Urine Culture Standardization Project

The Problem: Urine Culture Variability (Leading to Contamination, Treatment of False + Cultures, Inappropriate Testing)

- 1 year of VUH ED urine cultures: 34.5% of positive urine cultures occurred in patients with negative U/A (Hertz JT et al)
- 1 year of VUMC urine cultures: Contaminated (2 or more organisms) urine cultures occurred in 5.1% of all cultures, resulting in 385 antibiotic courses, 73 additional cultures ordered, 46 IV lines for IV abxs placed, 27 admissions (Klausing BT et al)
- VUMC Urine Contamination Rates:
  - Adult ED = 20.9-29.2% of all cultures collected were contaminated
  - Peds ED = 8.5-12.2%
  - VUH Inpatient = 10.7-13.9%
  - VCH Inpatient = 4.0-10.1%

VUMC CAUTI Task Force (with representatives from ID, Adult and Peds, Nursing, Lab, Quality, Infection Prevention, ICU, ED, Anesthesia, Urology) has recommended a 4-STEP Process for Urine Culture Standardization:

1. Indications for Urine Culture Ordering:

- Guidance for clinicians
- Do not restrict ability to order culture

2. Standardization of Specimen Collection:

- Education and SOPs for collection for various scenarios(from Foley, clean catch, nephrostomy tube)
- Intended to reduce contamination and streamline lab processing

3. Implementation of U/A with Reflexive Culture

- Two-step testing process
- Reduces processing of false positive cultures by not processing cultures with negative U/A
- Allows for exceptions where asymptomatic bacteriuria treatment is recommended

4. Track Urine Culture Contamination:

- New quality metric
- Unit-specific rates
- Allows assessment of program impact

Applies to inpatient and ED locations ONLY