

Infection Preventionist Role in Antimicrobial Stewardship

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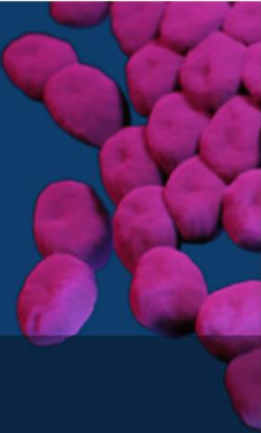
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Call to Action:

The Threat of Antibiotic Resistance in the United States

Antibiotic resistance—when germs (bacteria, fungi) develop the ability to defeat the antibiotics designed to kill them—is one of the greatest global health challenges of modern time.



New National Estimate*

Each year, antibiotic-resistant bacteria and fungi cause at least an estimated:



*Clostridioides difficile*** is related to antibiotic use and antibiotic resistance:



2,868,700
infections



223,900
cases



35,900 deaths



12,800 deaths

[Antibiotic Resistance Threats in the United States, 2019 \(cdc.gov\)](https://www.cdc.gov/antibiotic-use/)

CDC strategies that work in healthcare:



Preventing device- and procedure-related infections, such as from urinary catheters or central lines



Stopping the spread of resistant germs within and between healthcare facilities



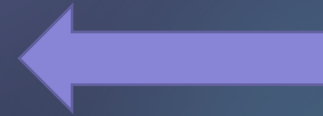
Containing emerging threats through early detection and aggressive response



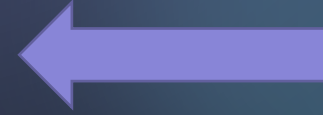
Tracking and improving appropriate antibiotic use



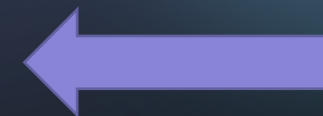
Infection prevention and control in non-hospital settings, such as long-term care facilities



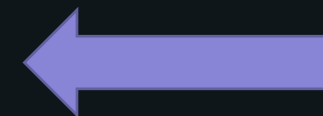
Infection Prevention



Infection Prevention



Infection Prevention



Infection Prevention

[Antibiotic Resistance Threats in the United States, 2019 \(cdc.gov\)](https://www.cdc.gov/antibiotic-resistance/threats-in-the-us-2019/)

Antimicrobial Stewardship Infrastructure

- Pharmacists
- Infectious disease physicians
- Laboratorians
- Quality Improvement Specialists
- Analysts/Epidemiologists
- Program Managers





Infection Prevention Infrastructure

- Infection Preventionists
- Infectious disease physicians
- Laboratorians
- Quality Improvement Specialists
- Analysts/Epidemiologists
- Program Managers



Antimicrobial Stewardship
CURRICULUM

CORE CONCEPTS



STOP THE SPREAD

Infection prevention and control to stop the spread of antibiotic resistant organisms is an essential part of effective antimicrobial stewardship.



STEWARDSHIP IS A TEAM SPORT

Stewards work together with pharmacy, microbiology, infection prevention, information technology, executives, front-line clinicians, and others to optimize antibiotic use. The development and refinement of local guidelines and care pathways can be considered part of the teamwork that stewards do.



ESSENTIAL ROLE OF MICROBIOLOGY

A hallmark of antimicrobial stewardship is helping clinicians obtain an accurate diagnosis.



USE IT AND LOSE IT

Resistance is predictable and antibiotic overuse is directly linked to the development of antibiotic resistance.



USE WHAT YOU NEED, AND NOTHING MORE

Antibiotic stewardship means optimizing antibiotics. Use the right drug for the right patient for the right indication at the right dose for the right duration.

Clinical Infectious Diseases

VIEWPOINTS



The Impact of Antibiotic Stewardship Program Resources on Infection Prevention Programs

Susan C. Bleasdale,^{1,9} Marsha Barnden,² and Sue Barnes³

¹University of Illinois, College of Medicine, ²Adventist Health, Roseville, California and ³Independent Clinical Consultant, San Mateo, California

Doernberg and colleagues describe the role and resourcing of the infectious disease (ID) physician for an effective hospital-based antibiotic stewardship program (ASP). There are similar resource requirements for the ID physician leader in an effective infection prevention (IP) program. This ID physician partnership is supported by professional organizations and predates the imperative of ID physician leadership in ASP. There are regulatory requirements for established IP programs, but they do not specify leadership structure to the same degree as ASP regulations. The Centers for Medicare and Medicaid and The Joint Commission have specified the inclusion of an ID-trained physician leader in ASP, and this has led to the development of curriculum to train more ASP physicians. More robust advocacy may ensure a similar regulatory mandate supporting the participation of ID-trained physicians in IP programs. This may encourage the development of a curriculum to meet the workforce.

Keywords. infection prevention; resources; antimicrobial stewardship; infection prevention curriculum; infectious disease workforce.



Antimicrobial Stewardship Core Elements

Core Elements of Hospital Antibiotic Stewardship Programs



Hospital Leadership Commitment

Dedicate necessary human, financial, and information technology resources.



Accountability

Appoint a leader or co-leaders, such as a physician and pharmacist, responsible for program management and outcomes.



Pharmacy Expertise (previously “Drug Expertise”):

Appoint a pharmacist, ideally as the co-leader of the stewardship program, to help lead implementation efforts to improve antibiotic use.



Action

Implement interventions, such as prospective audit and feedback or preauthorization, to improve antibiotic use.



Tracking

Monitor antibiotic prescribing, impact of interventions, and other important outcomes, like *C. difficile* infections and resistance patterns.



