



Department of
Health

TDH Bi-Monthly Antibiotic Steward Call

April 9, 2024



Welcome

Introduce Yourself!



- **Please use the Teams Chat!**
- **Mute unless you're speaking**
 - But feel free to unmute and share!



Announcements

NHSN Annual Trainings



- **Held on March 18 – 22, 2024**
- **Relevant AUR Presentations:**
 - **Updates on Hospital Antibiotic Stewardship**
 - **AUR Module Reporting for CMS Promoting Interoperability**
 - **Common AUR Module Data Import Issues**
 - **AUR Module Data Quality Validation**
 - **AR Option SRIR and pSIR**
- **Training slides and videos available here:**
 - **<https://www.cdc.gov/nhsn/training/annualtraining/2023-nhsn-training.html>**

Middle TN AS Symposium



[View this information as a PDF](#)

Registration & Call for Posters

8th Annual Middle Tennessee Antimicrobial Stewardship Symposium

Jointly Provided by Tennessee Medical Association and
Belmont University College of Pharmacy & Health Sciences

Friday, May 17, 2024

8:00am-4:00pm (CDT)

Belmont University, Nashville, TN

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

Up to 5.25 contact hours of Live CE Available

for nurses, pharmacists, and physicians

from ACCME & ACPE for these Knowledge-based CE Activities

*Nurses can earn up to 5.25 pharmacotherapeutic contact hours

Deadline to Register: May 5, 2024 (11:59pm CDT)

Registration is limited to the first 175 registrants

\$100 - General Registration

\$75 - Belmont Faculty/Preceptors/Alumni

\$50 - Students, Residents, Fellows (No CE Credit Awarded)

- **Registration Link:**
<https://form.jotform.com/73125128908154>

Other Upcoming Dates and Deadlines

- **SHEA Spring Conference – April 16–19, Houston, TX**
- **MAD-ID – May 8–11, Orlando, FL**
- **IDWeek Abstract Deadline May 7 at 11:59pm EST**
 - <https://idweek.org/call-for-abstracts/>
- **NHSN AU Data for SAAR and AU Quality Report – May 15**
 - Reports will go out by end of May
- **Drug Diversion Tabletops (See later slides)**



NHSN AU Reporting Progress

NHSN AU Reporting Outreach

- **Outreach has been performed to any facility currently not reporting or not sharing data with TDH.**
- **Please reach out to HAI.Health@tn.gov if you would like assistance**
- **Non-Reporters will be listed as non-compliant in future compliance reports and the TDH HAI State Report/HAI dashboard**
 - **September-ish**

Small and Critical Access Hospital Project

- **\$106,000 of SHARP funds awarded to small and critical access hospitals for the purpose of AU reporting**
 - Up to \$13,250 awarded per facility
- **Eight hospitals currently enrolled**
- **Seven are currently reporting now**
- **Application to extend through 2026 and expand to seven more facilities submitted**
 - (Really close!)



Drug Diversion Tabletops

The logo for the Tennessee Department of Health, featuring the letters 'TN' in white on a red square background.

TN

Department of
Health

INJECTABLE DRUG DIVERSION WORKSHOP

The purpose of this event is to provide education and awareness to the risks associated with BBP transmission through tabletop exercise and lecture formats.

✓ Free Program

✓ Lunch provided

✓ Continuing Education pending



Middle TN Workshop:
TN State Library & Archives
Thursday June 20th, 2024
9:00 AM - 3:00 PM

East TN Workshop:
Knox County Health Dept
Monday July 22nd, 2024
9:00 AM - 3:00 PM



**Diagnostic
Stewardship**



Say I do!

The Marriage of Antibiotic and Diagnostic Stewardship

Outline

- **Diagnostic stewardship basics**
- **Diagnostic stewardship interventions**
 - Pre-analytic
 - Analytic
 - Post-analytic
- **What now?**

Diagnostic & Antimicrobial Stewardship

- **Diagnostic stewardship is critical for antimicrobial stewardship**
 - **Diagnostic testing is the key driver of antimicrobial prescribing**
 - **Antimicrobial stewardship aims to improve the use of antimicrobial agents and reduce antimicrobial resistance**
 - **Diagnostic stewardship can assist this aim by focusing on diagnostic testing practices**

What is Diagnostic Stewardship?

