1 **Journal Club & Literature Review:**
Are pediatric patients receiving proton pump inhibitors at increased risk of *C. difficile* infection?

Kelly Sawyer, PharmD
PGY1 Pharmacy Resident
Baystate Medical Center
Springfield, Massachusetts

2 **Disclosure Statement**
- I have nothing to disclose.

3 **Objectives**

4 **Background**
- HCUP-KID (U.S. inpatient database)
  - 0.2% hospitalized pediatric patients with *C. difficile* infections
  - Infection prevalence on the rise:
    - 1997: 3,565 cases
    - 2006: 7.779 cases

5 **Toxigenic Strains**
- Ribotype 027
  - Increased virulence through increased production of toxins
  - One of the most common strains in the United States
  - Estimated 28.4%
- Ribotype 078
  - Typically community-acquired
  - Potential protection against degradation

6 **Background**
- Colonization in Pediatrics:
  - NAP1 in pediatric CDI ~ 19.4%
  - High rate of neonatal and infant carriage
    - 1 to 84% reported

7 **Background**

8 **Background**

9 **Study Characteristics**

10 **Previous Studies**
- Adams et al
  - Risk of CDI after exposure to PPIs comparable to antibiotic class exposures
    - OR: 8.17; 95% CI 2.35 – 28.38
  -

11 **Study Characteristics**

12 **Study Criteria**

13 **Sample Size**

14 **Classifying Severity**

15 **Demographics**

- Severe-complicated:
  - Increased exposure to PPIs
  - Increased Age
    - Average: 10.4 years
  - Frequent admissions

16 **Demographics**

17 **Results:**

18 **Results:**

19 **Introduction**

20 **Age Distribution**

21 **Strengths**

22 **PCR Testing**

- Xpert® *C. difficile/Epi* assay

23 **Xpert® Performance**

24 **Limitations**

25 **Sample Size**

26 **Limitations**

- Medication use:
  - Systemic steroids
  - Immunosuppressants
  - Proton Pump Inhibitors
  - H2RAs

27 **Age Distribution**

28 **Questions**

29 **Attendance**

Ethos Attendance Code:

CUGWEP