Antimicrobial Steward Call
February 14, 2023

Tennessee Department of Health
Healthcare Associated Infections and Antimicrobial Resistance Program

Welcome

Announcements

AU Reports

- Q4 AU Point Prevalence Surveys Disseminated
  - Phase out end of the year
- AU Quality Reports
  - Data in by today for Q4 2022 Report
- Quarterly SAAR Reports
  - Workgroup meeting this month with pilot reports

TDH NHSN Training Webinars 2023

- ~~CLABSI/CAUTI Surveillance~~
  - ~~Monday January 23, 2023, 10 a.m. CT~~
- ~~SSI Surveillance~~
  - ~~Monday January 30, 2023, 10 a.m. CT~~
- ~~VAE Surveillance~~
  - ~~Monday February 6, 2023, 10 a.m. CT~~
- ~~LabID~~
  - ~~Monday February 13, 2023, 10 a.m. CT~~
- AU/AR
  - **Monday February 27, 2023, 10 a.m. CT**
- Analysis
  - **Monday March 6, 2023, 10 a.m. CT**

- Callyn Wren presenting on AU Option
- For details or call-in information, email HAI.Health@tn.gov

2023 NHSN Virtual Annual Training Updates

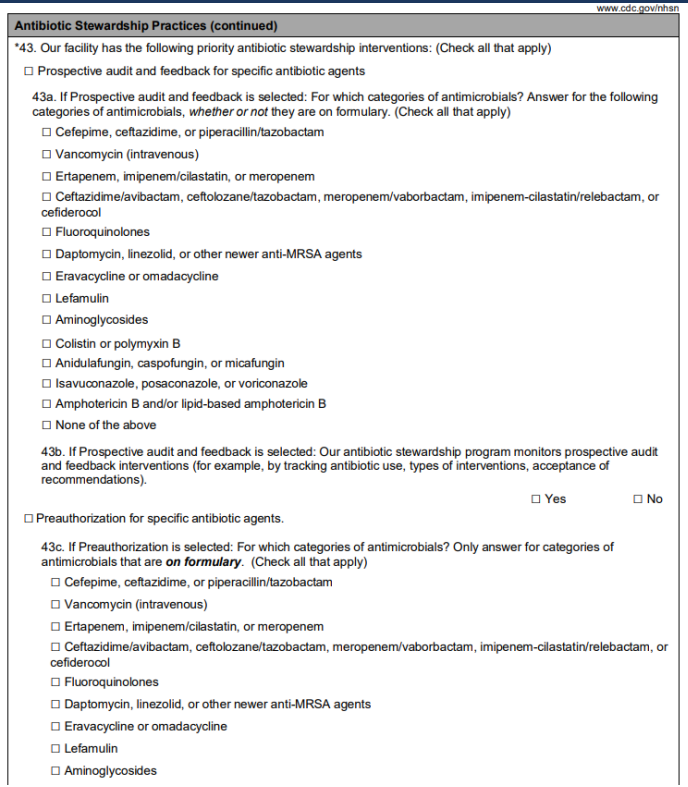
- The Centers for Disease Control and Prevention's National Healthcare Safety Network (NHSN) will hold their **Virtual 2023 Annual NHSN Training**:
  - Patient Safety, Outpatient Procedure, and Neonatal Component Healthcare Surveillance and Analytics on **March 21 – 23, 2023**.

- This training is intended for users of the Patient Safety Component, Outpatient Procedure Component, and Neonatal Component in NHSN.
  - The virtual training event will feature live presentations, pre-recorded training videos for self- paced viewing, an introduction of new NHSN Measures, and opportunities for Q&A.

- More information, including registration and an agenda, will be provided soon.

NHSN Annual Facility Survey

- 2021 Survey open to NHSN Facility Administrators
- Deadline March 1
- Reach out to assist with Antibiotic Stewardship Section
  - Used to assess Core Element and Priority Core Element Achievement



www.cdc.gov/nhsn

Antibiotic Stewardship Practices (continued)

*43. Our facility has the following priority antibiotic stewardship interventions: (Check all that apply)

☐ Prospective audit and feedback for specific antibiotic agents

43a. If Prospective audit and feedback is selected: For which categories of antimicrobials? Answer for the following categories of antimicrobials, *whether or not* they are on formulary. (Check all that apply)

☐ Cefepime, ceftazidime, or piperacillin/tazobactam
☐ Vancomycin (intravenous)
☐ Ertapenem, imipenem/cilastatin, or meropenem
☐ Ceftazidime/avibactam, ceftolozane/tazobactam, meropenem/vaborbactam, imipenem-cilastatin/relebactam, or cefiderocol
☐ Fluoroquinolones
☐ Daptomycin, linezolid, or other newer anti-MRSA agents
☐ Eravacycline or omadacycline
☐ Lefamulin
☐ Aminoglycosides
☐ Colistin or polymyxin B
☐ Anidulafungin, caspofungin, or micafungin
☐ Isavuconazole, posaconazole, or voriconazole
☐ Amphotericin B and/or lipid-based amphotericin B
☐ None of the above

43b. If Prospective audit and feedback is selected: Our antibiotic stewardship program monitors prospective audit and feedback interventions (for example, by tracking antibiotic use, types of interventions, acceptance of recommendations).

☐ Yes ☐ No

☐ Preauthorization for specific antibiotic agents.

43c. If Preauthorization is selected: For which categories of antimicrobials? Only answer for categories of antimicrobials that are ***on formulary***. (Check all that apply)

☐ Cefepime, ceftazidime, or piperacillin/tazobactam
☐ Vancomycin (intravenous)
☐ Ertapenem, imipenem/cilastatin, or meropenem
☐ Ceftazidime/avibactam, ceftolozane/tazobactam, meropenem/vaborbactam, imipenem-cilastatin/relebactam, or cefiderocol
☐ Fluoroquinolones
☐ Daptomycin, linezolid, or other newer anti-MRSA agents
☐ Eravacycline or omadacycline
☐ Lefamulin
☐ Aminoglycosides

Registration Open!