Reporting

Regularly report information on antibiotic use and resistance to prescribers, pharmacists, nurses, and hospital leadership.



Education

Educate prescribers, pharmacists, nurses, and patients about adverse reactions from antibiotics, antibiotic resistance, and optimal prescribing.

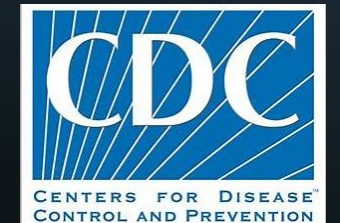
Infection Preventionist Core Elements

Mission

- To promote a safe and healthy environment through the prevention of healthcare-associated infections in patients and the transmission of infectious diseases among patients, personnel, and visitors, and to contribute to infection prevention research to guide evidence-based practices

Strategies

- Develop, update, and implement evidence-based **infection prevention policies** and protocols to ensure the safety of staff, patients, and visitors
- Monitor and **disseminate infection-related data**
- Promote continuous quality improvement by leveraging **multidisciplinary workgroups** to develop, implement, and share strategies to prevent HAIs
- Provide **education** to empower the HCP workforce and patients to prevent HAIs and protect themselves from communicable disease
- Conduct routine **infection prevention compliance rounding**
- Conduct **communicable disease exposure and outbreak investigations**
- Provide **consultation** to external departments regarding infection risk assessment, prevention, and control strategies

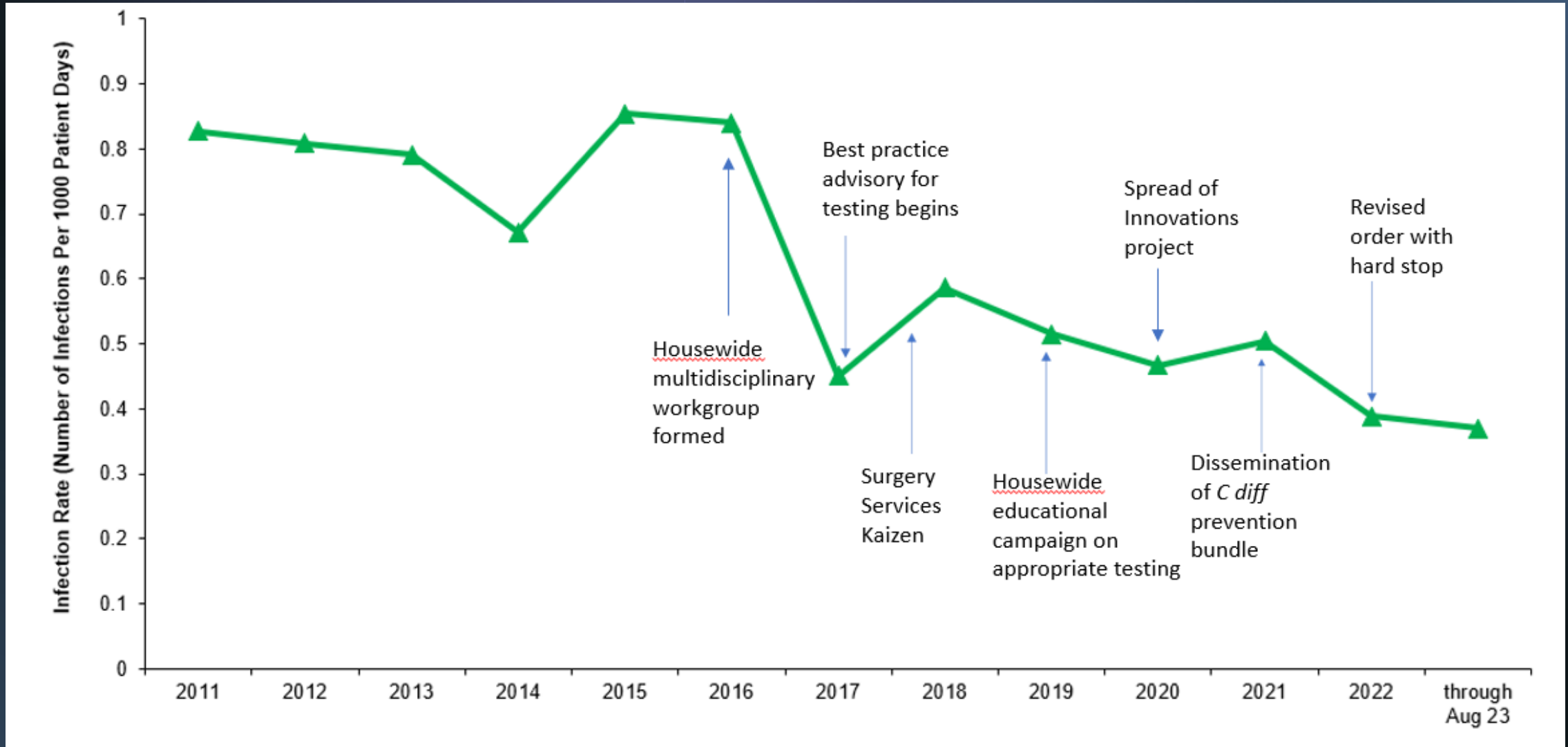


A black pushpin is pinned to a blue background with a spiderweb pattern. The pushpin is positioned on the right side of the image, with its sharp point pointing towards the bottom center. The spiderweb pattern consists of numerous thin, dark lines radiating from a central point, creating a complex, geometric design. The overall color palette is dominated by shades of blue, with the black pushpin providing a strong contrast.

