**RBX Abstract for ASM Microbe 2017**

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# Meta-analysis of Response Rates Among Placebo-Treated Patients from Five Clinical Trials of Experimental Recurrent *Clostridium difficile* Therapeutics

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**Background:** The recognition of recurrent *Clostridium difficile* infections (rCDI) as an urgent health threat has led to development of therapeutics aimed at preventing or reducing recurrence, including RBX2660—a standardized microbiota-based drug manufactured from live human-derived microbes. In PUNCH CD2, a randomized, placebo-controlled Phase 2b trial of RBX2660 for rCDI, 20 of patients in the placebo arm met response criteria of no CDI recurrence within 8 weeks. To contextualize this result, we conducted a meta-analysis of response rates among placebo-treated patients in additional rCDI trials.

**Methods:** Five blinded, randomized, and placebo-controlled trials were included in this meta-analysis. Studies required patients to have ≥1 (1 study) or ≥2 prior CDI recurrences. All patients completed standard-of-care antibiotic course prior to experimental treatment. Four studies tested a vehicle placebo administered by the same route as the active treatment (oral, intravenous, or enema), and 1 study tested an autologous fecal transplant administered via enema. Response to treatment was defined as no CDI recurrence within 8-12 weeks. The proportional response rates with 95% confidence interval were calculated and compared in aggregate and among studies.

**Results:** A total of 154 of 292 placebo-treated patients (53%) met study-specific response criteria, with response rates ranging from 43%-58%. No study group presented a significantly different outcome from the aggregate cohort, and no correlation of response with placebo administration route was observed.

**Conclusion:** This meta-analysis demonstrates that response rates for blinded placebo-treated patients are consistent among 5 trials of experimental rCDI therapeutics, including a phase 2B trial of RBX2660. This analysis provides a useful framework for interpreting published rCDI trials, and for designing and interpreting future rCDI therapeutics trials.

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**References** <292 of 300 allowed characters>**:**

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Figure 1. The Forest plot shows the placebo success rate for each study included in the meta-analysis with the addition of the aggregate result. Placebo group size is represented by circle diameter.