7th Annual Middle Tennessee Antimicrobial Stewardship Symposium

Friday, May 19, 2023
8:00am-4:00pm (CDT)
Janet Ayers Academic Center
Belmont University, Nashville, TN

Target Audiences: Antimicrobial Stewardship Nurses, Pharmacists, Physicians, and Infection Preventionists

Up to 5.25 contact hours of Live CE Available
for nurses*, pharmacists, and physicians
from AAFP, ANCC, ACPE for these Knowledge-based CE Activities
*Nurses can receive up to 4.5 pharmacotherapeutic contact hours

Deadline to Register: May 7, 2023 (11:59pm CDT)

Registration is limited to the first 175 registrants
$100 - General & Belmont Faculty/Preceptors/Alumni
$50 - Students & Residents (No CE Credit Awarded)

Keynote Lecture

Selling Stewie: Optimizing Social Sciences to Influence Antibiotic Prescribing

Jillian E. Hayes, PharmD, BCIDP Clinical Pharmacist, Infectious Diseases and Antimicrobial Stewardship Duke Center for Antimicrobial Stewardship and Infection Prevention, Duke University Hospital

Disclosures: Individual speaker disclosures are noted in the individual presentation details. Montgomery Green, planner for this event, was a consultant speaker for bioMerieux (formerly BioFire Diagnostics) in the past 24 months; this relationship has ended. Athena Hobbs, planner for this event, is a contracted worker for Cardinal Health. All relevant financial relationships have been mitigated. No other planners or content reviewers have relevant financial relationships with ineligible companies to disclose.

Sponsors & Exhibitors: AbbVie, bioMerieux, Cepheid, Karius, Melinta Therapeutics, Merck, Option Care Health Home Infusion, Shionogi, T2 Biosystems

Symposium Learning Objectives

At the end of this symposium, learners should be able to:

- Discuss how to appropriately utilize current information and diagnostics technology to maximize stewardship impact in your facilities
- Identify resources available to assist in the development of antimicrobial stewardship programs including in the outpatient setting.
- Discuss optimization of antimicrobial therapy for certain infections based on evidence-based medicine and your community's and region's antibiogram
- Discuss vacine developments and updates to immunization recommendations including COVID-19 vaccines.

TN Department of Health

AU Quality Reports

NHSN AU Data Quality Reports

- Initiated in Q1-2021
- Flags some data accuracy concerns
- Reported back to statewide facilities reporting into NHSN and conferred rights to TDH
- Disseminated quarterly
  - Data downloaded 6 weeks after end of quarter
  - ~4 weeks to analyze, prepare and review
- Complement to CDC AU Quality Reports

NHSN AU Data Quality Reports

- Previously discussed:
  - Antimicrobial Days Reported for any Drug when Days Present Reported as Zero
  - Sum of Routes Less than Reported Total Days of Therapy
  - Reported Antimicrobial Days for a Single Drug Greater Than Days Present
  - Ceftriaxone IM not used in the ED
  - Cefazolin not used in the OR
- Flags to Discuss Today:
  - Sum of Routes Greater than Reported Total Days of Therapy **for Drugs Given Once Daily**
  - Drug Route Mismatch

Sum of Routes Greater than Reported Total Days of Therapy for Drugs Given Once Daily

- Common for the sum of routes to be greater than the reported total days for drugs administered multiple times/day. (Example: Ciprofloxacin)
- Less common for that to occur for medications administered once per day.
- These medications should most frequently have a sum of routes = reported Total Antimicrobial Days

- Medications targeted:

-Amphotericin B	**-Amphotericin B Liposomal**	**-Anidulafungin**	**-Azithromycin**
-Caspofungin	**-Ceftibuten**	**-Dalbavancin**	**-Daptomycin**
-Ertapenem	**-Fluconazole**	**–Fosfomycin**	**-Gemifloxacin**
-Levofloxacin	**-Micafungin**	**-Moxifloxacin**	**-Oritavancin**
-Peramivir	**–Tedizolid**	**-Telavancin**	**-Telithromycin**

Sum of Routes Greater than Reported Total Days of Therapy for Drugs Given Once Daily

locCDC	summaryYM	drugDescription	category	antimicrobialDays	IM_Count	IV_Count	digestive_Count	respiratory_Count	numDaysPresent
IN:ACUTE:WARD:ONC_HSCT	10/1/2020	AMK - AMIKACIN	ANTIBACTERIAL	4	0	0	0	4	1232
IN:ACUTE:WARD:ONC_HSCT	10/1/2020	AMOX - AMOXICILLIN	ANTIBACTERIAL	1	0	0	1	0	1232
IN:ACUTE:WARD:ONC_HSCT	10/1/2020	AMP - AMPICILLIN	ANTIBACTERIAL	2	0	2	0	0	1232
IN:ACUTE:WARD:ONC_HSCT	10/1/2020	AZITH - AZITHROMYCIN	ANTIBACTERIAL	29	0	5	28	0	1232
IN:ACUTE:WARD:ONC_HSCT	10/1/2020	CEFAC - CEFACLOR	ANTIBACTERIAL	0	0	0	0	0	1232
IN:ACUTE:WARD:ONC_HSCT	10/1/2020	CEFAD - CEFADROXIL	ANTIBACTERIAL	0	0	0	0	0	1232
IN:ACUTE:WARD:ONC_HSCT	10/1/2020	CEFAZ - CEFAZOLIN	ANTIBACTERIAL	16	0	16	0	0	1232
IN:ACUTE:WARD:ONC_HSCT	10/1/2020	CEFDIN - CEFDINIR	ANTIBACTERIAL	8	0	0	8	0	1232
IN:ACUTE:WARD:ONC_HSCT	10/1/2020	CEFEP - CEFEPIME	ANTIBACTERIAL	298	0	298	0	0	1232
IN:ACUTE:WARD:ONC_HSCT	10/1/2020	CEFIX - CEFIXIME	ANTIBACTERIAL	0	0	0	0	0	1232
IN:ACUTE:WARD:ONC_HSCT	10/1/2020	CEFOT - CEFOTAXIME	ANTIBACTERIAL	0	0	0	0	0	1232
IN:ACUTE:WARD:ONC_HSCT	10/1/2020	CEFOX - CEFOXITIN	ANTIBACTERIAL	1	0	1	0	0	1232
IN:ACUTE:WARD:ONC_HSCT	10/1/2020	CEFPO - CEFPODOXIME	ANTIBACTERIAL	0	0	0	0	0	1232
IN:ACUTE:WARD:ONC_HSCT	10/1/2020	CEFPRO - CEFPROZIL	ANTIBACTERIAL	0	0	0	0	0	1232
IN:ACUTE:WARD:ONC_HSCT	10/1/2020	CEFTAR - CEFTAROLINE	ANTIBACTERIAL	0	0	0	0	0	1232
IN:ACUTE:WARD:ONC_HSCT	10/1/2020	CEFTAZ - CEFTAZIDIME	ANTIBACTERIAL	0	0	0	0	0	1232
IN:ACUTE:WARD:ONC_HSCT	10/1/2020	CEFTRX - CEFTRIAXONE	ANTIBACTERIAL	77	0	77	0	0	1232

Sum of Routes Greater than Reported Total Days of Therapy for Drugs Given Once Daily

- **Potential Solutions:**
  - For each location/month/drug flagged, review the data in your eMAR/BCMA system to determine if your vendor system is incorrectly including additional routes of administration (for example, intrapleural, irrigation, topical) in your total antimicrobial day counts.
  - Work with the vendor to ensure only IV, IM, digestive, and respiratory routes are being included in the total antimicrobial days count.
  - If no technical issue is identified, review eMAR/BCMA to identify specific cases to identify if the drug in question is routinely being administered too frequently.