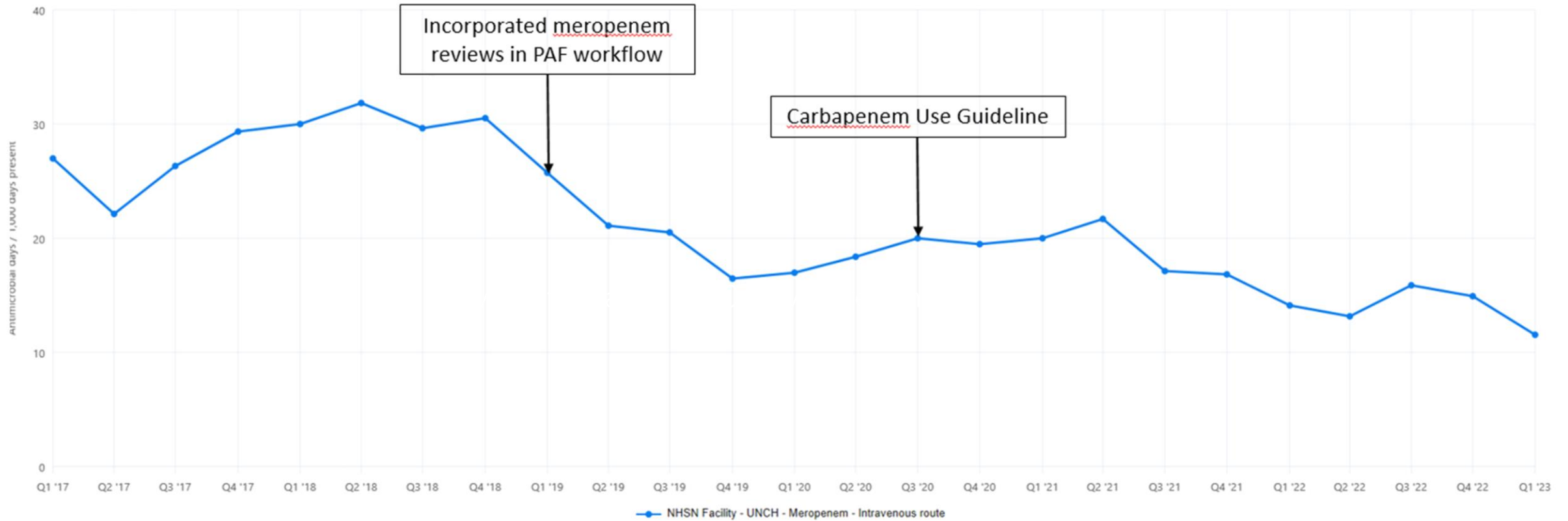
Tracking and Reporting

- SURVEILLANCE FOR HEALTHCARE-ASSOCIATED INFECTIONS
- TREND ANALYSES OF ANTIMICROBIAL USE

Hospital-associated *C.difficile* infection rates



Meropenem Use 2017-2023





Education



Shorter. Safer. Better.

Thank you for pledging to use the shortest effective durations of antimicrobial therapy with your patients.

Scan the QR code to view best practices.

Reported Use of Shorter Antimicrobial Durations at Time of Pledge and 90-days Post-Campaign

★ TAKE THE SHORTER. SAFER. BETTER. PLEDGE

CASP team members and allies have signed on to the Shorter. Safer. Better. pledge to demonstrate their personal commitment to know, use, and share the shortest effective antimicrobial durations in their practice. Please consider joining us.



"I pledge to preserve antibiotics and do what is best for my patients by incorporating the shortest appropriate duration of antimicrobials into my practice. I will further action this commitment by..." [\[read more & take the pledge. UNC login required.\]](#)

Take the Pledge

[Print and share](#) the Shorter. Safer. Better. flyer.

See a [list](#) of those who have taken the pledge.

Examples of Shorter. Safer. Better. In Action

Acute Bronchitis

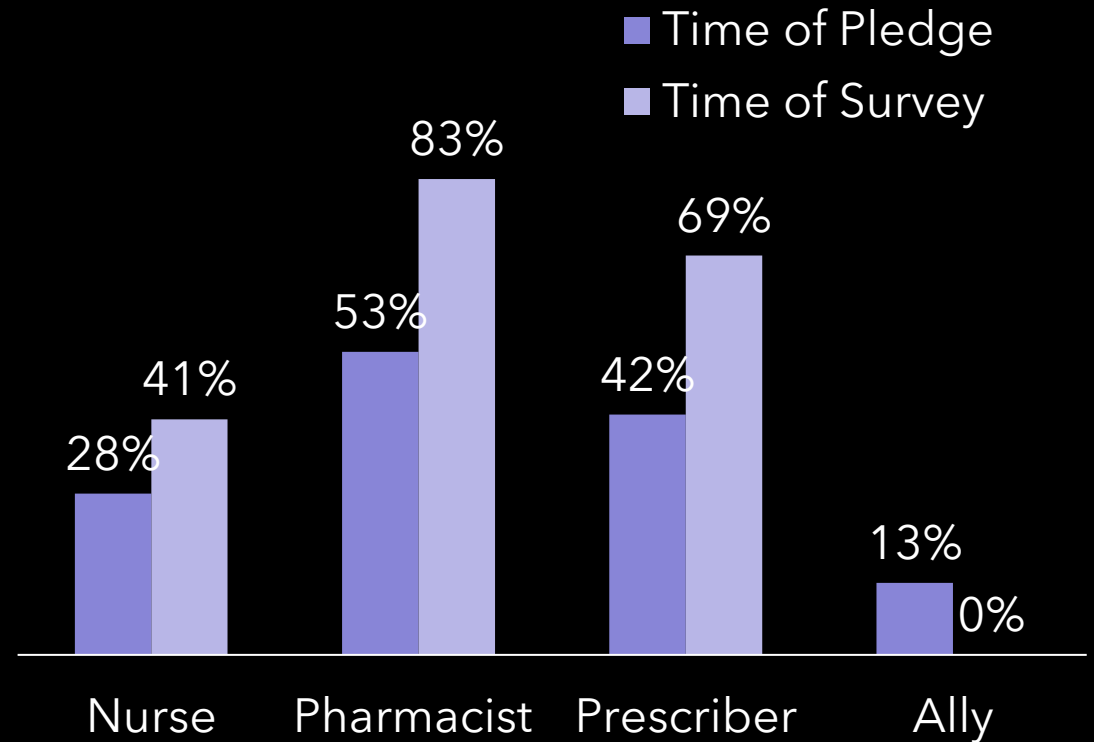
Situation: A 35-year-old patient with acute bronchitis presents to an outpatient clinic

