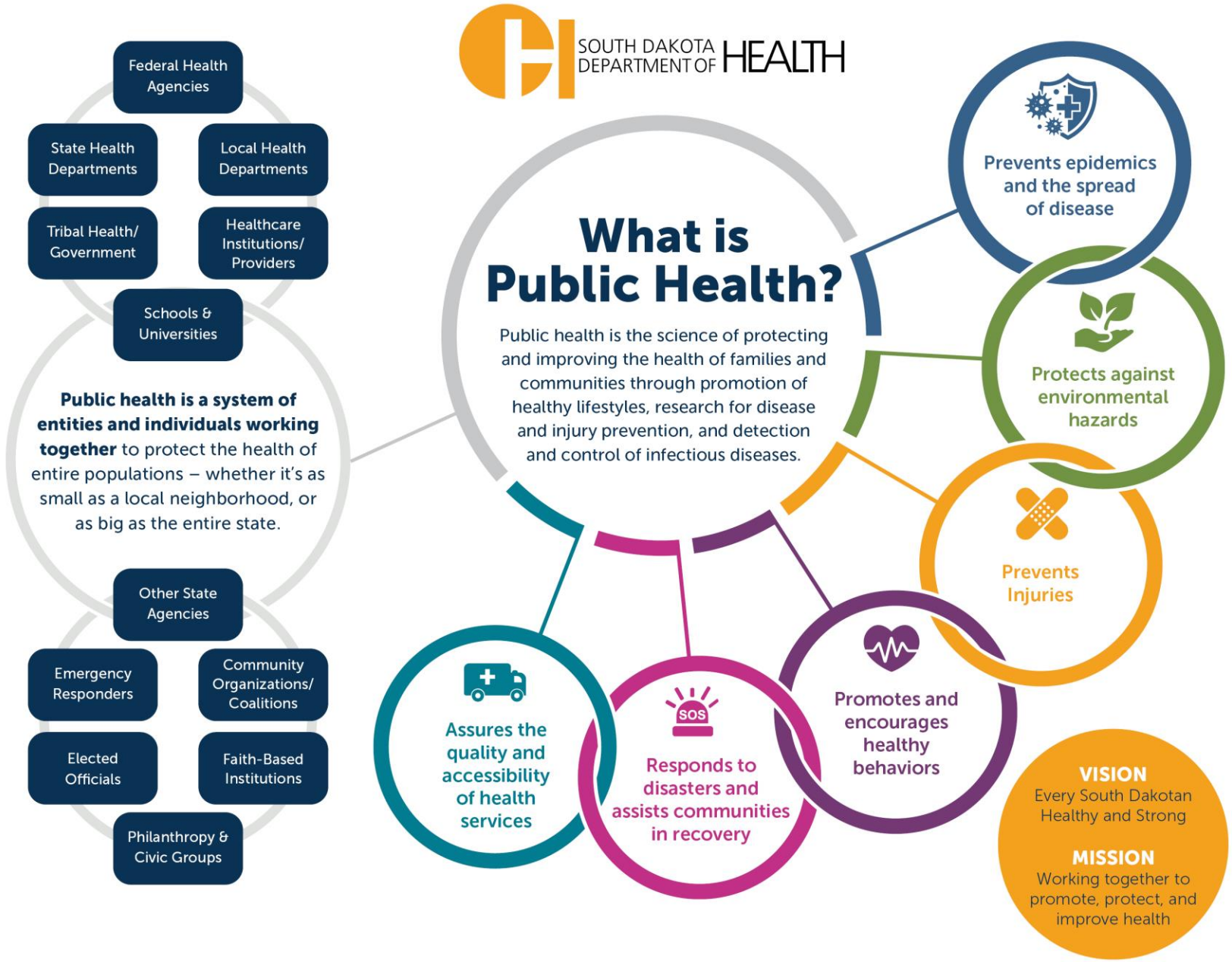
South Dakota Department of Health

CAUTI Compendium Updates

April 2025

Dr. Elizabeth Scruggs-Wodkowski MD


SOUTH DAKOTA DEPARTMENT OF HEALTH
Federal Health Agencies
State Health Departments
Local Health Departments
Tribal Health/ Government
Healthcare Institutions/ Providers
Schools & Universities
Public health is a system of entities and individuals working together to protect the health of entire populations – whether it's as small as a local neighborhood, or as big as the entire state.
Other State Agencies
Emergency Responders
Community Organizations/ Coalitions
Elected Officials
Faith-Based Institutions
Philanthropy & Civic Groups
What is Public Health?
Public health is the science of protecting and improving the health of families and communities through promotion of healthy lifestyles, research for disease and injury prevention, and detection and control of infectious diseases.
Prevents epidemics and the spread of disease
Protects against environmental hazards
Prevents Injuries
Promotes and encourages healthy behaviors
Responds to disasters and assists communities in recovery
SOS
Assures the quality and accessibility of health services
VISION
Every South Dakotan Healthy and Strong
MISSION
Working together to promote, protect, and improve health

Catheter-Associated Urinary Tract Infections

Review of compendium of strategies to prevent healthcare-associated infections in acute care hospitals

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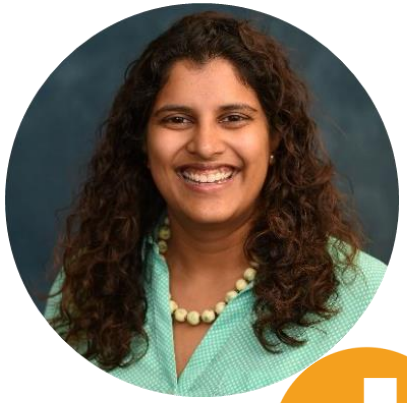
Disclosures

I have no conflicts of interest to disclose.