Drug Route Mismatch

- **Rationale:** Flags if antimicrobial days are reported for a route that is not conventionally used for a given drug. Examples:
  - Ceftriaxone reported as given via Digestive Route

locCDC	summaryYM	drugDescription	category	antimicrobialDays	IM_Count	IV_Count	digestive_Count	respiratory_Count	numDaysPresent
IN:ACUTE:WARD:ONC_HSCT	10/1/2020	AMK - AMIKACIN	ANTIBACTERIAL	4	0	0	0	4	1232
IN:ACUTE:WARD:ONC_HSCT	10/1/2020	AMOX - AMOXICILLIN	ANTIBACTERIAL	1	0	0	1	0	1232
IN:ACUTE:WARD:ONC_HSCT	10/1/2020	AMP - AMPICILLIN	ANTIBACTERIAL	2	0	2	0	0	1232
IN:ACUTE:WARD:ONC_HSCT	10/1/2020	AZITH - AZITHROMYCIN	ANTIBACTERIAL	29	0	1	28	0	1232
IN:ACUTE:WARD:ONC_HSCT	10/1/2020	CEFAC - CEFACLOR	ANTIBACTERIAL	0	0	0	0	0	1232
IN:ACUTE:WARD:ONC_HSCT	10/1/2020	CEFAD - CEFADROXIL	ANTIBACTERIAL	0	0	0	0	0	1232
IN:ACUTE:WARD:ONC_HSCT	10/1/2020	CEFAZ - CEFAZOLIN	ANTIBACTERIAL	16	0	16	0	0	1232
IN:ACUTE:WARD:ONC_HSCT	10/1/2020	CEFDIN - CEFDINIR	ANTIBACTERIAL	8	0	0	8	0	1232
IN:ACUTE:WARD:ONC_HSCT	10/1/2020	CEFEP - CEFEPIME	ANTIBACTERIAL	298	0	298	0	0	1232
IN:ACUTE:WARD:ONC_HSCT	10/1/2020	CEFIX - CEFIXIME	ANTIBACTERIAL	0	0	0	0	0	1232
IN:ACUTE:WARD:ONC_HSCT	10/1/2020	CEFOT - CEFOTAXIME	ANTIBACTERIAL	0	0	0	0	0	1232
IN:ACUTE:WARD:ONC_HSCT	10/1/2020	CEFOX - CEFOXITIN	ANTIBACTERIAL	1	0	1	0	0	1232
IN:ACUTE:WARD:ONC_HSCT	10/1/2020	CEFPO - CEFPODOXIME	ANTIBACTERIAL	0	0	0	0	0	1232
IN:ACUTE:WARD:ONC_HSCT	10/1/2020	CEFPRO - CEFPROZIL	ANTIBACTERIAL	0	0	0	0	0	1232
IN:ACUTE:WARD:ONC_HSCT	10/1/2020	CEFTAR - CEFTAROLINE	ANTIBACTERIAL	0	0	0	0	0	1232
IN:ACUTE:WARD:ONC_HSCT	10/1/2020	CEFTAZ - CEFTAZIDIME	ANTIBACTERIAL	0	0	0	0	0	1232
IN:ACUTE:WARD:ONC_HSCT	10/1/2020	CEFTRX - CEFTRIAXONE	ANTIBACTERIAL	77	0	70	7	0	1232
IN:ACUTE:WARD:ONC_HSCT	10/1/2020	CEFUR - CEFUROXIME	ANTIBACTERIAL	10	0	0	10	0	1232
IN:ACUTE:WARD:ONC_HSCT	10/1/2020	CEPHLX - CEPHALEXIN	ANTIBACTERIAL	6	0	0	6	0	1232
IN:ACUTE:WARD:ONC_HSCT	10/1/2020	CHLOR - CHLORAMPHENICOL	ANTIBACTERIAL	0	0	0	0	0	1232

Drug Route Mismatch

- **Potential Solutions:**
  - There may be legitimate reasons why a drug was administered via a nonconventional route.
  - Review eMAR/BCMA report to identify specific cases to determine if antimicrobial days was appropriately counted and attributed.
  - Work with the vendor to ensure only IV, IM, digestive, and respiratory routes are being included in the total antimicrobial days count and are being attributed correctly.

Reportable Conditions 2023

Updated Documents

- 2023 Updates
  - Reportable Diseases List for Healthcare Providers
  - Reportable Diseases List for Labs
  - Detailed Lab Guidance

- https://www.tn.gov/health/cedep/reportable-diseases.html

List for Healthcare Providers

- https://www.tn.gov/content/dam/tn/health/documents/reportable-diseases/2023-Provider-list.pdf

Reporting Methods for Providers

- Report via fax
  - PH-1600 may be faxed or emailed directly
    - to the local/regional health office or
    - to the CEDEP Division of TDH (615) 741-3857

- Report online through NBS
  - https://hssi.tn.gov/auth/login
  - Reporters can request an account at https://redcap.health.tn.gov/redcap/surveys/?s=8L7CMWHN4M

Summary of Reporting Changes for 2023

- For **Providers**:
  - Disease name on the Provider List text changed from: Drug Overdose (Opioids, Benzodiazepines, Stimulants, Muscle Relaxants) to Drug Overdose to improve overdose surveillance by giving a more accurate snapshot of nonfatal overdoses involving illicit substances and polysubstance use.
  - Botulism (Infant or Botulinum Toxin) is now immediately notifiable.