Urinary Tract Infection

Situation: A four-year-old female patient is admitted for pyelonephritis. Urine culture is obtained and appropriate

Community-Acquired Pneumonia

Situation: A 65-year-old patient presents to the Emergency Department with





Action

- TIME-OUTS AND HANDSHAKE STEWARDSHIP
- DEVICE STEWARDSHIP ROUNDS AND REAL-TIME AUDIT AND FEEDBACK

Antibiotic Time Outs

Created By: Michael Swartwood, BSN, RN, CAPM

Percent of Eligible Patients With a Time Out

Goal: 80%

	MDA	FAM MED	HBC	PMA+PMB	PICU	BICU
022	100%	88%	100%	50%	100%	
122	100%	100%	100%	100%	100%	
222	100%	100%	0%	100%	100%	
322	50%	90%	0%	100%	100%	
422	100%	92%		100%	100%	
522	67%	89%		100%		

Current Services (Month of Adoption):
MDA (11/18) HBD (2/19), HBC (2/19), Family Medicine Blue (4/19), Family Medicine Green (4/19), PMB (11/19), PMA (1/20), PICU (6/20), Family Medicine Teal (7/21), BICU (8/21)

9,311
Total Patients Evaluated

3,714
Total Time Outs Conducted

942
Total Time Outs With Recommendations for Change

Percent of Time Outs Within Time Limits

Goal: 80%

	MDA	FAM MED	HBC	PMA + PMB	PICU
July 16, 2022	100%	88%	100%	100%	100%
July 9, 2022	80%	100%	50%	100%	100%
July 2, 2022	100%	100%		50%	100%
June 25, 2022	100%	90%		90%	80%
June 18, 2022	80%	92%		100%	70%
June 11, 2022	100%	89%		60%	

Percent of Eligible Patients With a Time Out

Goal: 80%

86.40%
95.18%
88.63%
96.72%
99.58%
92.11%
85.71%
80.59%

Percent of Eligible Patients with a Time Out

Goal: 80%



Time Outs Completed Within Time Limits

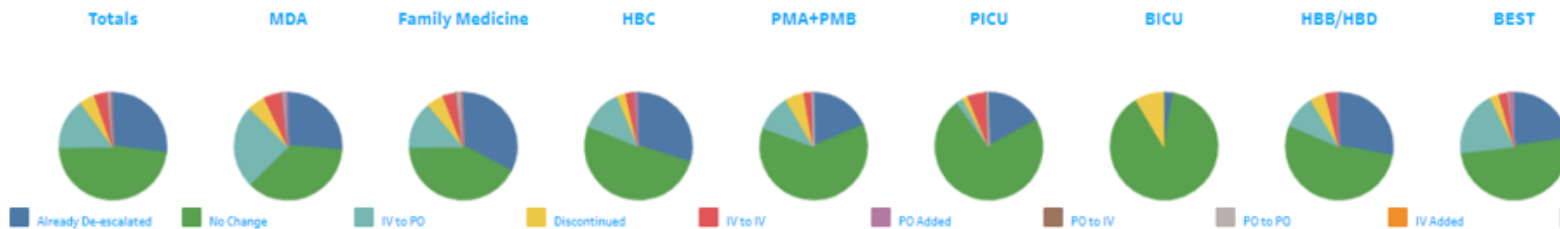
Goal: 80%



Day of Week Ending

February 10, 2021 July 16, 2022

Antibiotic Time Out Decisions



5. Remove nonessential catheters (Quality of Evidence: MODERATE)

- Assess the need for continued intravascular access on a daily basis during multidisciplinary rounds. Remove catheters not required for patient care. Decreasing CVC utilization reduces CRBSI risk.¹⁵⁹ However, reducing CVC utilization may result in increased use of other intravascular catheters with corresponding infection risk.
- Audits to determine whether CVCs are routinely removed after their intended use may be helpful.^{160,161} Both simple and multifaceted interventions are effective at reducing unnecessary CVC use.^{162,163}

Infection Control & Hospital Epidemiology (2022), 43, 553-569
doi:10.1017/ice.2022.87



SHEA/IDSA/APIC Practice Recommendation

Strategies to prevent central line-associated bloodstream infections in acute-care hospitals: 2022 Update

Niccolò Buetti MD, MSc, PhD^{1,2,a}, Jonas Marshall MD, MSc^{3,4,a}, Marci Drees MD, MS^{5,6}, Mohamad G. Fakih MD, MPH⁷, Lynn Hadaway MEd, RN, NPD-BC, CRNI⁸, Lisa L. Maragakis MD, MPH⁹, Elizabeth Monsees PhD, MBA, RN, CIC^{10,11}, Shannon Novosad MD MPH¹², Naomi P. O'Grady MD¹³, Mark E. Rupp MD¹⁴, Joshua Wolf MBBS, PhD, FRACP^{15,16}, Deborah Yokoe MD, MPH¹⁷ and Leonard A. Mermel DO, ScM^{18,19}



Diagnostic Stewardship

Box 1. Reasons to Focus Diagnostic Stewardship on Blood, Urine, and Respiratory cultures, and *Clostridioides difficile* Testing

Blood cultures

- One of the most commonly ordered microbiologic tests in hospitalized patients with low positivity and high risk of false-positive results (up to half of all positive blood cultures represent contaminants)
- A significant number of blood cultures are collected as single blood cultures and/or with inappropriate blood volume.
- Inappropriate testing may overestimate central-line-associated blood-stream infections (CLABSIs).

