A Best Practice Alert Linking *Clostridium difficile* Infection Test Results to a Severity-based Treatment Order Set

Holly Reed, PharmD1, Trevor Van Schooneveld, MD, FACP2, Craig Reha, PharmD1 and Scott Bergman, PharmD, FIDSA, FCCP, BCPS1

1) Department of Pharmaceutical and Nutrition Care, Nebraska Medicine, Omaha, NE
2) Division of Infectious Diseases, University of Nebraska Medical Center, Omaha, NE

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**Background**

- *Clostridium difficile* infection (CDI)
- Leading cause of gastroenteritis-related death in the U.S.
- Risk Factors
  - Antibiotics and acid suppressants
  - Immunosuppression and advanced age
- 2010 IDSA/ SHEA CDI guidelines follow a severity-based treatment algorithm
- March 2014, a best practice alert (BPA) in the electronic medical record linking a positive test result to guideline-based CDI orders was implemented

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**Methods**

- Retrospective, quasi-experimental comparative study of inpatient CDI in 2013 (pre-BPA) vs. 2016 (post-BPA)
- Subjects randomly selected from infection control lists using random number generator based on 80% power calculation (n=130)
- Primary outcome was guideline-based initial CDI therapy
- Secondary outcomes of Time to resolution of diarrhea (<3 stools/day), Length of stay (LOS), In-hospital mortality, 30-day recurrence rate and 30-day readmission rate
- Data collection
  - Patient demographics – age, gender, medical history
  - Clinical status – WBC, Scr, albumin, blood pressure
  - CDI initial treatment – Drug, dose, route, duration
- Endpoints analyzed using:
  - Two-tailed Student’s T-Test for continuous variables, or Mann-Whitney U for non-normally distributed data
  - Chi-square for categorical variables

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**Results**

- Total Inpatient CDI Cases:
  - 2013: 278
  - 2016: 409

- Drug, dose, route, duration
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**Discussion**

- Institutional comparison
  - 2016 non-quality metric alert BPAs
  - Positive response rate = 8.28%

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**Conclusions**

- There was an increase in guideline-based prescribing for CDI after implementation of a BPA linked to an order set based on treatment-severity
- Understanding the role of a BPA and linked treatment order set in adherence to guidelines will aid the ASP in determining future steps to improve use of therapy.

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**Disclosures**

The authors of this presentation have nothing to disclose concerning possible financial or personal relationships with commercial entities that may have a direct or indirect interest in the subject matter of this presentation.