- **Reminder:** We cannot differentiate between facility types on the reportable list
  - e.g., VAE is LTACs only
  - https://www.tn.gov/health/cedep/hai/hai-reporting-requirements.html
    - for reporting requirements by facility type

Summary of Reporting Changes for 2023

- **Laboratories Only**
  - Lead Levels - Elevated blood lead levels (≥3.5 µg/dL) should be reported within 1 week and those <3.5 µg/dL should be reported within 1 month
  - Below diseases have updated lab submission guidance:
    - Group A Streptococcal pyogenes Invasive Disease
    - Group B Streptococcal Invasive Disease
      - Streptococcus agalactiae Invasive Disease
      - Streptococcus pneumoniae Invasive Disease
    - Haemophilus influenzae Invasive Disease
    - Meningococcal Disease (Neisseria meningitidis)

Summary of Reporting Changes for 2023

- Detailed **laboratory guidance** document has been updated for the following topics
  - Monkeypox
  - **Antibiotic Resistant Pathogens**
    - **Carbapenemase-producing Pseudomonas aeruginosa (CP-CRPA)**
    - **Carbapenemase-producing Acinetobacter baumannii (CP-CRAB)**
  - **Emerging Infections Program Surveillance**
    - **Candida species isolated from blood are newly reportable in the east Tennessee EIP catchment area**
  - Routine changes based on CSTE case definition changes:
    - Coronavirus disease caused by SARS CoV-2
    - Gonorrhea
    - Lyme Disease
    - Rabies (Animal)
  - Additional details have been added to the Laboratory Tests and Results to Report to Public Health

Candida auris (including rule-out *Candida auris*) ☎	*Candida auris*, positive by any method for any specimen including detection from swabs from skin. If any *Candida auris* or "rule-out *C. auris*" are detected via PCR, perform a culture to obtain the isolate. Submit isolates immediately to the Tennessee Department of Health Laboratory. Contact hai.health@tn.gov for clarification/questions.	Required	L & P
Candida species **eip**	Submit isolate of each unique *Candida* species isolated from blood (send specimens of each if more than one species isolated in blood). Report all *Candida* species isolated from blood in the EIP catchment counties: Knox, Sevier, Jefferson, Blount, Anderson, Roane, Loudon, Union, Grainger, Hancock, Unicoi, Hawkins, Greene, Johnson, Washington, Sullivan, and Carter. Send specimens to the East TN Regional State Lab, 2102 Medical Center Way, Knoxville, TN 37920. Attn: Sandra Hardin. *Candida auris* isolates should follow the guidance listed above for that specific organism.	Required	L & P
Carbapenemase-producing *Pseudomonas aeruginosa* (CP-CRPA)	*Pseudomonas aeruginosa* detected by any method from any clinical specimen (including nonsterile sites and rectal/perirectal swabs) positive for carbapenemase production or a carbapenemase gene. Labs unable to test for carbapenemase production or genes should submit isolates resistant to at least one carbapenem antibiotic (excluding ertapenem) AND not susceptible to cefepime or ceftazidime according to breakpoints listed in the 2022 CLSI guidelines. If Pseudomonas aeruginosa is detected via PCR, perform a culture to obtain the bacterial isolate and perform subsequent testing to determine antibiotic susceptibility profile or carbapenemase production or gene. Submit isolates to the Tennessee Department of Health Laboratory within 3 days of detection/isolation. Contact hai.health@tn.gov for clarification/questions.	Required	L & P
Carbapenemase-producing *Acinetobacter baumannii* (CP-CRAB)	*Acinetobacter baumannii* detected by any method from any clinical specimen (including nonsterile sites and rectal/perirectal swabs) positive for carbapenemase production or a carbapenemase gene. Labs unable to test for carbapenemase production or genes should submit isolates resistant to at least one carbapenem antibiotic (excluding ertapenem) according to breakpoints listed in the 2022 CLSI guidelines. If Acinetobacter baumannii is detected via PCR, perform a culture to obtain the bacterial isolate and perform subsequent testing to determine antibiotic susceptibility profile or carbapenemase production or gene. Submit isolates to the Tennessee Department of Health Laboratory within 3 days of detection/isolation. Contact hai.health@tn.gov for clarification/questions.	Required	L & P

Candidemia/*Candida* species

- Submit isolates of each unique *Candida* species isolated from blood
  - The CO HAI Program does not lead this project, so please direct questions about submitting isolates or reporting cases to Sandra Hardin (Sandra.Hardin@vumc.org).
  - Cases are not entered into NBS and isolates should be submitted to the **Knoxville** lab
  - Any *Candida auris* isolates from blood should be sent to the **Nashville lab in addition to the Knoxville lab (and please notify us of a case of C. auris!)**

- The catchment area includes the following counties: Knox, Sevier, Jefferson, Blount, Anderson, Roane, Loudon, Union, Grainger, Hancock, Unicoi, Hawkins, Greene, Johnson, Washington, Sullivan, and Carter

Carbapenemase-producing *Pseudomonas aeruginosa*

- We expect most clinical labs will not have the ability to test for *P. aeruginosa* isolates for carbapenemase production
  - antibiotic susceptibility results in the detailed lab guidance which may suggest an isolate is carbapenemase-producing
- We expect most confirmed cases will be reported directly to the CO HAI team by the SPHL in Nashville
- Suspect case definitions are CO HAI designated for Tennessee

Carbapenemase-producing *Pseudomonas aeruginosa*: suspect case

- Lab reports that meet **all three criteria** would be considered a **suspect case**
  1. *P. aeruginosa* from any body site
  2. Testing was NOT performed for carbapenemase production and carbapenemase genes
     - OR testing for carbapenemase production was NOT performed and the isolate was negative for carbapenemase genes
  3. The isolate is resistant to at least one carbapenem antibiotic (excluding ertapenem) AND not susceptible to cefepime or ceftazidime

Carbapenemase-producing *Pseudomonas aeruginosa*: confirmed case

- Lab reports that meet **both criteria** would be considered a **confirmed case**
  1. *P. aeruginosa* from any body site
  2. The isolate tested positive for carbapenemase production or was positive for a carbapenemase gene

Carbapenemase-producing *Pseudomonas aeruginosa*: not a case

- Lab reports that meet **any** of the three criteria would be considered a **not a case**
  1. *Pseudomonas* species not aeruginosa
  2. The isolate tested negative for carbapenemase production and was negative for a carbapenemase gene
  3. The isolate is susceptible to all carbapenem antibiotics (excluding ertapenem) and is susceptible to cefepime and ceftazidime

Carbapenemase-producing *Pseudomonas aeruginosa*

- Lab reports that meet **all three criteria** would be considered a **suspect case**
  1. *P. aeruginosa* from any body site
  2. Testing was NOT performed for carbapenemase production and carbapenemase genes
     - OR testing for carbapenemase production was NOT performed and the isolate was negative for carbapenemase genes
  3. The isolate is resistant to at least one carbapenem antibiotic (excluding ertapenem) AND not susceptible to cefepime or ceftazidime

Carbapenemase-producing *Acinetobacter baumannii*

- This is separate from the EIP condition Acinetobacter species, carbapenem-resistant

- We expect that most clinical labs will not have the ability to test *A. baumannii* isolates for carbapenemase production
  - We have included antibiotic susceptibility results in the detailed lab guidance which may suggest an isolate is carbapenemase-producing.