Urine cultures

- One of the most common drivers of inappropriate antimicrobial use in hospitalized patients
- Common clinical false-positive results (positive tests due to colonization without UTI)
- Inappropriate testing may overestimate catheter-associated urinary tract infections (CAUTIs).

Respiratory cultures

- High risk of positive results representing colonization, especially among patients with comorbidities, in the intensive care unit, or with tracheostomy
- Common driver of inappropriate antibiotic use in hospitalized patients

C. difficile testing

- Inappropriate testing may detect colonization and expose patients to unnecessary antibiotics.
- Inappropriate testing may overestimate nosocomial *C. difficile* cases.

Infection Control & Hospital Epidemiology (2023), 44, 178–185
doi:10.1017/ice.2023.5



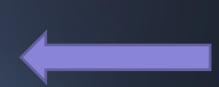
SHEA Position Paper

Principles of diagnostic stewardship: A practical guide from the Society for Healthcare Epidemiology of America Diagnostic Stewardship Task Force

Valeria Fabre MD¹, Angelina Davis PharmD², Daniel J. Diekema MD³, Bruno Granwehr MD⁴, Mary K. Hayden MD⁵, Christopher F. Lowe MD⁶, Christopher D. Pfeiffer MD⁷, Anna C. Sick-Samuels MD⁸, Kaede V. Sullivan MD⁹, Trevor C. Van Schooneveld MD¹⁰ and Daniel J. Morgan MD¹¹

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Inappropriate Test Use	Potential Consequences of Inappropriate Testing
Routine ordering of microbiologic tests when specimens are obtained for non-infectious indications	<i>Overdiagnosis.</i> Treatment of contaminant or colonizing organisms, Excess cost. Increased length of stay. Increased test utilization to confirm negative.
Unnecessary pre-operative urine cultures	<i>Overdiagnosis.</i> Unnecessary antibiotic prescribing
Urine and respiratory cultures for test of cure or asymptomatic patients	<i>Overdiagnosis.</i> Unnecessary antibiotic prescribing
Urine cultures for change in mental status or nonspecific symptoms	<i>Missed diagnosis.</i> Missing true reason for presenting symptom <i>Overdiagnosis.</i> Unnecessary antibiotic prescribing, additional catheter-associated urinary tract infection (CAUTI) events
<i>C. difficile</i> testing in patients on laxatives or previously positive	<i>Overdiagnosis.</i> Unnecessary antibiotic prescribing, additional <i>C. difficile</i> lab ID events
β-D-glucan to exclude mucormycosis	<i>Missed diagnosis.</i> Inadequate antimicrobial management
Recurring blood cultures in patient with known cause of fever	<i>Overdiagnosis.</i> Unnecessary antibiotics. <i>Patient comfort.</i> Unnecessary procedures. Healthcare-associated anemia
Single blood cultures in adults	<i>Missed diagnosis.</i> Inadequate antimicrobial management. <i>Overdiagnosis.</i> Treatment of contaminants.
Superficial wound swabs for culture	<i>Missed diagnosis.</i> Missing the true pathogen <i>Overdiagnosis.</i> Unnecessary antibiotic prescribing
Routine use of SARS-CoV-2 PCR to determine duration of isolation	<i>Overdiagnosis.</i> Unnecessary prolonged isolation