Slides courtesy of Dr. Payal K. Patel MD, MPH, FIDSA

Intermountain Health / University of Utah



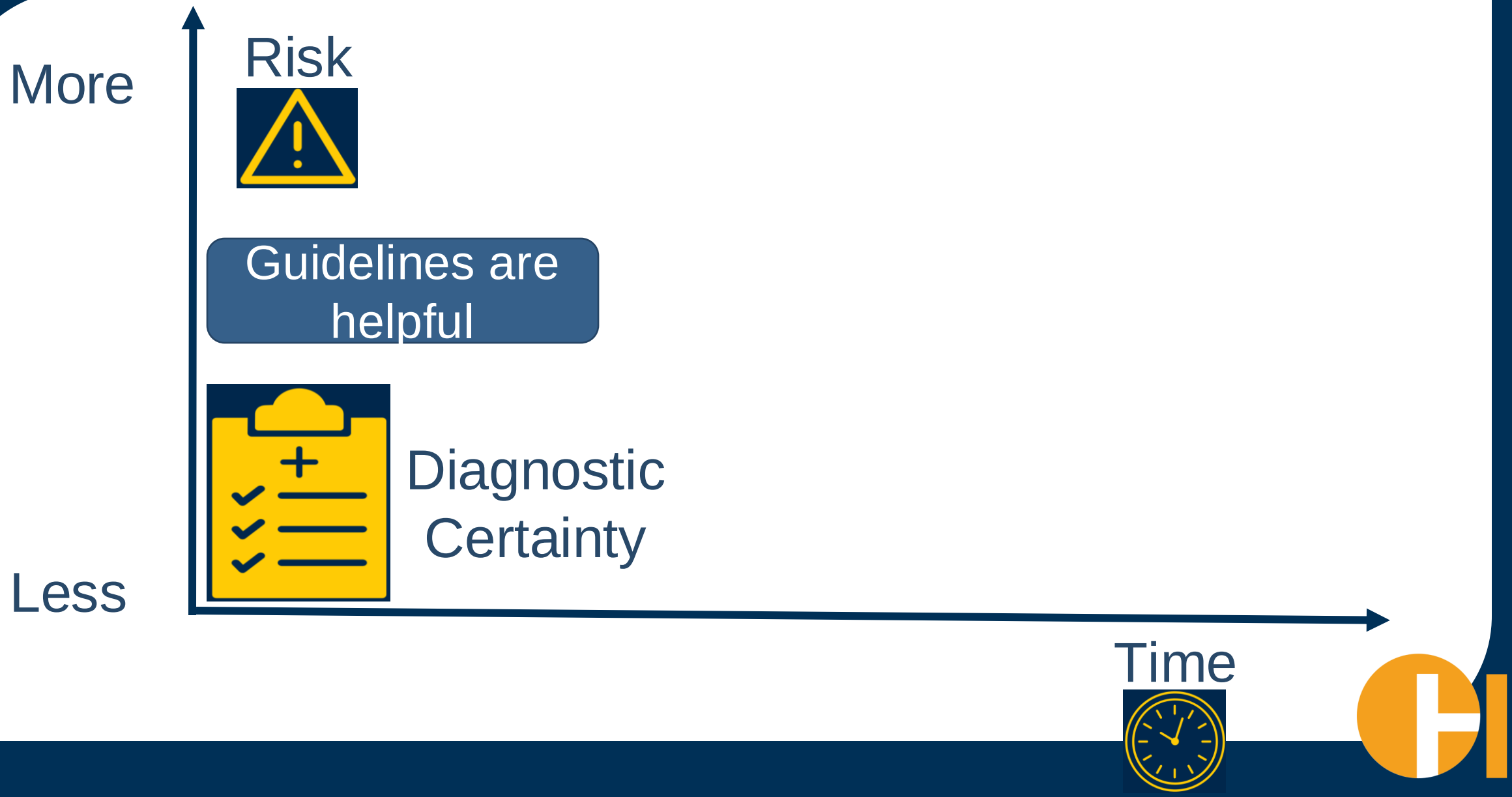
Objectives

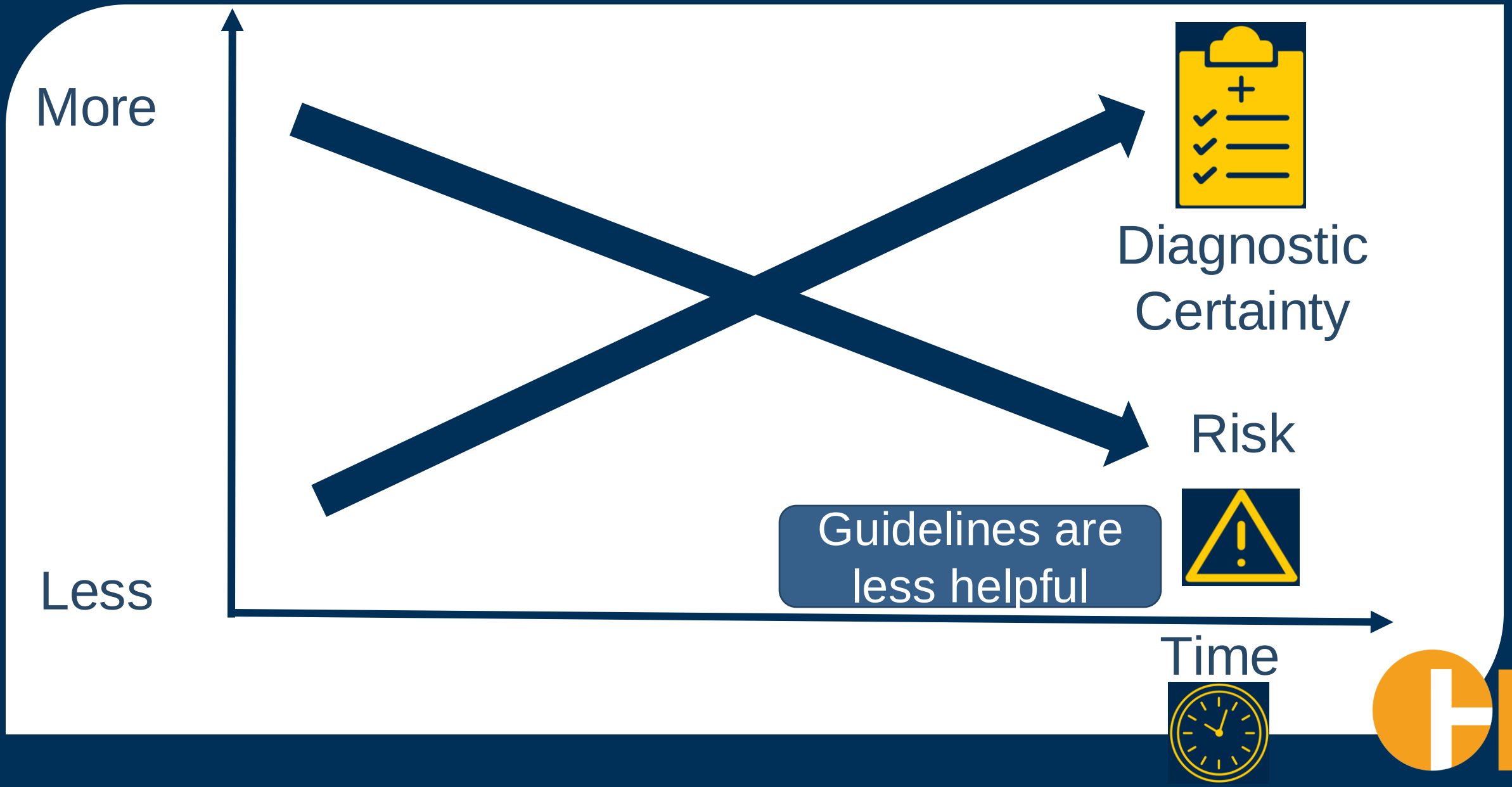
- Highlight changes and new additions to the CAUTI Compendium which summarizes ways to prevent CAUTI
- Explain how diagnostic stewardship and antimicrobial stewardship are a part of CAUTI prevention
- Delineate infectious versus noninfectious harms associated with CAUTI

