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A CASE CONTROL STUDY OF CLOSTRIDIUM DIFFICILE INFECTION AND THE USE OF PROTON PUMP INHIBITORS (A4), Jolie Okabe, Beverly Sakuda, Scott Souza. The Queen's Medical Center, Honolulu, HI ([jokabe@queens.org](mailto:jokabe@queens.org)) IRB approval received.

Proton Pump Inhibitors (PPI) are one of the most commonly prescribed outpatient medications. There is concern that acid suppression therapy with PPIs may increase the risk of *Clostridium difficile* (*C. difficile*) infections which is the most common cause of nosocomial diarrhea in the United States. This is thought to be due to an increase in gastric pH and therefore allowing *C. difficile* and its toxins to survive and persist. Information is limited with respect to studies evaluating the safety of PPIs and its association with *C. difficile* infections. We report the results of a case control study to determine if there is an association between PPI use and the risk of *C. difficile* infection. All patients  $\geq 18$  years of age who were admitted to our facility between February 1, 2006 and December 31, 2008 and had stool samples sent for *C. difficile* toxin during their inpatient stay were included. Patients with positive toxin results were defined as our cases and were matched to negative controls based on age, gender, and date of the *C. difficile* toxin result. Data on antibiotic use, hospital level of care, and recent admission to our facility were also used as possible risk factors for *C. difficile*.