

## **AHCA/NCAL Clinical Scenario Teaching Tool – Utilizing an Antibigram to Guide Antibiotic Selection in Long-Term Care**

### **Clinical Scenario – Antibigrams**

#### **Scenario**

Mrs. Judy Lewis is a 78-year-old resident with a history of chronic urinary retention and recurrent urinary tract infections (UTIs). Over the weekend, she begins to show signs of a possible infection: low-grade fever, change in mental status, and suprapubic tenderness. Wendy Thomas, her primary nurse, contacts the on-call provider, Dr. Green, who considers starting empiric antibiotic therapy before the culture and sensitivity results return. Dr. Green orders Ciprofloxacin for Mrs. Lewis.

When the IP comes in the next morning, she asks Wendy if she had referred to and discussed the antibiogram with Dr. Green when she ordered the ciprofloxacin. Wendy did not know what an antibiogram was and was unsure where to find one. You show Wendy the printed copy that is kept at each nurse's station. You also educate her about how to use it. You discover that the most recent antibiogram indicates that *Escherichia coli*—the most common cause of UTIs in the facility—is only 42% susceptible to ciprofloxacin, but 89% susceptible to nitrofurantoin.

#### **Questions**

1. **Why is referencing the facility's antibiogram before prescribing antibiotics beneficial in this scenario?**
  - a. It eliminates the need for a urine culture
  - b. It helps guide empiric antibiotic therapy based on local resistance patterns while culture and sensitivity are pending
  - c. It ensures antibiotics are prescribed for every suspected infection
  - d. It automatically chooses the correct dose of the antibiotic
2. **What action should Wendy do now that she has seen the urine culture antibiogram?**
  - a. Continue to administer ciprofloxacin
  - b. Refuse to give the antibiotic until culture results are back
  - c. Inform Dr. Green that ciprofloxacin has low susceptibility for *E. coli* in the facility's antibiogram and suggest nitrofurantoin as a potentially better option
  - d. Send a urine culture and wait 72 hours for the culture and sensitivity before any treatment

3. **How should the facility use antibiograms as part of their infection prevention and antimicrobial stewardship programs? Check all that apply.**
- a. Review the antibiotics started against the antibiogram only at quarterly QAPI meetings
  - b. Update them every 3 months
  - c. Distribute them for physicians and nurses to use or have available before prescribing an antibiotic
  - d. Use antibiograms only when an infection outbreak occurs
  - e. Check them against the culture results to see if they match
4. **What are some alternative ways to get antibiogram information if your lab is unable to produce one?**
- a. Yes, because the resident had loose stools
  - b. No, because she did not have  $\geq 3$  unformed stools in 24 hours or other CDI symptoms
  - c. Yes, because NAAT is the most sensitive test available
  - d. No, because stool testing should not be performed for mild diarrhea without further assessment
  - e. No, because she did not have  $\geq 3$  unformed stools in 24 hours or other CDI symptoms