Acronyms

- **CAUTI:** catheter-associated urinary tract infection
- **CLABSI:** central line-associated bloodstream infection
- ***C. diff:*** *Clostridioides difficile*
- **HAI:** hospital-acquired infection
- **HCP:** healthcare provider
- **IUC:** indwelling urinary catheter
- **MRSA:** methicillin-resistant *Staphylococcus aureus*
- **NV-HAP:** non-ventilator healthcare-associated pneumonia
- **SSI:** surgical site infection
- **VAE:** ventilator-associated events (including VAP)
- **VAP:** ventilatory-associated pneumonia (aka VAE)

Guidelines Can Impact Empiric Decision-making


More
Risk
Guidelines are helpful
Diagnostic Certainty
Less
Time


More
Less
Diagnostic Certainty
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What is the Compendium?

SHEA/IDSA/APIC Compendium of Strategies to Prevent Healthcare-Associated Infections in Acute Care Hospitals

- Most recent update to the 2008 & 2014 Compendiums
- 7 Guidance documents for preventing hospital-acquired infections, including:
  - Catheter-Associated Urinary Tract Infection (CAUTI)
  - Central Line-Associated Bloodstream Infection (CLABSI)
  - *C. diff* Infections
  - Hand Hygiene
  - MRSA Infections
  - Surgical Site Infections
  - Ventilator Associated Pneumonia

Full compendium available online (open access)

- *https://www.cambridge.org/core/journals/infection-control-and-hospital-epidemiology/compendium*

"… up-to-date, concise, and practical recommendations for essential infection prevention practices and guidance on how to build them into the delivery of care."


SHEA
The Society for Healthcare
Epidemiology of America


IDSA
Infectious Diseases Society of America


APIC


American Hospital
Association™


The Joint Commission


CDC


PIDS
PEDIATRIC
INFECTIOUS
DISEASES
SOCIETY


SIS
Surgical Infection Society
Dedicated to the Understanding, Prevention,
& Management of Surgical Infections

Infection Control & Hospital Epidemiology (2023), **44**, 1209–1231
doi:10.1017/ice.2023.137

SHEA

SHEA/IDSA/APIC Practice Recommendation

Strategies to prevent catheter-associated urinary tract infections in acute-care hospitals: 2022 Update

Payal K. Patel MD, MPH[1], Sonali D. Advani MBBS, MPH[2], Aaron D. Kofman MD[3], Evelyn Lo MD[4], Lisa L. Maragakis MD, MPH[5], David A. Pegues MD[6], Ann Marie Pettis RN, BSN[7], Sanjay Saint MD, MPH[8,9], Barbara Trautner MD, PhD[10,11], Deborah S. Yokoe MD, MPH[12] and Jennifer Meddings MD, MSc[8,9,13]

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Abstract and purpose

The intent of this document is to highlight practical recommendations in a concise format designed to assist physicians, nurses, and infection preventionists at acute-care hospitals in implementing and prioritizing their catheter-associated urinary tract infection (CAUTI) prevention efforts. This document updates the *Strategies to Prevent Catheter-Associated Urinary Tract Infections in Acute-Care Hospitals* published in 2014. It is the product of a collaborative effort led by SHEA, the Infectious Diseases Society of America (IDSA), the Association for Professionals in Infection Control and Epidemiology (APIC), the American Hospital Association (AHA), and The Joint Commission.

