**Supplemental Figures:**

**Figure S1.** Traffic light plot for six domains of QUIPS risk of bias.

**Figure S2.** Forest plot for a sub analysis of proton pump inhibitors (PPIs) that adjusted for both comorbidities (either individually or through an index measure) and age.

**Figure S3.** Forest plots for recent prior hospitalization

**Figure S4.** Forest plots for demographic information. A) Age > 65, B) Age per unit year, C) Sex (female vs. male).

**Figure S5.** Forest plots for antibiotics. A) Any antibiotics, B) cephalosporins, C) clindamycin, D) metronidazole.

**Figure S6.** Forest plots for comorbidities. A) Solid tumor malignancy, B) congestive heart failure, C) renal failure, and D) Charlson comorbidity index.