Infection Prevention



Infection Prevention



Infection Prevention



Infection Prevention



Infection Prevention

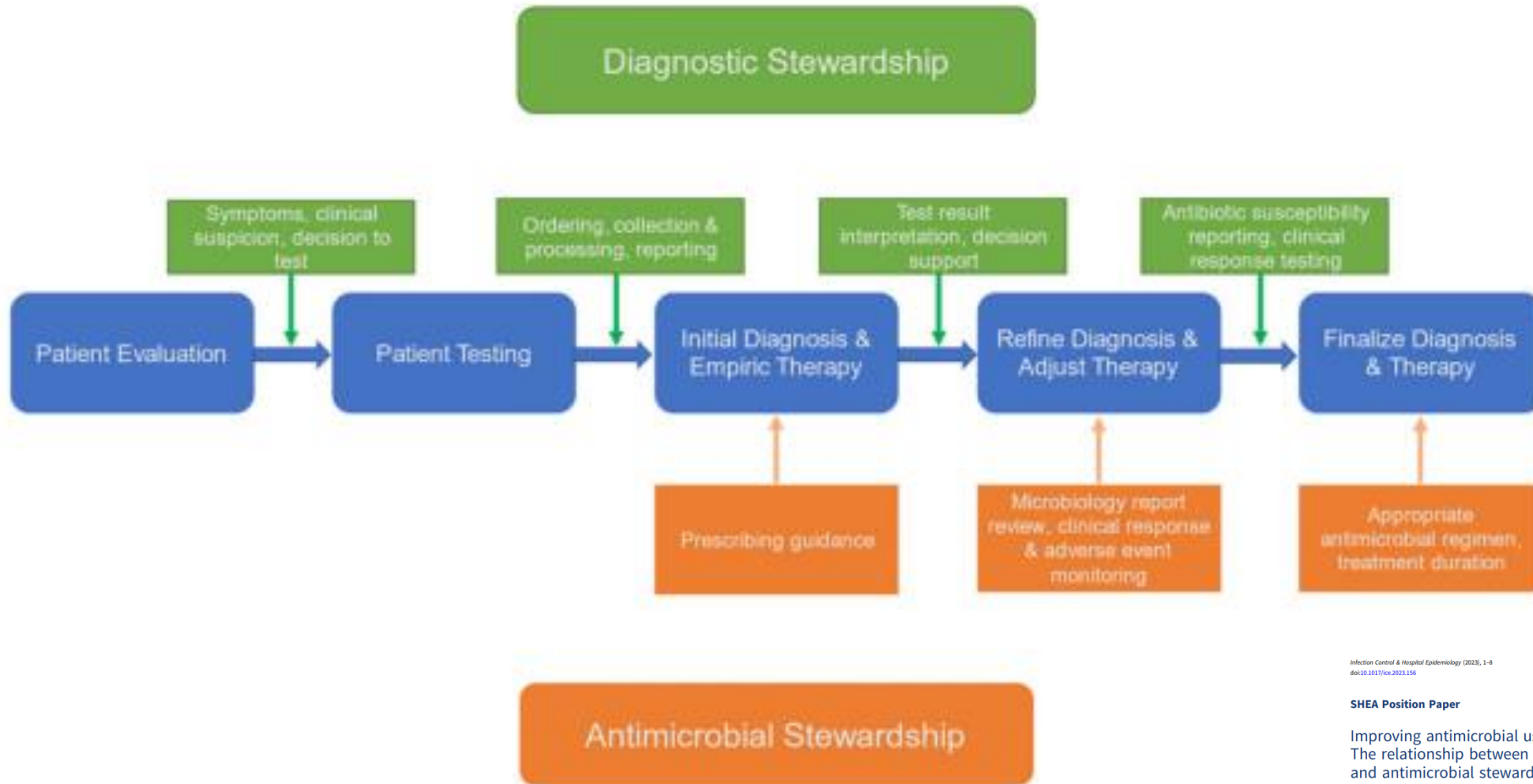


Figure 1. Relationship between diagnostic stewardship (green) and antimicrobial stewardship (orange) on patient diagnosis and treatment.

Infection Control & Hospital Epidemiology (2023), 1-8
doi:10.1017/ice.2023.156



SHEA Position Paper

**Improving antimicrobial use through better diagnosis:
The relationship between diagnostic stewardship
and antimicrobial stewardship**

Tsun Sheng N. Ku MD^{1,2}, Mayar Al Mohajer MD^{3,4,5}, James A. Newton MD⁶, Marie H. Wilson MSN, RN, CIC⁷, Elizabeth Monsees PhD, MBA, RN, CIC^{8,9}, Mary K. Hayden MD¹⁰, Kevin Messacar MD, PhD¹¹, Jamie J. Kisgen PharmD¹², Daniel J. Diekema MD^{13,14}, Daniel J. Morgan MD^{15,16}, Costi D. Sifri MD¹⁷ and Valerie M. Vaughn MD, MSc¹⁸

¹Billings Clinic, Billings, Montana, ²Rocky Vista University Montana College of Osteopathic Medicine, Billings, Montana, ³Section of Infectious Diseases, Department of Medicine, Baylor College of Medicine, Houston, Texas, ⁴Infectious Diseases Section, Baylor St. Luke's Medical Center, Houston, Texas, ⁵Infection Prevention, Diagnostic Stewardship and Antibiotic Stewardship, CommonSpirit Health Texas Division, Houston, Texas, ⁶Department of Antibiotic Stewardship, Washington Regional Medical Center, Fayetteville, Arkansas, ⁷Infection Prevention & Control, Fred Hutchinson Cancer Center, Seattle, Washington, ⁸Performance Excellence, Children's Mercy Hospital, Kansas City, Missouri, ⁹University of Missouri School of Medicine, Kansas City, Missouri, ¹⁰Division of Infectious Diseases, Department of Internal Medicine, Rush University Medical Center, Chicago, Illinois, ¹¹Department of Pediatrics, Section of Infectious Diseases, University of Colorado/Children's Hospital Colorado, Aurora, Colorado, ¹²Sarasota Memorial Health Care System, Sarasota, Florida, ¹³Division of Infectious Diseases, Department of Internal Medicine, University of Iowa Carver College of Medicine, Iowa City, Iowa, ¹⁴Maine Medical Center, Portland, Maine, ¹⁵Department of Epidemiology and Public Health, University of Maryland School of Medicine, Baltimore, Maryland, ¹⁶VA Maryland Healthcare System, Baltimore, Maryland, ¹⁷University of Virginia School of Medicine, Charlottesville, Virginia and ¹⁸Division of General Internal Medicine, Department of Internal Medicine, University of Utah School of Medicine, Salt Lake City, Utah



Education on how to use diagnostics judiciously


- Urinalysis
 - Pyuria has excellent negative predictive value (no pyuria=no UTI)
 - Presence of pyuria: does not signify need to treat
- Urine culture
 - Bacteriuria does not need to be treated if no urinary symptoms
- Respiratory culture
 - Send for patients with severe community-associated pneumonia/inpatients treated empirically for MRSA or Pseudomonas, ventilator-associated pneumonia
 - Positive respiratory culture
 - Decide if presence of pneumonia based on symptoms/clinical picture
- *C. difficile* testing
 - Send *C. difficile* testing only if pretest probability is moderate/high
- Wound cultures
 - Often represent colonization

Asymptomatic bacteriuria


DO I REALLY NEED TO TREAT MY PATIENT FOR A UTI?