Timeline of CAUTI Compendium

Spring 2019	Winter 2019	2020/2021	Fall 2022	Nov 2023
• Authors chosen for CAUTI Compendium	• Literature Search begins for CAUTI Prevention	• Authors assigned sections • Writing commences	• Draft circulated for internal and external peer review	• CAUTI Compendium Published

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SHEA

SHEA/IDSA/APIC Practice Recommendation

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Table Summaries

Table 1. Summary of Recommendations to Prevent CAUTI

Essential practices
Infrastructure and resources
1. Perform a CAUTI risk assessment and implement an organization-wide program to identify and remove catheters that are no longer necessary using 1 or more methods documented to be effective.[34,35,51,52] (Quality of evidence: MODERATE)
a. Develop and implement institutional policy requiring periodic, usually daily, review of the necessity of continued catheterization.
b. Consider utilizing electronic or other types of reminders (see Supplementary Content, Appendices 2 and 3 online) of the presence of a catheter and required criteria for continued use.[63]
c. Conduct daily review during rounds of all patients with urinary catheters by nursing and physician staff to ascertain necessity of continuing catheter use.[64]
2. Provide appropriate infrastructure for preventing CAUTI.[56] (Quality of evidence: LOW)
a. Ensure that the supplies for following best practices for managing urinary issues are readily available to staff in each unit, including bladder scanners, non-catheter incontinence management supplies (urinals, garments, bed pads, skin products), male and female external urinary catheters, straight urinary catheters, and indwelling catheters including the option of catheters with coude tips.
b. Ensure that non-catheter urinary management supplies are as easy to obtain for bedside use as indwelling urinary catheters.
c. Ensure the physical capability for urinary catheters with tubes attached to patients (eg, indwelling urinary catheters, some external urinary catheters[EUCs]) to be positioned on beds, wheelchairs, at an appropriate height and without kinking for patients in their rooms and during transport.
3. Provide and implement evidence-based protocols to address multiple steps of the urinary catheter life cycle (Fig. 1): catheter appropriateness (step 0), insertion technique (step 1), maintenance care (step 2), and prompt removal (step 3) when no longer appropriate. (Quality of evidence: LOW)
a. Adapt and implement evidence-based criteria for acceptable indications for indwelling urethral catheter use, which may be embedded as standardized clinical-decision support tools within electronic medical record (EMR) ordering systems. Expert-consensus–derived indications for indwelling catheter use have been developed, although there is limited research that assesses the appropriateness of these uses.[34,65]
4. Ensure that only trained HCP insert urinary catheters and that competency is assessed regularly.[65] (Quality of evidence: LOW)
a. Require supervision by experienced HCP when trainees insert and remove catheters to reduce the risk of infectious and traumatic complications related to urinary catheter placement.[69–71]
5. Ensure that supplies necessary for aseptic technique for catheter insertion are available and conveniently located. (Quality of evidence: LOW)

Selected Recommendations for CAUTI Prevention

- Perform a CAUTI risk assessment and implement an organization-wide program to identify and remove catheters that are no longer necessary
  - Ex., Conduct daily review during rounds
- Provide appropriate infrastructure for preventing CAUTI
  - Ex., Ensure non-catheter supplies are also available
- Provide and implement evidence-based protocols to address multiple steps of the urinary catheter life cycle
- Ensure that only trained HCP insert urinary catheters, and that competency is assessed

Selected Education and Training Recommendations

- Educate HCP involved in catheter care, including alternatives to indwelling catheters, and procedures for insertion, maintenance, and removal
- Educate HCP about the importance of urine culture stewardship and provide indications for urine cultures
- Provide training on appropriate collection of urine
  - Ex., specimens should be collected and delivered to micro lab <1 hour