- **Coordinated guidance**
- **Improves the use of diagnostic testing to guide therapeutic decisions**
- **Promotes appropriate and timely diagnostic testing**

- **Today's focus**
 - **Infectious Disease Testing**

Goals of Diagnostic Stewardship

- **Most important**
 - Improve patient care and outcomes
 - Avoid patient harm
 - Optimize antimicrobial use
 - Reduce antimicrobial resistance
- **Less important**
 - Improve efficiency of care
 - Improve institutional costs and metrics

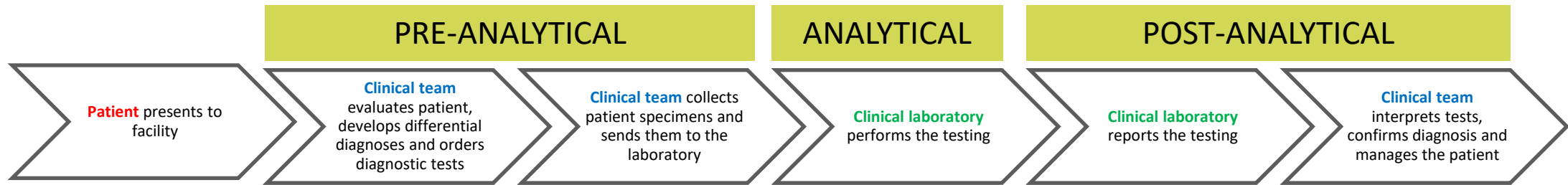
Teamwork Makes the Dream Work

- **An interdisciplinary team is necessary for diagnostic stewardship to work**
- **Key leaders**
 - **Clinical microbiologist**
 - **Laboratory / pathology**
 - **Infectious diseases**
 - **Infectious diseases pharmacist**
 - **Infection prevention**
 - **Quality improvement personnel**
 - **Include others as needed:**
 - **IT**
 - **Clinical staff**
 - **Educators**
 - **Hospital administration**
- **Diagnostic stewardship should be integrated with antimicrobial stewardship**

Diagnostic Pathway

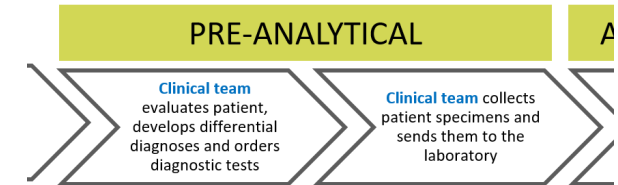


Diagnostic Pathway



Pre-Analytical Interventions

- **Focus on**
 - **Optimizing test utilization**
 - **Improve clinical decision making**
 - Appropriateness of the test
 - Pre-test probability
 - **Specimen collection and transport**



Pre-Analytical Interventions

- **Improve clinical decision-making**
 - Educate on test principles and result interpretation
 - Testing algorithms
 - Order alerts
 - Bundle order sets
 - Removal or restriction of tests from routine use
 - Hard stops of orders

Pre-Analytical Intervention: Education

- **Problem:**
 - Overuse of influenza testing
- **Solution:**
 - Education of clinical teams with a focus on the ED
 - “Influenza ED Roadshow”

Pre-Analytical Intervention

- **Steps**

- **Evaluated quantity of tests, time of year when tests were ordered, who was ordering the tests, and total cost of tests**

- **Provided education**

- **Provided weekly respiratory reports to guide clinical decision-making**

- **Included positivity rate and usage per facility**

- **Continued monitoring and education**

- **Provided periodic reports to medical directors with providers who continued to overuse test**

2017			2018 Year to Date		
Hospital	Quantity of Tests	Total Transaction Amount	Hospital	Quantity of Tests	Total Transaction Amount
	5,149	\$777,499.00		5,088	\$768,288.00
	4,491	\$687,123.00		3,620	\$553,860.00
	4,225	\$637,975.00		3,156	\$482,868.00
	3,519	\$538,407.00		2,767	\$417,817.00
	1,643	\$248,093.00		1,305	\$197,055.00
	582	\$87,882.00		400	\$60,400.00
TOTALS	19,609	\$2,976,979.00	TOTALS	16,336	\$2,480,288.00