- We expect that most confirmed cases will be reported directly to the CO HAI team by the State Lab in Nashville.

Carbapenemase-producing *Acinetobacter baumannii*: suspect case

- Lab reports that meet **all three criteria** would be considered a **suspect case**
  1. *A. baumannii* from any body site
  2. Testing was NOT performed for carbapenemase production and carbapenemase genes
     - OR testing for carbapenemase production was NOT performed and the isolate was negative for carbapenemase genes
  3. The isolate is resistant to at least one carbapenem antibiotic (excluding ertapenem)

Carbapenemase-producing *Acinetobacter baumannii*: confirmed case

- Lab reports that meet **both** criteria would be considered a **suspect case**
  1. *A. baumannii* from any body site
  2. The isolate tested positive for carbapenemase production or was positive for a carbapenemase gene

Carbapenemase-producing *Acinetobacter baumannii*: not a case

- Lab reports that meet **any** of these criteria would be considered **not a case**
  1. *Acinetobacter* species not *baumannii*
  2. The isolate tested negative for carbapenemase production and was negative for a carbapenemase gene
  3. The isolate is susceptible to all carbapenem antibiotics (excluding ertapenem)

Summary of Reporting Changes for 2023

- Amended Antimicrobial Use Reporting:
  - Now for Acute Care Hospitals with a **total bed size of >100**
  - To be submitted into the NHSN Antibiotic Use Option
  - Anticipated change for 2024:
    - **ALL Acute Care Hospitals and Critical Access Hospitals**
  - TDH does not have immediate plans to require hospitals to report into the NHSN AR Option
    - CMS Requirements may differ

Priority Core Elements

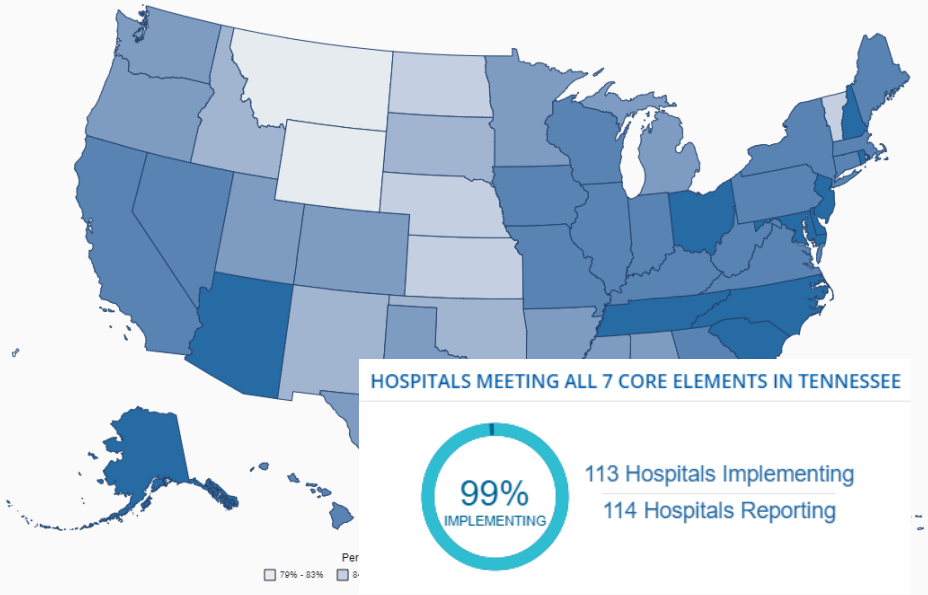
Core Element Achievement

HOSPITAL ANTIBIOTIC STEWARDSHIP (AS) BY STATE

YEAR 2021

CORE ELEMENT ALL 7 CORE ELEMENTS

This map shows the variation by state in the percentage of U.S. hospitals that report implementation of CDC's core elements of hospital antibiotic stewardship programs by year. Implementation of the core elements is visualized in this graphic by aggregating acute care hospital responses to the NHSN Annual Hospital Survey by state. Each hospital answers questions related to antibiotic stewardship and responses are later mapped to the seven core elements: leadership commitment, accountability, pharmacy expertise, action, tracking, reporting, and education. Click on a state to see more information on that state's core element uptake.



HOSPITALS MEETING ALL 7 CORE ELEMENTS IN TENNESSEE

99% IMPLEMENTING

113 Hospitals Implementing

114 Hospitals Reporting

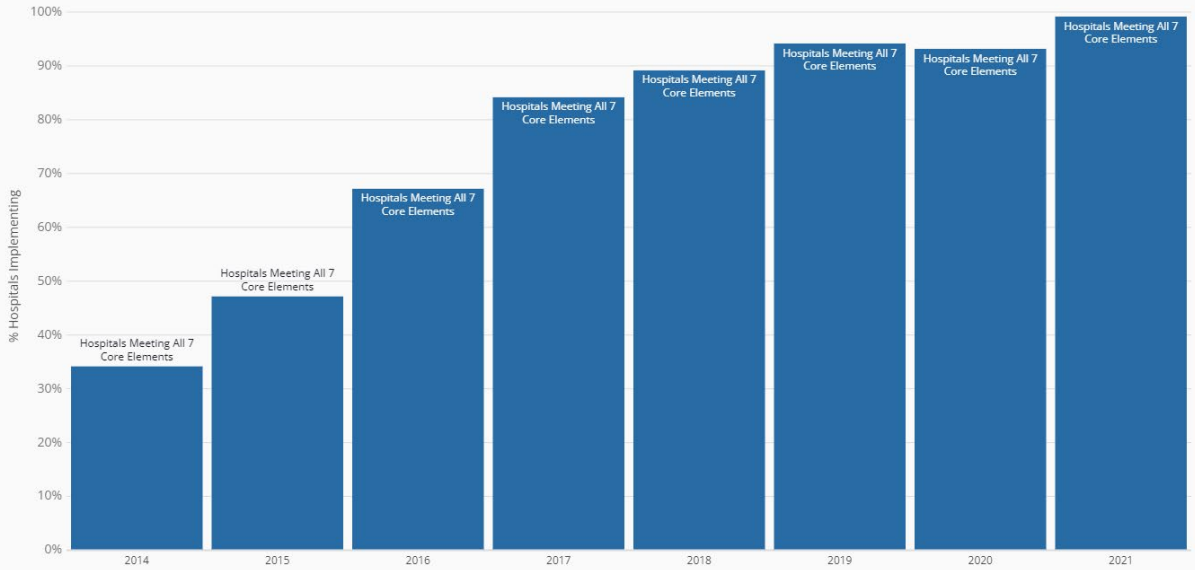
TN Hospitals Over Time

CHANGES OVER TIME IN HOSPITAL ANTIBIOTIC STEWARDSHIP (AS)