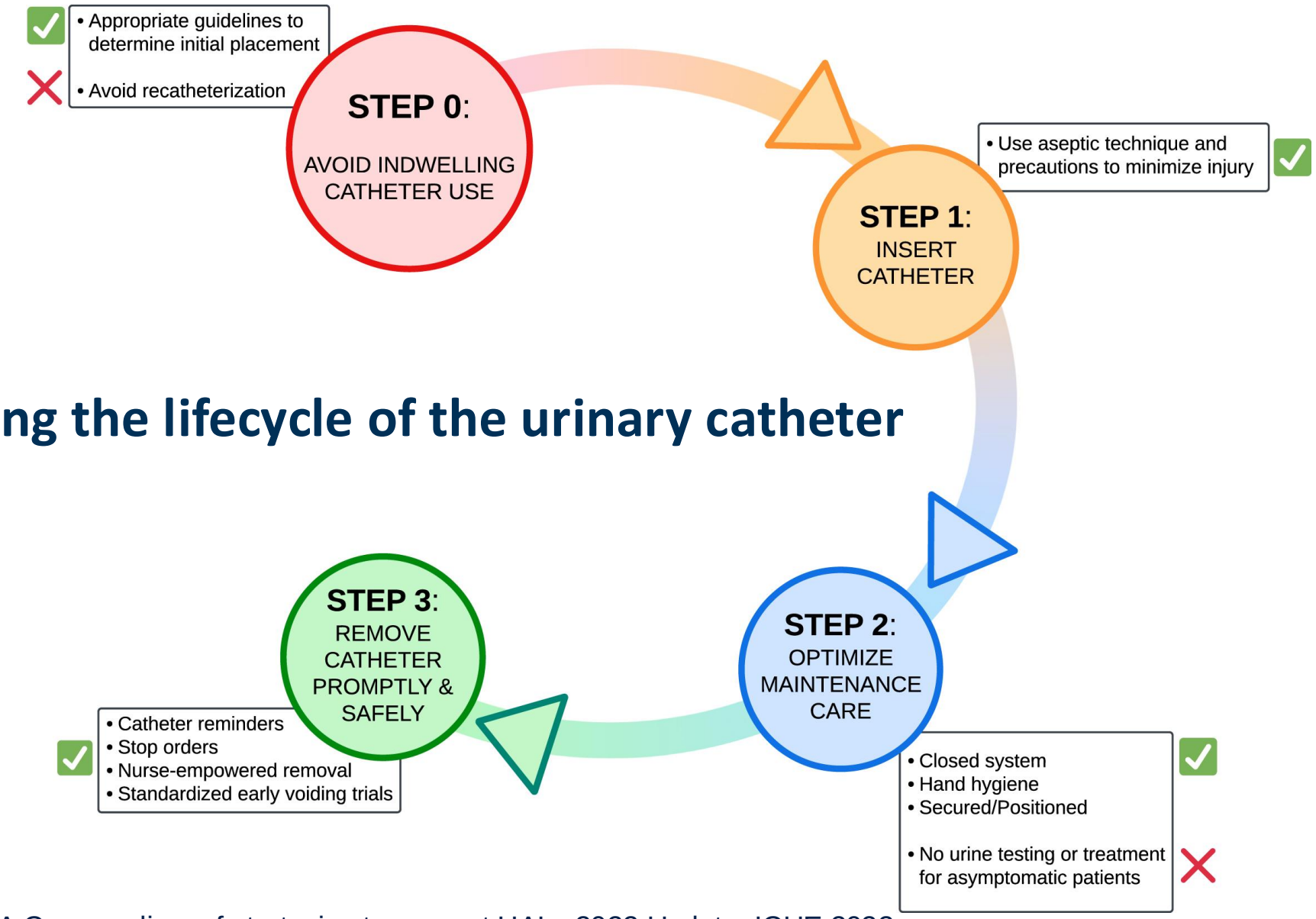
Selected Essential Practices

- Insert urinary catheters only when necessary, and leave in place only as long as indications remain
- Consider working in pairs to help perform patient positioning and monitor for potential contamination during placement
- Maintain unobstructed urine flow
  - Remind bedside caregivers, patients, and transport personnel to always keep the collecting bag below the level of the bladder
  - Do not place the bag on the floor

Additional Approaches

- Define and monitor catheter harm in addition to CAUTI, including:
  - Catheter obstruction
  - Unintended removal
  - Catheter trauma
  - Reinsertion within 24 hours of removal

Conceptual Model for CAUTI Prevention



Disrupting the lifecycle of the urinary catheter

Patel PK, et al. A Compendium of strategies to prevent HAIs: 2022 Update. ICHE 2023
Scruggs-Wodkowski EA, et al. Urinary Catheter-Associated Infections. Infect Dis Clin North Am 2024

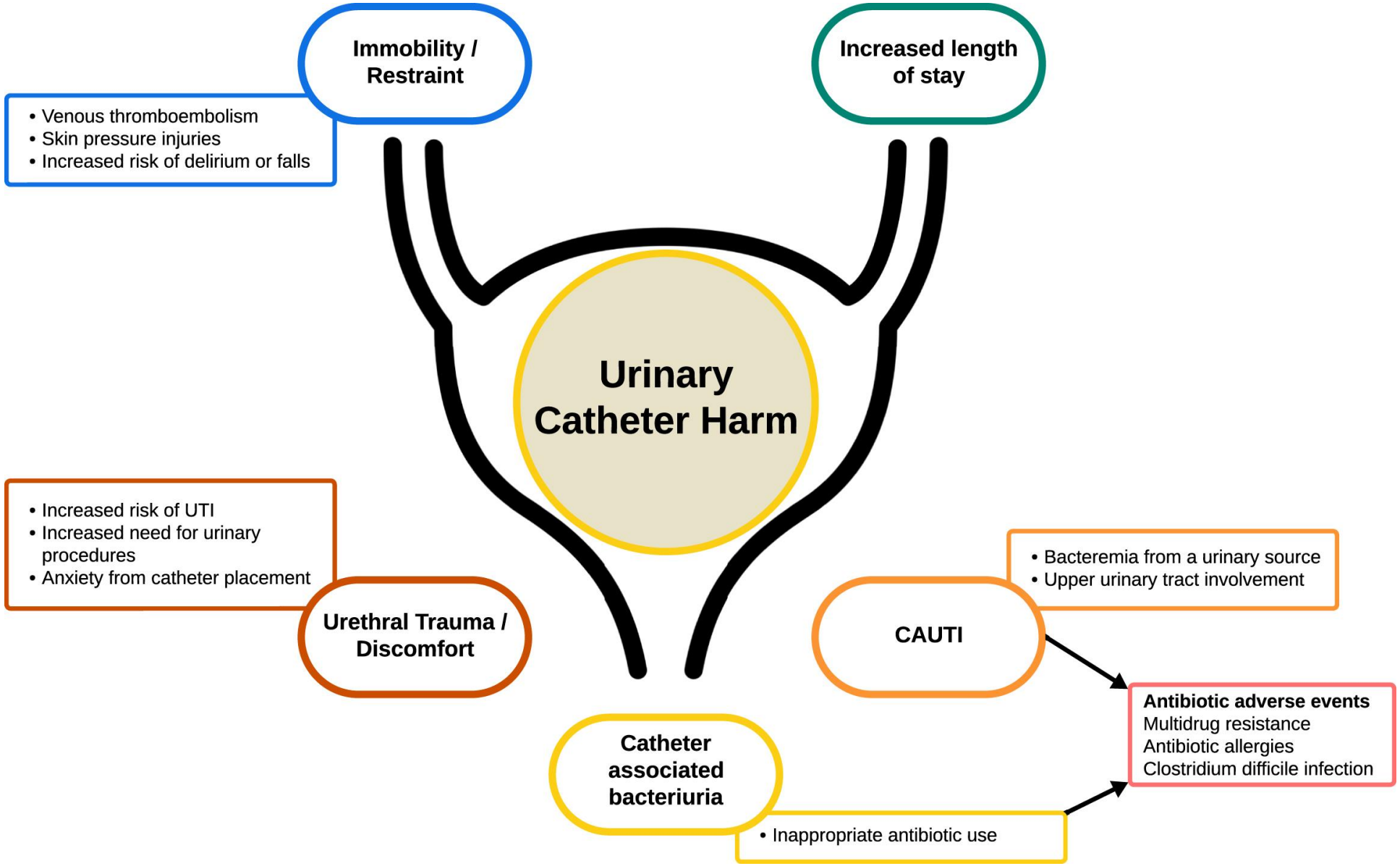
Non-infectious complications of IUCs

- Prospective cohort study of 2227 consecutive patients with new IUC placement during hospitalization at 4 hospitals
- Followed for 30 days after IUC placement
- 57% reported at least 1 complication
  - 10.5% (95%CI 9.3-12.0%) infectious
  - 55.4% (95%CI 53.2-57.6%) noninfectious

Saint S, et al. JAMA Intern Med. 2018;178:1078

Table 2. Specific Patient-Reported Complications Associated With Urethral Catheter Use During the Month After Insertion[a]

