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
  
<table>
<thead>
<tr>
<th>Location</th>
<th>Contamination Rate</th>
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<tbody>
<tr>
<td>Adult ED</td>
<td>20.9-29.2%</td>
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<tr>
<td>Peds ED</td>
<td>8.5-12.2%</td>
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<tr>
<td>VUH Inpatient</td>
<td>10.7-13.9%</td>
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<tr>
<td>VCH Inpatient</td>
<td>4.0-10.1%</td>
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</tbody>
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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