CORE ELEMENT ALL 7 CORE ELEMENTS

STATE ALL STATES

This graphic shows the change over time from 2014 to 2021 in hospital implementation of antibiotic stewardship programs by state and core element.



Assessing Core Element Achievement

Crosswalk of Antibiotic Stewardship Practices items from 2022 Patient Safety Annual Surveys to the 2021 Annual Survey

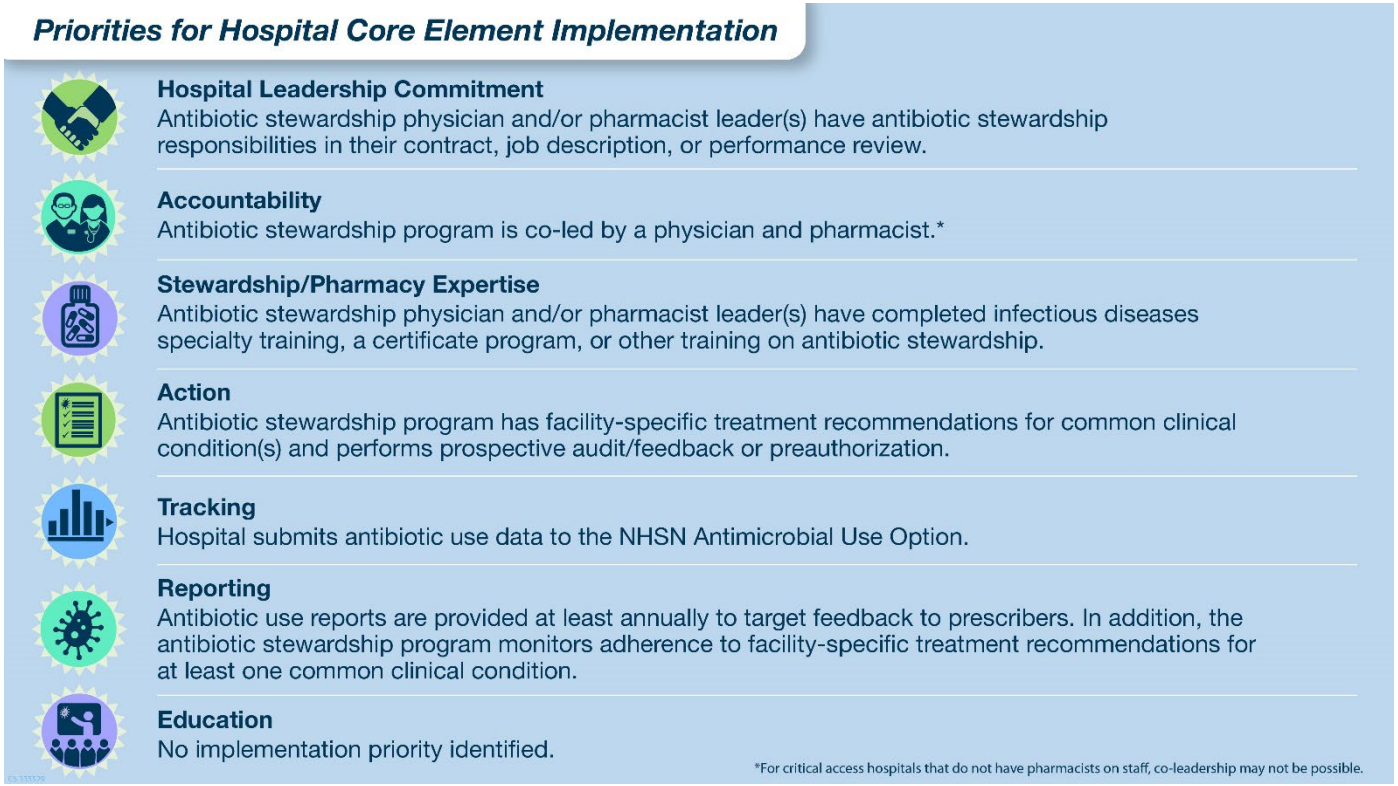
CDC has identified seven core elements of a successful hospital Antibiotic Stewardship Program (ASP); adherence to each of these elements can be assessed by a hospital or Group in NHSN based on responses to NHSN's Patient Safety Component Annual Hospital, Long Term Acute Care (LTAC), and Inpatient Rehabilitation Facility (IRF) Surveys. The 2018 Annual Survey included an expanded ASP section in order to increase the level of detail captured on stewardship practices taking place in healthcare settings; there were minor updates for the 2019-2020 surveys. The 2021 surveys reflect updates in *The Core Elements of Hospital Antibiotic Stewardship Programs: 2019 (https://www.cdc.gov/antibiotic-use/healthcare/pdfs/hospital-core-elements-H.pdf)* . NHSN provides a line list report to display the number of core elements achieved in a facility based on responses from the annual survey for years 2015-2022. The table displayed here is intended to help facility and group users document the changes made to the survey and identify what elements of ASP they're currently meeting based on responses to the annual survey. In the "Core Elements Met" column, users can enter responses manually based on data entered in their facility's annual survey. This crosswalk is not a replacement for the "Hospital Adherence to Stewardship Core Elements" Line List in NHSN, but rather a resource to help users better understand the current alignment between the seven core elements and annual survey questions.

Questions from the Annual Hospital Survey are mapped to the seven Core Elements of Hospital Antibiotic Stewardship Programs: hospital leadership commitment, accountability, pharmacy expertise (previously "drug expertise"), action, tracking, reporting, and education. While ASP questions are included in LTAC and IRF surveys for informational purposes, the seven Core Elements of Hospital ASPs were developed specifically for acute care hospitals and CDC only monitors uptake of core elements in these facilities types; therefore, the core elements Line List in NHSN will not include data from LTACs or IRFs. We included corresponding LTAC and IRF survey question numbers here for users interested in applying hospital core element criteria to their LTAC or IRF. Note: within the "Hospital Adherence to Stewardship Core Elements" Line List in NHSN, 'pharmacy expertise' is currently displayed as 'drug expertise'.