Specific Complication	No. (%)		
	Catheter in Place (n = 124)	Catheter Removed (n = 2034)	Total (N = 2076)[b]
Infectious complication	19 (15.3)	205 (10.1)	219 (10.5)
Fevers, chills, burning with urination, urinary frequency, urinary urgency, or other symptoms suggestive of an infection that required you to see a physician	12 (9.7)	162 (8.0)	173 (8.3)
Told you have a urinary tract infection	16 (13.0)	106 (5.2)	118 (5.7)
Noninfectious complication	87 (70.2)	1106 (54.4)	1150 (55.4)
Pain or discomfort	67 (54.5)	NA	NA
A sense of urgency or bladder spasms	43 (34.7)	487 (24.0)	523 (25.2)
Blood in the urine	34 (27.4)	179 (8.8)	207 (10.0)
Trauma to your skin related to catheter securement or catheter placement	24 (19.4)	NA	NA
Leaking urine	NA	413 (20.3)	NA
Difficulty with starting or stopping your urine stream	NA	395 (19.5)	NA
Pain or burning when you urinate	NA	353 (17.4)	NA
Split stream of urine	NA	245 (12.1)	NA
Spraying of urine stream	NA	187 (9.2)	NA
Skin problems in the genital area	NA	134 (6.6)	NA
Bleeding from where the urinary catheter entered or was attached to your body, or other type of discharge	NA	94 (4.6)	NA
New urinary tract symptom	NA	69 (3.4)	NA
Bladder or kidney stones	NA	59 (2.9)	NA
Newly diagnosed urethral stricture disease	NA	4 (0.2)	NA
Other complications	66 (53.2)	99 (4.9)	160 (7.7)
Restrictions in activities of daily living associated with having the catheter	49 (39.5)	NA	NA
Restrictions in social activities associated with having the catheter	54 (43.9)	NA	NA
Sexual problems	NA	99 (4.9)	NA
Mechanical or equipment issues with the catheter or securement device, eg, leaking, issues with leg band	16 (12.9)	NA	NA



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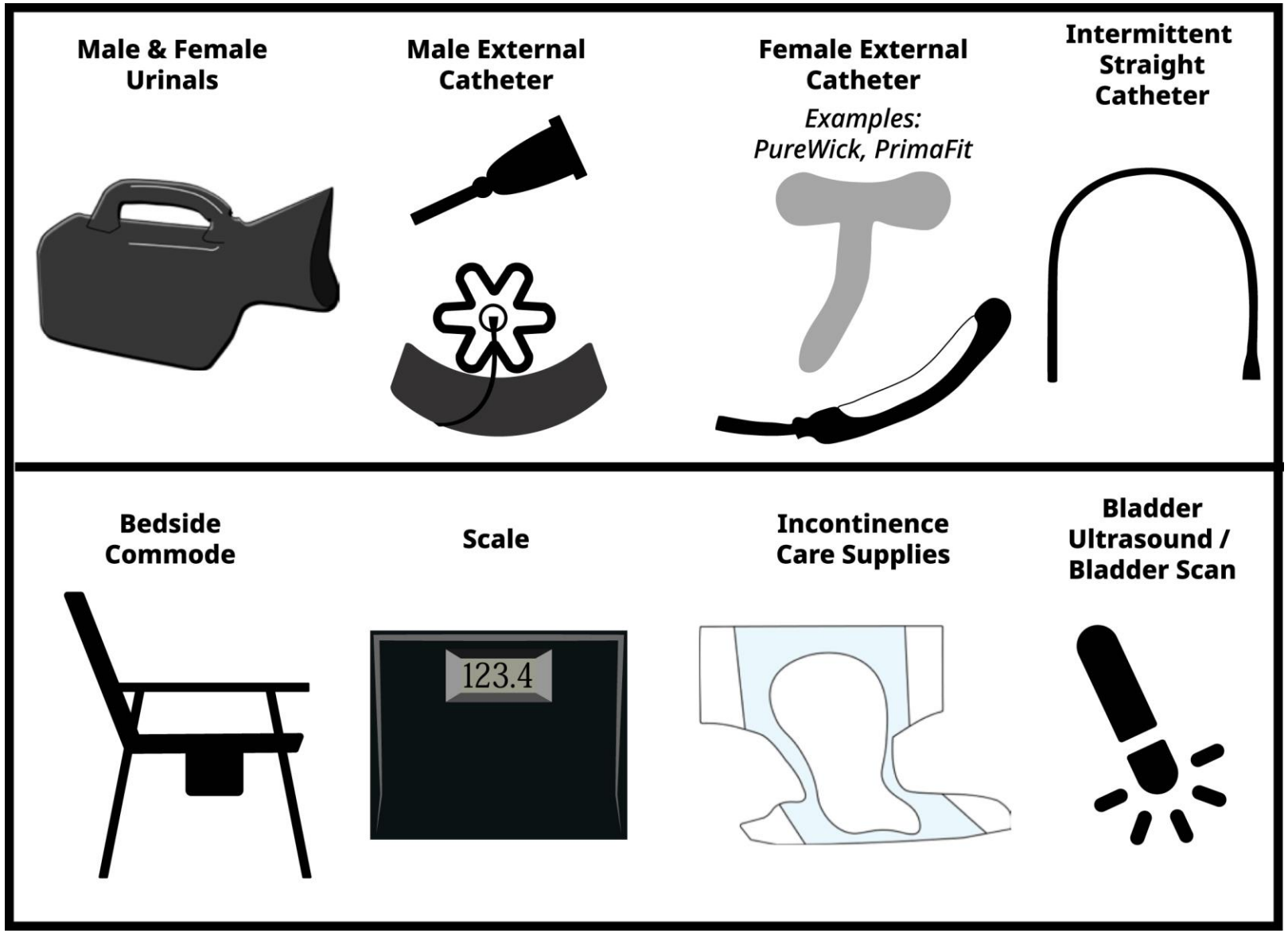
Alternatives to IUCs



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Practices to Avoid in CAUTI Prevention

- Routine collection of urine cultures
- Routine use of antimicrobial/antiseptic catheters
- Routine changing of catheters
    - In the case of a patient with a long-term catheter in place (>7 days), catheter replacement can be considered at the time of specimen collection for urine testing to obtain

