Background: Prophylactic antibiotics are commonly prescribed at discharge for mastectomy, despite many guidelines recommending discontinuation 24 hours after surgery. The objective of this study was to determine the prevalence and patterns of post-discharge prophylactic antibiotic use after mastectomy in a geographically representative, commercially-insured population.

Methods: We identified a cohort of women aged 18-64 years undergoing mastectomy between 1/1/2010-6/30/2015 using the Truven Health MarketScan Databases. Patients (pts) with evidence of an infection during the surgical admission or 7 days prior were excluded. Post-discharge antibiotic use was identified from outpatient drug claims within 5 days post-discharge. Univariate logistic regression was used to compare antibiotic use by reconstruction type and geographic factors.

Results: The analysis included 41,730 mastectomy procedures. The median age was 51 yrs; 35,641 (87.1%) pts resided in an urban/suburban area; 26,602 (65.9%) of mastectomy procedures involved immediate reconstruction (IR); and 10,942 (25.9%) pts had a diagnosis of breast cancer or carcinoma in situ. Post-discharge prophylactic antibiotics were used in 15,962 (38.3%) surgeries. The most commonly prescribed antibiotic was cefadroxil (43.9%), followed by cefalexin (38.9%), trimethoprim/sulfamethoxazole (7.5%), and fluoroquinolones (6.5%). Antibiotic use decreased significantly from 2010-2015 for mastectomy only (p = 0.039), but did not change significantly for mastectomy + IR (p = 0.363). Cochran-Armitage test, Mastectomy with IR were more likely to be prescribed antibiotics (56.8% of IR vs. 16.1% of mastectomy-only; p<0.001). In mastectomy only and mastectomy + IR, antibiotic use varied by US region. Among mastectomy + IR, the type of post-discharge antibiotic prescribed differed by US region. In mastectomy pts + IR, TrimPan/SMX use increased from 2010-2015 (3.4% of procedures in 2010 vs. 5.9% in 2015; p<0.001; Cochran-Armitage test).

Conclusions: Post-discharge prophylactic antibiotic use is common after mastectomy and varies by reconstruction status and US region. Regional variation in prescribing practices are potential targets for antimicrobial stewardship interventions.