Despite the incidence and recurrent nature of cUTIs, limited data are available regarding the outpatient setting in the 12-months post index date.

**Background**
Complicated urinary tract infections (cUTIs) are one of the most common bacterial infections in both the community and healthcare setting.

Oral antibiotics have long been a mainstay of treatment for cUTI, but use has been compromised by resistance to commonly used oral antibiotics. Oral antibiotics may be less efficacious than intravenous (IV) antibiotics in the outpatient setting in the 12-months post index date. As hospital reimbursement and antimicrobial stewardship programs are increasingly tied to quality and efficiency of care, these findings highlight the need for new treatment approaches and antibiotics that reduce the likelihood of persistent or recurring nature of many cUTIs.

**Methods**
A retrospective cohort study of adult patients with cUTIs in a large U.S. database containing longitudinal inpatient (IP) and outpatient (OP) patient-level data was conducted. We included patients who met the study criteria between 02/01/2017 and 06/30/2019. Demographics and clinical characteristics were quantified.

Results
95,332 patients met study criteria. Most (86%) were commercially insured, median (SD) age was 54 (18) and 70% were female. Mean baseline Charlson Comorbidity Index was 0.77. During the 30 days post index date, 25% were treated as OP and 75% were treated as OP. In the 12-month follow-up period among index OP, 81% required ≥2 antibiotics, 40% required ≥4 antibiotics, and 42% received an IV antibiotic in the outpatient setting. For both IP and OP, quinolones were the most common oral antibiotic class (94%), followed by cephalosporins (46%), trimethoprim-sulfamethoxazole (33%), penicillins (30%), and nitrofurantoin (26%). Cephalosporins were the most common IV antibiotic class (99%).

**Conclusion**
Regardless of index treatment setting, approximately 40% of all cUTI patients required ≥4 antibiotics and almost half received an IV antibiotic in the outpatient setting during the 12-month follow-up period.

**Study Design and Data Source**
Retrospective observational cohort study of adult patients with cUTIs in IBM MarketScan® Commercial or Medicare Supplemental Databases with at least 1 IP or non-diagnostic OP claim with a diagnosis for cUTIs between 02/01/2017 and 06/30/2019. Demographics and clinical characteristics were quantified.

**Study Criteria**
• ≥1 years of age on the index cUTI date
• ≥6 months of continuous enrollment (CE) with medical and pharmacy benefits prior to the index cUTI date
• ≥12 months of CE following the index cUTI date or evidence of inpatient death
• No evidence of a prior cUTI during the 6-month baseline period

**Outcomes**
• Number of antibiotics received in the OP setting in the 12-month follow-up period
• Recurrence, defined as ≥3 unique cUTI episodes in a 12-month period or ≥2 unique cUTI episodes in a 6-month period; at least 30 days apart
• Rehospitalization assessed within ≥30 days of discharge at cUTI diagnosis with an inpatient admission

**Schematic of Study Design**
- Index OP cUTI Episode
- OP index cUTI Episode 1
- OP index cUTI Episode 2
- OP index cUTI Episode ≥3

**Cohorts**
Patients were classified as having an inpatient (IP) cUTI episode if they were hospitalized within 30 days following the initial cUTI diagnosis.

Patients were classified as an outpatient (OP) cUTI if cUTI episode occurred in outpatient setting and they were not hospitalized within 30 days of cUTI diagnosis.

**Conclusion**
Regardless of index treatment setting, approximately 40% of all cUTI patients required ≥4 antibiotics and almost half received an IV antibiotic in the outpatient setting in the 12-months post index date.

**Conclusions**
- cUTI is a complicated clinical condition treated across multiple settings of care and healthcare practitioners.
- This study shows significant antibiotic use across both index IP and OP cUTI patients over a 12-month follow-up period.
- Regardless of index treatment setting, approximately 40% of all cUTI patients required ≥4 antibiotic therapy and almost half with receive an IV antibiotic in the outpatient setting in the 12-months post index date.

**Disclosures**
TP is an employee of the Albany College of Pharmacy and Health Sciences. MS is an employee of IBM Watson Health. The study was funded by Spero Therapeutics. JM and MAB are employees of IBM Watson Health. TPL is an employee of the Albany College of Pharmacy and Health Sciences. MR is an employee of the Albany College of Pharmacy and Health Sciences. CB is an employee of the Albany College of Pharmacy and Health Sciences. CBM is an employee of the Albany College of Pharmacy and Health Sciences. MJG is an employee of the Albany College of Pharmacy and Health Sciences. JAG is an employee of the Albany College of Pharmacy and Health Sciences. SP is an employee of Spero Therapeutics. CBM is an employee of the Albany College of Pharmacy and Health Sciences.