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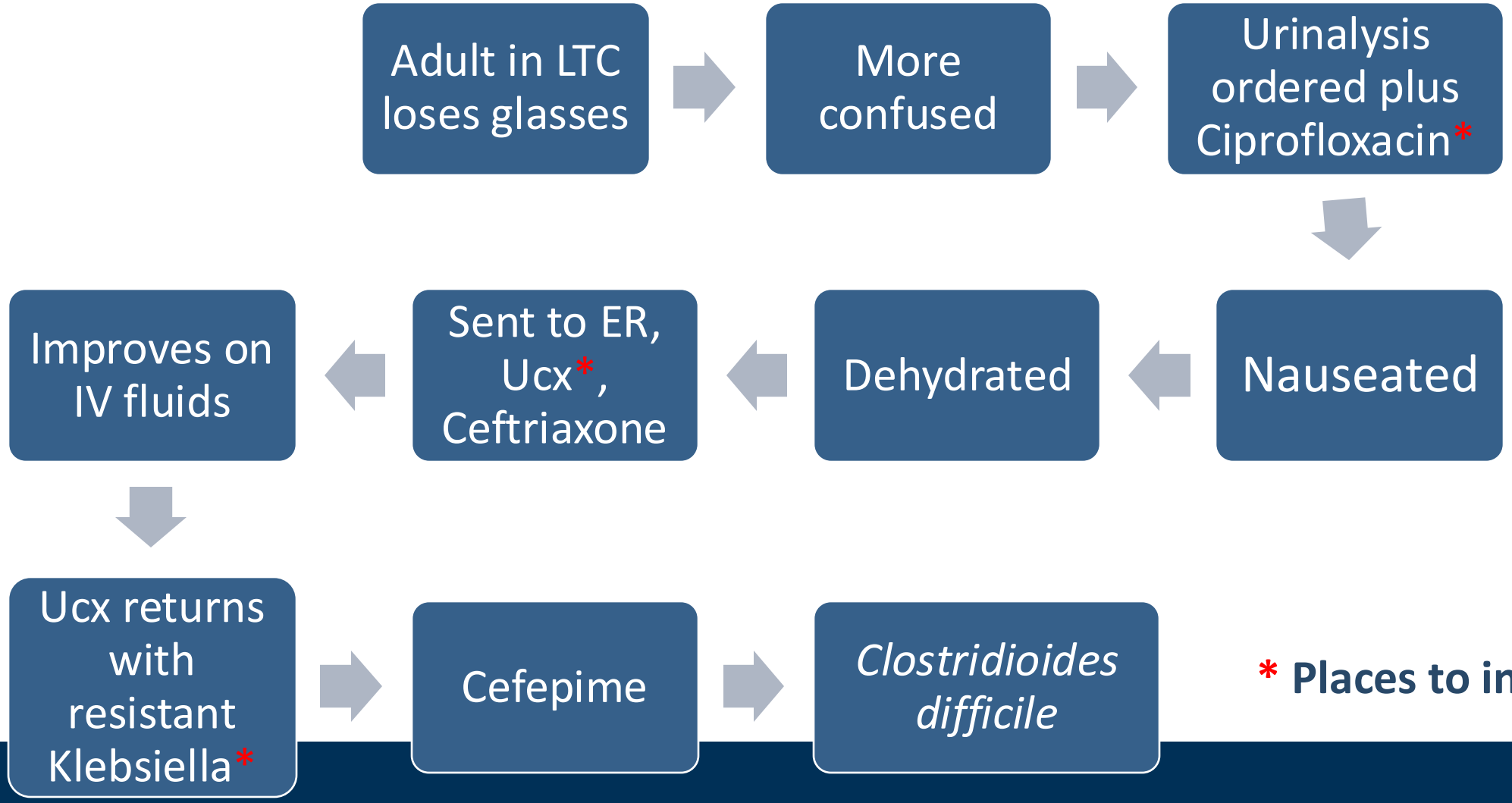
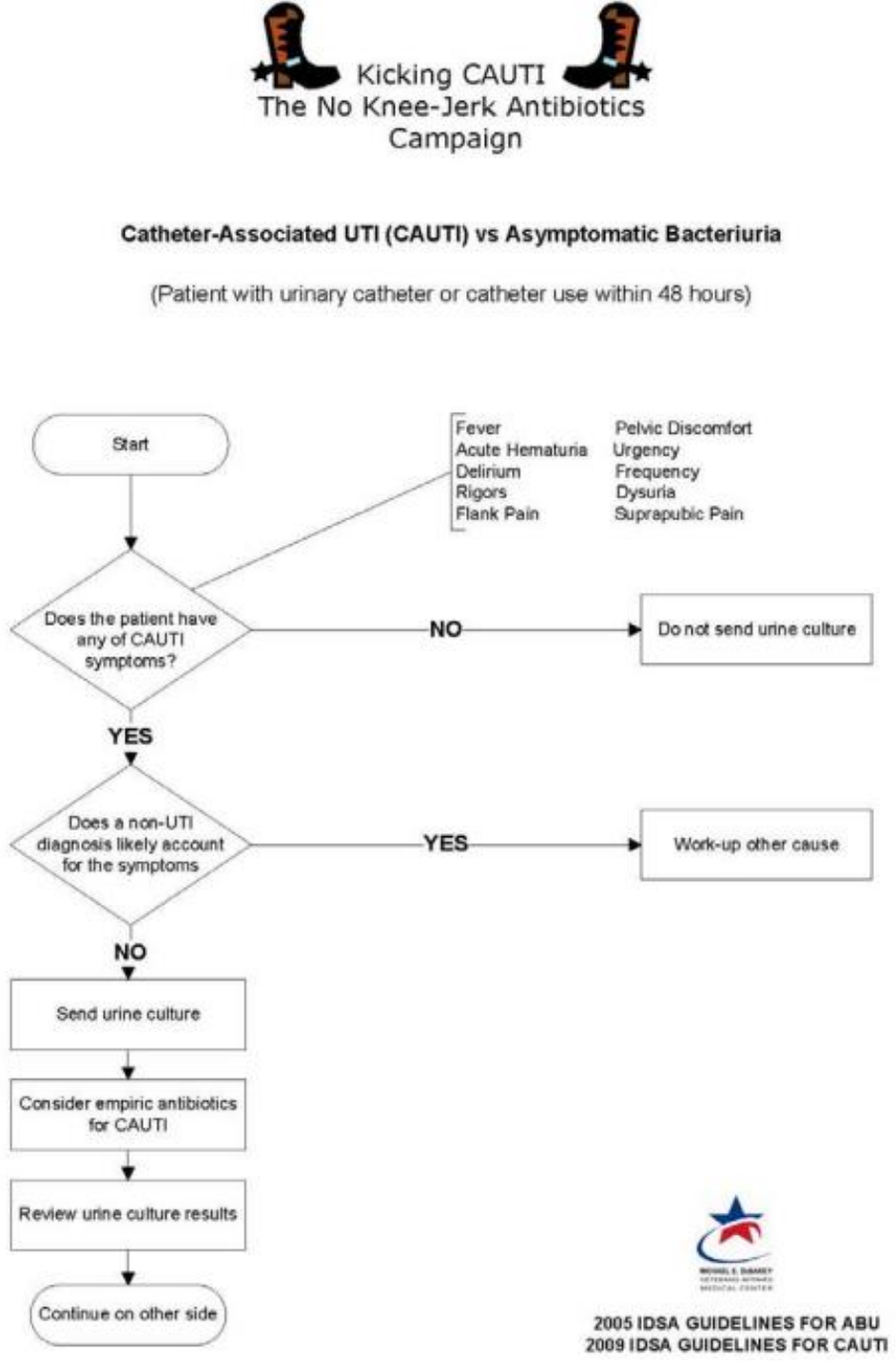
What happens in real life after urine tests are sent?