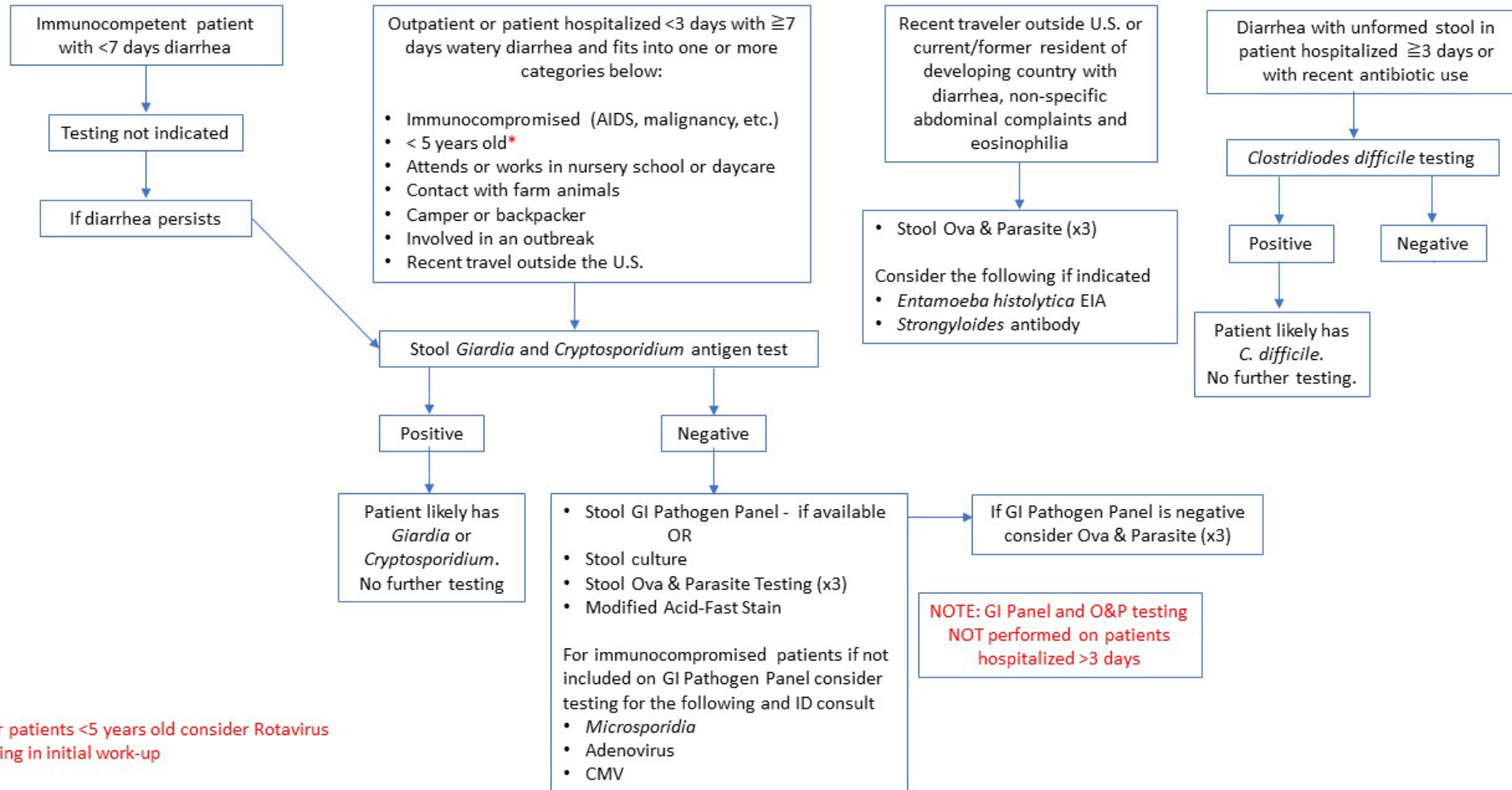
*\$151/test

When Influenza is Circulating

- The positive predictive value is high
 - The chance that a positive result indicates that the patient has influenza is high
 - A positive result of an antigen detection test likely means that the patient has or has recently had influenza virus infection
 - But does not always mean that the patient is still infectious.
 - Only isolation of influenza virus by viral culture can identify whether infectious influenza virus is present.
- Negative predictive is low
 - The chance that a negative result indicates that the patient does not have influenza is low (high false-negatives)

Pre-Analytical Intervention: Algorithms

Infectious Diarrhea Testing Algorithm



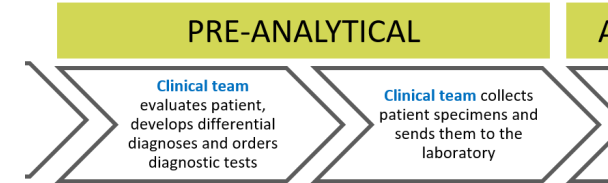
*For patients <5 years old consider Rotavirus testing in initial work-up

Other Pre-Analytical Interventions

- **Order alerts**
 - Example: “Urine culture not indicated for asymptomatic patients.”
- **Bundle order sets**
 - Example: VAP (Albin, 2024)
- **Removal or restriction of tests from routine use**
 - Example: 16S PCR, NGS, or Karius, ID restricted and required a microbiology consult
- **Hard stops of orders**
 - Example: Patients with laxatives and *C. difficile* testing

