

# Antimicrobial Stewardship in Long-Term Care

## What is antimicrobial stewardship?

- Interventions designed to improve and measure appropriate use of antimicrobials;
- Selection of optimal antimicrobial drug and regimen – dose, duration of therapy, route of administration
- Objectives are to achieve best clinical outcomes related to antimicrobial use while:
  - Minimizing toxicity and other adverse events, like *C. difficile* infection
  - Limiting selective pressure that drives the emergence of antimicrobial resistance
  - Reducing excessive costs attributable to suboptimal antimicrobial use

## Why is antimicrobial stewardship important in long-term care (LTC)?

- 40% of all systemic drugs prescribed in LTC are antimicrobials<sup>2</sup>
- 25-75% of antibiotic prescriptions for LTC residents are inappropriate<sup>2</sup>
- Inappropriate use of antimicrobials increases *C. difficile* infection, selection of multidrug-resistant organisms, drug-drug interactions, and other adverse events<sup>3</sup>
- Risk for colonization and infection with antibiotic-resistant organisms is high; residents travel between healthcare facilities and the community

## Antimicrobial stewardship works!

- Comprehensive programs have demonstrated a decrease in antimicrobial use with savings of \$200,000-\$900,000/year<sup>4</sup>
- A rural hospital program showed *C. diff* infections

## The clinician's role: Focus on the 5 Ds

- **Diagnosis** – communication between providers and nursing is key; utilize evidence-based guidelines for diagnosing infections and initiating antibiotics<sup>6</sup>
- **Drug** – select an effective drug with minimal adverse effects; adjust based on microbiology results; use facility or regional antibiogram
- **Dose** – ensure proper dosing: consider resident comorbidities, body size, and current medications
- **Duration** – use current guidelines for treatment of common infections
- **De-escalation** – use narrowest spectrum with clinical efficacy; consider an antibiotic “Time-out” when microbiology results are available. Antibiotics are often started before a resident’s full clinical picture is known. After 24-48 hours, when that additional information including microbiology, radiographic and clinical information is available, clinicians should ask themselves if the antibiotic is still warranted or, more importantly, is this antibiotic still effective against this organism?<sup>7</sup>
  - Broad-spectrum drug → Narrow-spectrum
  - Parenteral → Oral
  - Discontinue empiric therapy if noninfectious cause of symptoms determined

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