Core Element	2022 Survey				2021 Survey				Description of change(s)	
	ASP questions from 2022 Patient Safety Annual Hospital Survey (#40-56) (* indicates a required question)	Corresponding question numbers in the 2022 LTAC Survey (#33-49) | IRF Survey (#32-48) (* indicates a required question)	2022 Variable name(s)	Core Element Met? (responses taken from 2022 annual survey)	ASP questions from 2021 Patient Safety Annual Hospital Survey (#38-54) (* indicates a required question)	Corresponding question numbers in the 2021 LTAC Survey (#31-47) | IRF Survey (#30-46)	2021 Variable name(s)	Core Element Met? (responses taken from 2021 annual survey)	Type of change	Rationale or summary of changes
Table 1. Items used as criteria for meeting a Core Element (if any one item within each core element is selected, the core element will be met)										
Leadership	*Q41 (specific response options): Facility leadership has demonstrated commitment to antibiotic stewardship efforts by: - Providing a formal statement of support for antibiotic stewardship (e.g., a written policy or statement approved by the board)	*Q34 | *Q33	absCommitFormalSt		*Q39 (specific response options): Facility leadership has demonstrated commitment to antibiotic stewardship efforts by: - Providing a formal statement of support for antibiotic stewardship (e.g., a written policy or statement approved by the board)	*Q32 | *Q31	absCommitFormalSt		No change	N/A
Leadership	*Q41 (specific response options): Facility leadership has demonstrated a commitment to antibiotic stewardship efforts by: - Communicating to staff about stewardship activities, via email, newsletters, events, or other avenues.	*Q34 | *Q33	absCommitCommun		*Q39 (specific response options): Facility leadership has demonstrated a commitment to antibiotic stewardship efforts by: - Communicating to staff about stewardship activities, via email, newsletters, events, or other avenues.	*Q32 | *Q31	absCommitCommun		No change	N/A
Leadership	*Q41 (specific response options): Facility leadership has demonstrated a commitment to antibiotic stewardship efforts by: - Providing opportunities for hospital staff training and development on antibiotic stewardship.	*Q34 | *Q33	absCommitTrain		*Q39 (specific response options): Facility leadership has demonstrated a commitment to antibiotic stewardship efforts by: - Providing opportunities for hospital staff training and development on antibiotic stewardship.	*Q32 | *Q31	absCommitTrain		No change	N/A
Leadership	*Q41 (specific response options): Facility leadership has demonstrated a commitment to antibiotic stewardship efforts by: - Allocating resources (e.g., IT support, training for stewardship team) to support antibiotic stewardship efforts.	*Q34 | *Q33	absCommitResource		*Q39 (specific response options): Facility leadership has demonstrated a commitment to antibiotic stewardship efforts by: - Allocating resources (e.g., IT support, training for stewardship team) to support antibiotic stewardship efforts.	*Q32 | *Q31	absCommitResource		No change	N/A

https://www.cdc.gov/nhsn/xls/mapping-ps-annual-survey-question.xlsx

New Priority Core Elements



Leadership and Accountability

- Hospital Leadership Commitment
  - Stewardship Leads have stewardship responsibilities listed in their job description, performance review, or contract.

- Accountability
  - Program is co-led by a physician and a pharmacist

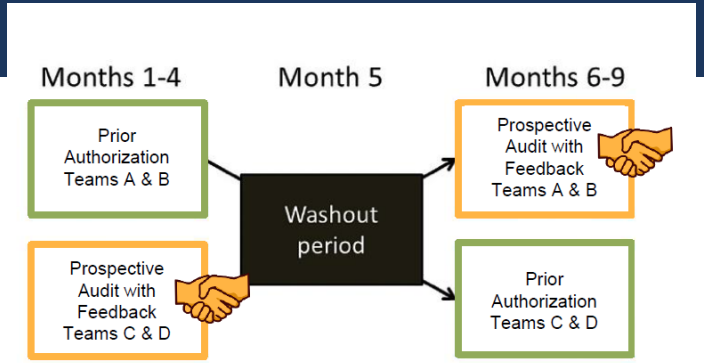
Stewardship/Pharmacy Expertise

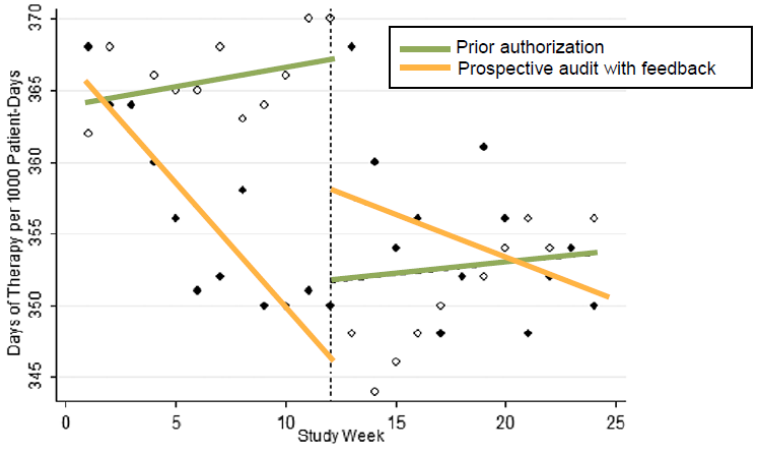
- Stewardship Leads have completed infectious diseases specialty training, a certificate program, or other training on antibiotic stewardship

https://sidp.org/Stewardship-Certificate
https://mad-id.org/antimicrobial-stewardship-programs/

Action

- Facility has:
  - Facility-specific treatment guidelines AND
  - Performs ONE of the following evidence-proven interventions:
    - Prospective Audit and Feedback
    - Preauthorization