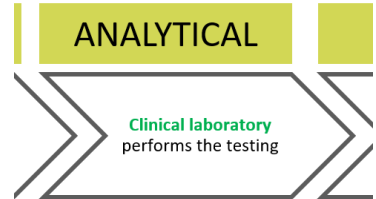
Pre-Analytical Interventions

- Focus on
 - Optimizing test utilization
 - Improve clinical decision making
 - Appropriateness of the test
 - Pre-test probability
 - **Specimen collection and transport**



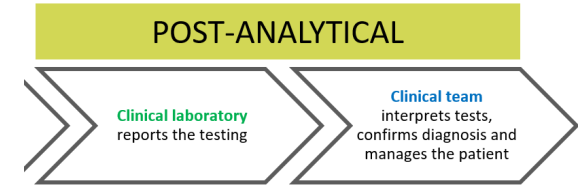
Analytical Interventions

- **Focus on test execution and performance**
 - **Reflex testing**
 - Example: UA to UC
 - **Timely and accurate results**
 - Example: implementation of rapid diagnostics
 - **Selective testing**
 - **Examples:**
 - Reporting contaminated urines without including organism ID or AST
 - Not performing AST on all organisms isolated: wound with > 3 organisms only provided ID and AST for select organisms



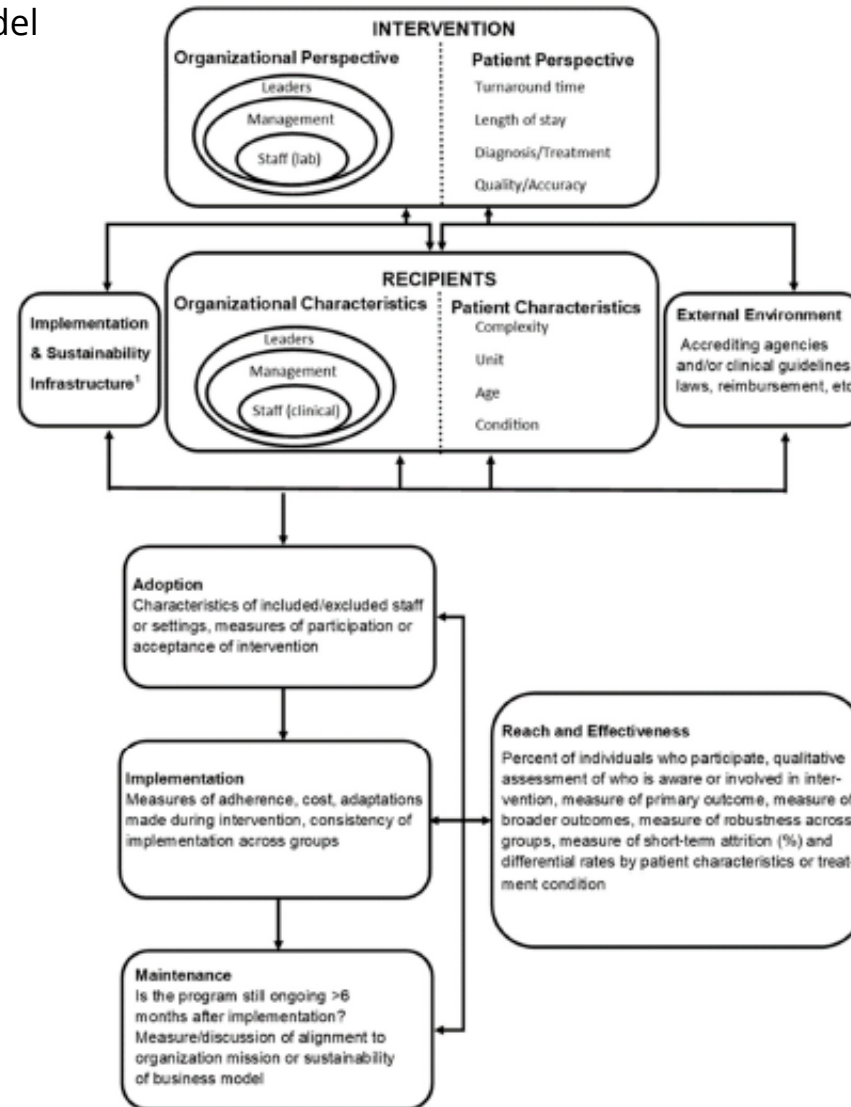
Post-Analytic Interventions

- **Focus on communication and clinical follow-up**
 - **Cascade reporting of antimicrobials**
 - **Example: selective release of carbapenems**
 - **Reporting comments and “nudges”**
 - **Examples:**
 - **> 3 organisms from wounds may indicate colonization vs. infection**
 - **Addition of “No MRSA/No *Pseudomonas* recovered” from sputum cultures (Musgrove, 2018)**
 - **Involvement of ID, Pharmacy and IP**
 - **Rapid blood culture diagnostics**