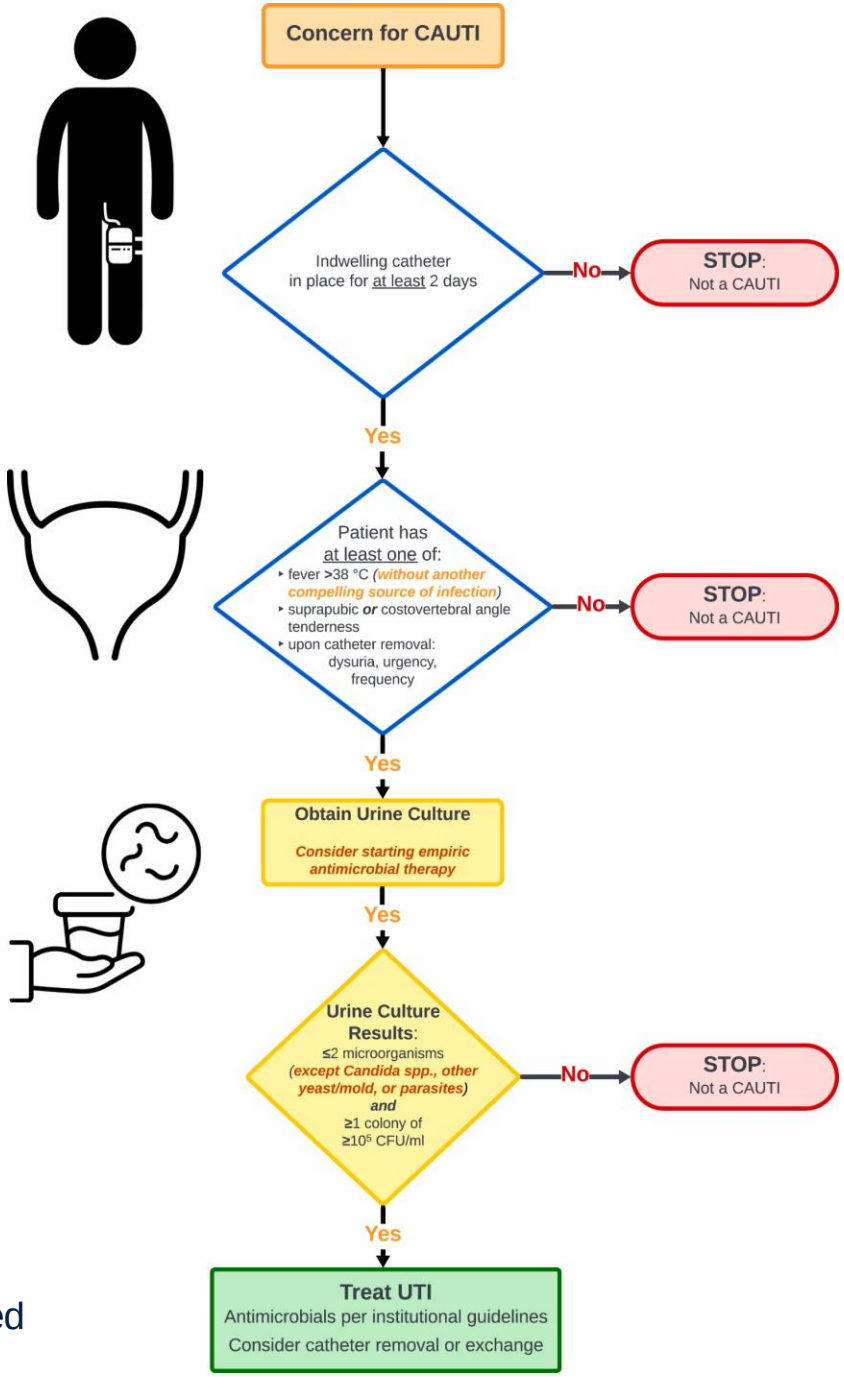


*** Places to intervene**

Diagnostic Algorithms



Surveillance Algorithms



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- Clinical Practice Guidelines for the Diagnosis, Prevention, and Treatment of Catheter-Associated Urinary Tract Infection in Adults: 2009 Update by IDSA

Questions?

Thank you!

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