TREATING ASYMPTOMATIC BACTERIURIA HAS NO BENEFITS AND CAUSES HARM.


IN FACT, IT LEADS TO AN INCREASE IN...




Healthcare costs




Length of stay



C. diff infections



Antibiotic resistance



Misclassification of CAUTI

MY PATIENT IS SICK AND I SUSPECT A UTI SHOULD I TEST?

UA is only helpful for predicting UTI among patients with appropriate urinary symptoms

<p>No UA Needed</p> <ul style="list-style-type: none"> • Odor • Color • Altered mental status alone • Fever or leukocytosis without urinary symptoms 	<p>Send UA</p> <ul style="list-style-type: none"> • Frequency • Burning • Pain
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WHAT IS THE BEST WAY TO TEST?

- 1** Order a UA if symptomatic
- 2** Interpret UA
- 3** Order urine culture only if UA+
- 4** Treat based on culture results


Learn more at <https://uncmedicalcenter.intranet.unchealthcare.org/dept/Epidemiology/Pages/CAUTI-Prevention-Initiative.aspx>

Adult UTI Guideline Update


4 New Algorithms




Diagnosis



Altered Mental Status



Treatment




Urine Culture Interpretation


Reserve UTI diagnostic workup for those with UTI symptoms:

- Painful urination
- New or worsening urinary frequency or urgency
- Suprapubic pain
- Flank pain or tenderness

Inappropriate urine cultures pose harm to patients




Unnecessary antibiotics




Misdiagnosis

Bladder Infection or Cystitis




UNC 1st line options:

- Nitrofurantoin
- Bactrim (SMX-TMP)


 Ciprofloxacin does NOT cover 1 in 3 *E. coli* isolates at UNCMC

Pyelonephritis



UNC 1st line empiric options:

- Ceftriaxone
- Gentamicin

 Target therapy to cultures & use shortest effective duration

Blood Culture Best Practices




BLOOD CULTURE BEST PRACTICES IN ADULTS 2023 Update | UNC Hospitals



Indications for Blood Cultures

- Suspected sepsis
- New fever in ICU patient
- Suspected endocarditis
- Fever in a neutropenic patient
- Suspected bacteremia/fungemia
- "Test of cure" >48 hours after the initiation of appropriate antimicrobial therapy is routinely recommended for patients with the following pathogens:
 - Carbapenem-resistant Enterobacteriaceae
 - *Enterococcus* species
 - *Candida* species
 - *Staphylococcus aureus* (MRSA or MSSA)
 - *Staphylococcus lugdunensis*
- For patients with other pathogens who are clinically improving, evidence is weak that a test of cure improves outcomes.

Think Twice

 Blood cultures may not be needed in conditions with low probability for bacteremia (such as post-op fever within 48 hours in clinically stable patients, isolated fever, patients with non-severe cellulitis, or non-severe pneumonia). Cultures in these cases are generally negative.

 In a neutropenic patient, routine serial blood cultures in a stable patient with persistent fevers is not evidence-based and therefore not recommended.

DO

- **Use two peripheral venipunctures** for the lowest rate of false positive cultures.
- Use strict aseptic technique.
- Always obtain at least 2 sets of blood cultures, filling each bottle to the recommended 8-10 ml for accurate results.
- Obtain blood cultures PRIOR to initiating antibiotic therapy.





DO NOT

- Obtain blood cultures via a peripheral intravenous catheter (PIV) or arterial catheter, even when the catheter is newly placed. This is associated with false positives.
- Obtain a single blood sample and then split the blood among multiple blood culture sets.
- Obtain blood cultures in an asymptomatic patient unless the cultures are being obtained as a "test of cure" for an indicated pathogen as listed above.
- Obtain blood cultures via central venous catheter if possible (higher risk for contamination). If not feasible to obtain two sets of blood cultures by separate peripheral venipunctures or if trying to salvage the line, obtain one set from the peripheral venipuncture and one from the central line.

Testing for *C. diff* when not indicated can harm your patient



Some patients are colonized with *C. diff* but do not have active infections. Testing a patient without symptoms may result in:

 Unnecessary antibiotics (and side effects)	 Avoidable isolation precautions	 Higher healthcare costs for patients (and hospitals)	 Increased lengths of stay
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When should I test my patient for *C. diff*?

- ≥ 3 liquid stools within 24 hours, without another known medical reason
- No laxatives within past 48 hours*

*If patient has unexplained fever, abdominal pain, AND leukocytosis, testing may be indicated.

Follow Epic process instructions for timing after previous tests.

Testing not recommended for patients under age 2.

C. difficile Diagnostic Stewardship

When caring for a patient with *C. diff*,

REMEMBER:



Wash hands with soap and water only



Practice Antimicrobial Stewardship



Order and follow Enteric Precautions



Clean room & equipment with bleach wipes



Ensure room cleaned with UV at discharge

Visit the *C. diff* page on the Intranet (under Infection Prevention) for more info

C. Diff Information

Laxatives

Medication	Ordered Dose/Rate, Route, Frequency	Last Action
bisacodyl (DULCOLAX) EC tablet 5 mg	5 mg, Oral, Daily PRN	Given, 5 mg at 02/24 0905
docosate sodium (COLACE) capsule 100 mg	100 mg, Oral, Daily	Given, 100 mg at 07/24 1531

C. Diff Results (Last 14 days)

No procedures found

Frequency: Once STAT Tomorrow AM Daily

At

❗ Has the patient had >=3 liquid stools in the past 24 hour period?

