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Process and Outcome Evaluation of a University Hospital Antimicrobial Stewardship Program on Nosocomial Clostridioides difficile Infection

The objective of this study is to determine the effect that the Antimicrobial Stewardship Program has on the rates of hospital acquired (HA) Clostridioides difficile infections (CDI) at University Hospital of Brooklyn (UHB), SUNY Downstate. The Centers for Disease Control and Prevention (CDC) has listed C. difficile as "Threat Level :Urgent" due to the threat that CDI poses to the most vulnerable individuals in the population1. C. difficile causes an opportunistic infection that almost always follows antibiotic use1. CDI has a high mortality rate, especially for those for those over 65 years of age1. There are over 29,000 deaths/ year directly attributed to CDI and 250,000 hospitalizations with an economic burden of $4.8 billion per year for acute care hospitals alone1. To address CDI (and other multidrug resistant organisms, MDROs) the non-profit organization Joint Commission in conjunction with the CDC developed the Antimicrobial Stewardship Program (ASP), which aims at reducing antimicrobial drug overprescribing and at developing a culture of infectious disease awareness and prevention in health care facilities.3,4 As of January 2017, every hospital accredited by the Joint Commission must have an ASP in place and comply with its 8 standards.3 There is much variability in how Antimicrobial Stewardship Programs are implemented and more data is needed on their effectiveness in addressing MDRO and CDI, specifically. In this study, we aim to complete an outcome evaluation of ASP on HA-CDI rates using an interrupted time series approach utilizing aggregate data. We will also conduct a process evaluation of the ASP rollout at UHB by employing a qualitative research design which will include interviews with ASP directors. Our study will add to the existing literature which characterizes ASP and inform on how to best decrease HA-CDI rates.