Implementation: PRISM

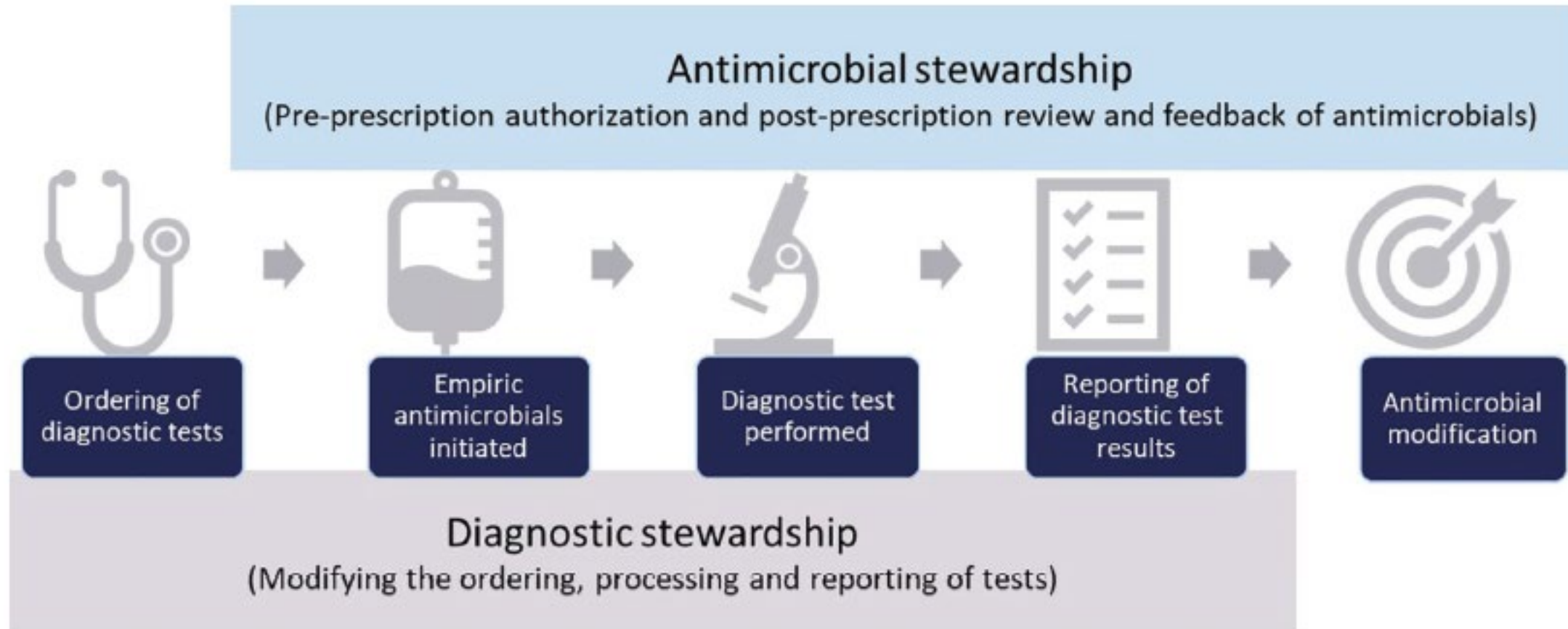
Practical, Robust, Implementation and Sustainability Model



Hueth, K. D., Prinzi, A. M., & Timbrook, T. T. (2022). Diagnostic Stewardship as a Team Sport: Interdisciplinary Perspectives on Improved Implementation of Interventions and Effect Measurement. *Antibiotics (Basel, Switzerland)*, 11(2), 250. <https://doi.org/10.3390/antibiotics11020250>.



Say “I do”



Summary

- **Diagnostic stewardship**
 - Right test
 - Right patient
 - Right time

References

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Questions?

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Next Steps

- **Next Call**
 - **June 11 at 2pm Eastern/1pm Central Time**
 - **Topic: Targeted Assessment for Antimicrobial Stewardship**
 - **Topic: NHSN AR Option Updates**

- **Feedback always appreciated**
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