❗ Is the patient on treatment for C. difficile?

❗ You MUST request Infectious Diseases approval before signing this order. Did Infectious Diseases approve this order?

Specimen Type:

Specimen Source:

Add-on: No add-on specimen found

Comments: [+ Add Comments](#)

Process Instructions: "Testing for C. difficile infection is appropriate in patients >= 2 years of age with >= 3 liquid stools in a 24 hour period. Do NOT test if patient: has received laxatives in the past 48 hours*; had a negative C. difficile test in the past 7 days with no NEW symptoms*; had a positive test in the past 14 days; is still on treatment for C. difficile; has finished treatment for C. difficile, in order to demonstrate a "cure".

Phase of Care:

QUALITY IMPROVEMENT

C. difficile test ordering: "hard stop"

Frequency: Once STAT Tomorrow AM Daily

At

❗ Has the patient had >=3 liquid stools in the past 24 hour period?

❗ Is the patient on treatment for C. difficile?

You MUST request Infectious Diseases approval before signing this order. Did Infectious Diseases approve this order?

❗ Please indicate who approved this order and when:

Specimen Type:

Specimen Source:

Add-on: No add-on specimen found

⚠ You cannot sign these orders because information is missing or requires your attention:

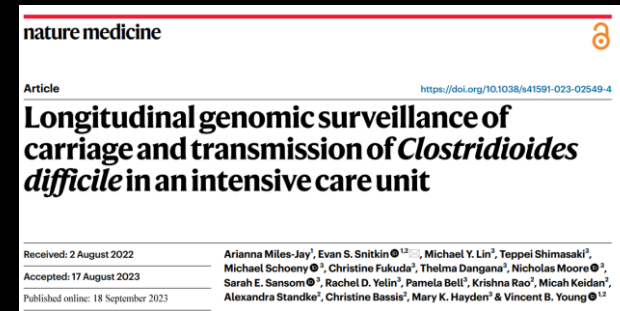
C. Diff testing is not currently indicated for this patient. If after review of the C Diff ordering guidelines, you still need to place the order, contact your designated approval point person and document the name and the date of contact in the C Diff order

QUALITY IMPROVEMENT

C. difficile test ordering: “hard stop”

- Total tests orders dropped 15.5% from 1,129 during the same period in 2021 to 954 during the study period (95%CI: 13.4-17.7%).
- Compliance with the guideline component requiring at least a 48-hour laxative-free interval prior to CDI testing **increased from 85% (95%CI: 83-87%) to 95% (95%CI: 93-96%).**
- CDI incidence rates decreased from 0.52 per 1,000 patient-days (95%CI: 0.41-0.65) to 0.41 (95%CI: 0.32-0.53), though the change was neither significant at $p=.05$ nor attributable to any one intervention.
- **No adverse patient outcomes or empiric antibiotic use.**

Outbreak Investigation/ Keeping an Open Mind



- Longitudinal, observational, single-center study, we collected 3,952 rectal swab and stool samples from 1,289 unique ICU admissions; 425 *C. difficile* isolates were whole-genome sequenced.
- The integrated genomic, microbiological and epidemiological analyses found that **only 1% (6 of 584)** of eligible patients admitted to the ICU during the study period had genomically supported **acquisition of toxigenic *C. difficile* via cross-transmission.**
- **24-times increased risk** for developing CDI during hospitalization **among patients colonized** with toxigenic *C. difficile* on admission.
- These data suggest that interventions **focused on preventing transition from colonization to overt infection** will have a greater impact on further reducing the risk of CDI in this setting than investing additional resources aimed at interrupting cross-transmission.

Collaboration Opportunities

Table 1 Opportunities for future collaboration between ASPs and IPPs

Low-hanging fruit	Moderate-hanging fruit	High-hanging fruit
Solidify plans for regular senior leadership access by ASPs in collaboration with IPPs	Refine and enhance data tracking and reporting by ASPs, including NHSN reporting	Consider enhanced models for ID physician recruitment, training and certification in Hospital Epidemiology/Infection Prevention and Antimicrobial Stewardship
Utilize infrastructure for telecommunication that was enhanced during the pandemic for future ASP-IPP collaborations	Create collaborative ASP-IPP business plans (e.g. adoption of third party software platforms, enhancing access to IT support)	Consider new combined ASP-IPP program models incorporating streamlined command and reporting structures
Utilize infrastructure that was created for data access, reporting and collaboration during the pandemic for future ASP-IPP collaborations	Collaborate on enhancing access to IT, microbiology, nursing staff Collaborate on patient and staff education	Collaborate on providing bundled ASP-IPP telehealth services to other hospitals

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Infection Prevention and Antimicrobial Stewardship Program Collaboration During the COVID-19 Pandemic: a Window of Opportunity

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Collaboration Opportunities: Low-hanging fruit

- Recognize analogies in work activities
- Prepare integrated story-telling of IP and ASP initiatives
- Present updates at each other's committee meetings
- Share semi-annual reports with respective senior leaders
- Collaborate on analytics, surveillance and reporting of outcomes and process measures
- Share information technology resources and consultants for preparing data reports
- Develop coordinated patient and staff educational materials (e.g., diagnostic stewardship)
- Provide cross-training opportunities for physician trainees and nurses



QUESTIONS?



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FOR MORE INFORMATION, VISIT

[HTTPS://WWW.MED.UNC.EDU/CASP/](https://www.med.unc.edu/casp/)

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