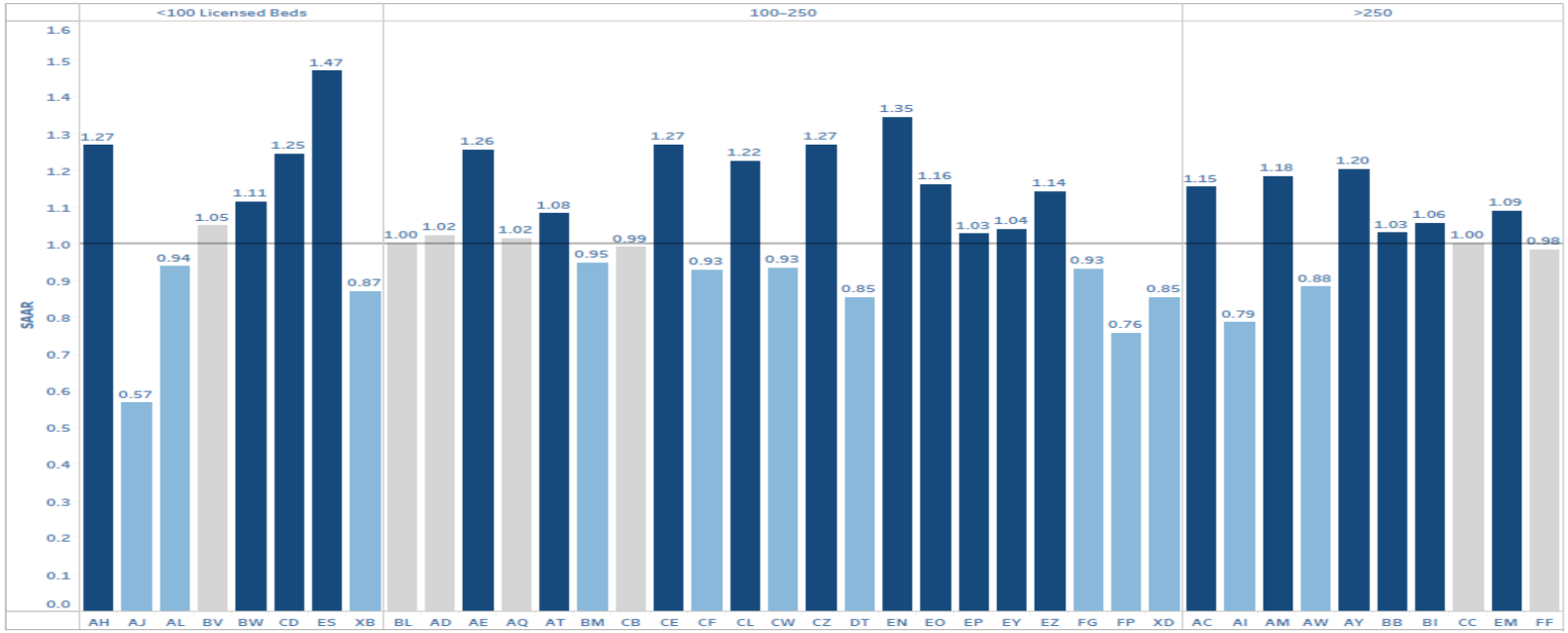




Tamma, et al. *Clin Inf Dis* 2017; 64(5): 537-43.

Tracking

- Submits antibiotic use data into the NHSN AU Option
- TN SAAR Report – Q4 2022: All Antibacterial Agents



Reporting

- Facility monitors adherence to treatment guidelines/recommendations AND
- Provides at least annual target feedback to prescribers

Education

- No current priority activities

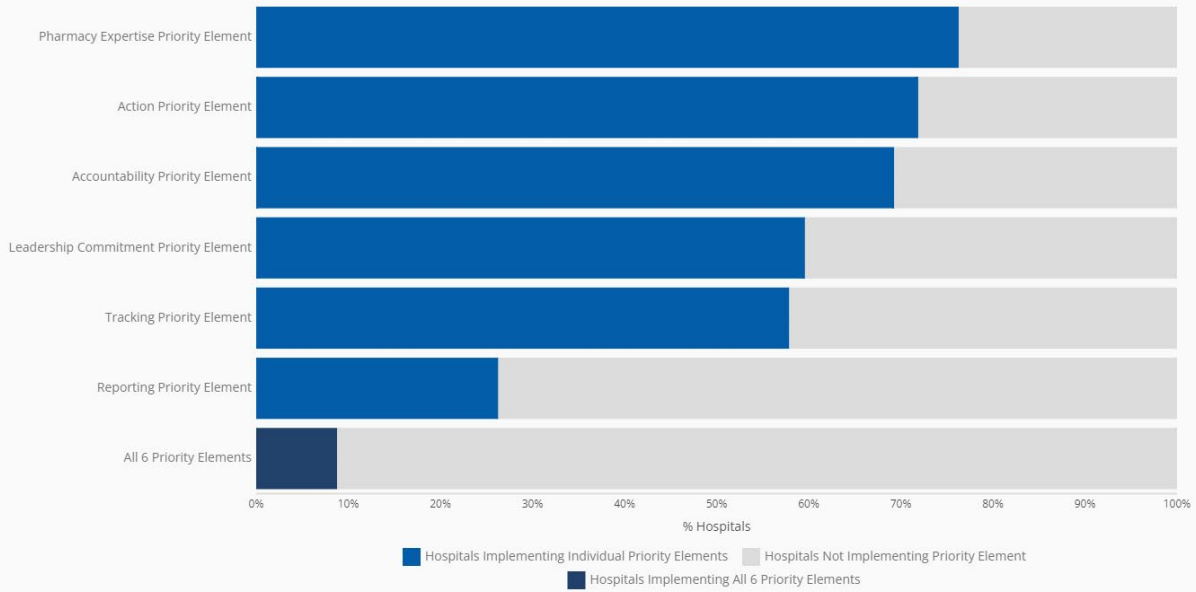
So how are we doing?

HOSPITAL ANTIBIOTIC STEWARDSHIP (AS) IMPLEMENTATION BY CORE ELEMENT

Core element reporting | Priority element reporting

STATE ALL STATES

The graphic shows the percent of Tennessee acute care hospitals that report implementation of Priority Elements of hospital antibiotic stewardship programs in 2021. Visit the Tennessee Profile to learn more about Antibiotic Stewardship reporting by geography.



Stewardship Risk Score

- Attempt to QUANTIFY Stewardship Activities
  - Similar to other state's Honor Roll for Stewardship
- Assigns Stewardship Score to each Program
- Compare to CDI, MRSA Rates available in NHSN
- Collaboration with Virginia and Colorado

- Call for Volunteers
  - Help with determining grade of each activity

Project Firstline

Next Steps

- **Next Call**
  - **April 18 at 2pm Eastern/1pm Central Time**
    - **THIRD Tuesday**

- **Feedback always appreciated**
  - **Christopher.evans@tn.gov**