXACIN , CLINDAMYCIN , GEMIFLOXACIN , LEVOFLOXACIN , MOXIFLOXACIN

Adult ICU | Adult Step | **Adult Ward** | Pediatric Ward



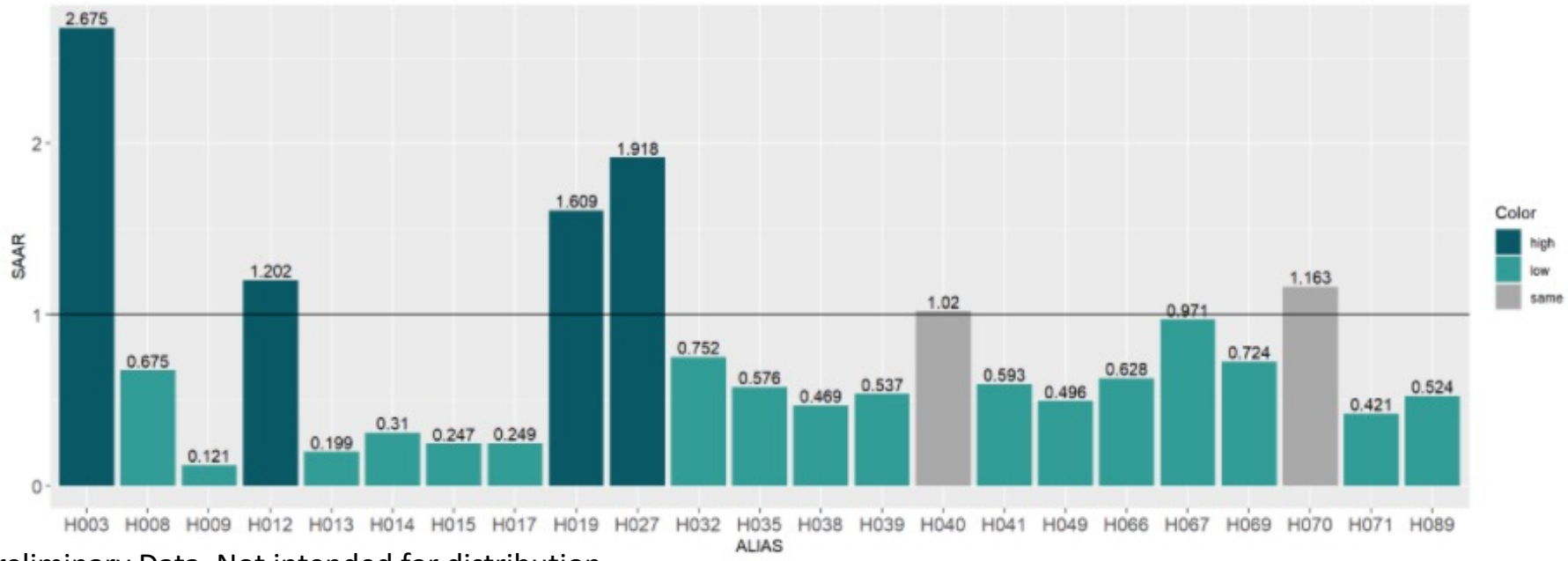
Preliminary Data. Not intended for distribution

Broad-spectrum antibacterial agents used for hospital-onset infections

Adult: AMIKACIN (IV only) , AZTREONAM (IV only) , CEFEPIME , CEFTAZIDIME , DORIPENEM , GENTAMICIN (IV only) , IMIPENEM/CILASTATIN , MEROPENEM , PIPERACILLIN/TAZOBACTAM , TOBRAMYCIN (IV only)

Pediatric: AMIKACIN (IV only) , AZTREONAM (IV only) , CEFEPIME , CEFTAZIDIME , CIPROFLOXACIN , DORIPENEM , ERTAPENEM , GEMIFLOXACIN , IMIPENEM/CILASTATIN , LEVOFLOXACIN , MEROPENEM , MOXIFLOXACIN , PIPERACILLIN/TAZOBACTAM , TOBRAMYCIN (IV only)

Adult ICU | Adult Step | **Adult Ward** | Pediatric Ward



Is seeing data comparing yourself to other hospitals helpful?

Yes
No

Which class of antibiotics are you most likely to look at?

Carbapenems
Fluoroquinolones
Aggregate of community onset antibiotics
Aggregate of hospital onset infection antibiotics
Aggregate of antibiotics contributing to C.diff
Total antibiotic use
Something else

What comparison would be the most impactful to other hospitals of your size?

High Risk C.diff antibiotics
Total antibiotics
Prescribing by patient location (ICU, Ward)
Something else