

Acute uncomplicated cystitis in urgent care centers: changes in antibiotic prescribing practices before and after provider education

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Background

Acute uncomplicated cystitis (AUC) is one of the most common infections in healthy adult women. Urgent Care practitioners are frequent prescribers of antibiotics for the treatment of AUC. The Infectious Diseases Society of America (IDSA) has published guidelines for the treatment of AUC. IDSA recommends nitrofurantoin (5 days), trimethoprim-sulfamethoxazole (3 days), or fosfomycin (one dose) as the first-line agents for the empiric treatment of AUC in healthy adult women. These antibiotic regimens are meant to decrease the use of fluoroquinolones (e.g. due to their high rates of resistance) and beta-lactams (e.g. due to their lower efficacy than other antibiotics to treat AUC). Nevertheless, it has been widely reported that treatment practices vary in the management of AUC. Stricter adherence to IDSA treatment guidelines for AUC has the potential to reduce cost (by not giving antibiotic durations for longer than necessary), while potentially decreasing the development of antibiotic resistance and patient side effects through the use of more appropriate antibiotic regimens.

Objectives

Primary: to evaluate prescribing practices and adherence to IDSA guidelines by providers for the treatment of AUC at baseline (pre-education) and post-provider education

Secondary: to evaluate the impact of a urinary tract infection (UTI) medication panel in the electronic medical record on prescribing practices and adherence to IDSA guidelines

Methods

Design: retrospective, chart review

Inclusion Criteria:

- Patients ≥ 18 years old
- Female sex
- Diagnosis of acute uncomplicated cystitis
- Treated at a Tower Health Urgent Care Center location: Berkshire Heights, Wyomissing, Exeter, or Douglassville

Exclusion Criteria:

- Pregnancy
- Patients with signs or symptoms of pyelonephritis

Study Period:

- **Baseline (Pre-Education):** January 1, 2018 – June 30, 2018
- **Education Provided (Washout Period):** July 1, 2018 – September 30, 2018
- **Post-Education:** October 1, 2018 - June 30, 2019

Intervention: provider education and creation of a UTI medication panel was implemented to facilitate compliance with guidelines

UTI ADULT Discharge Manage My Version v R

▼ Adult Medications

▼ UTI - First Line

☐ nitrofurantoin, macrocrystal-mono-hydrate, (MACROBID) 100 MG Cap Normal, Disp-10 each, R-0

☐ sulfamethoxazole-trimethoprim (BACTRIM DS) 800-160 mg Tab Normal, Disp-6 each, R-0

▼ UTI - Second Line

☐ ciprofloxacin (CIPRO XR) 500 MG 24 hr tablet Normal, Disp-3 tablet, R-0

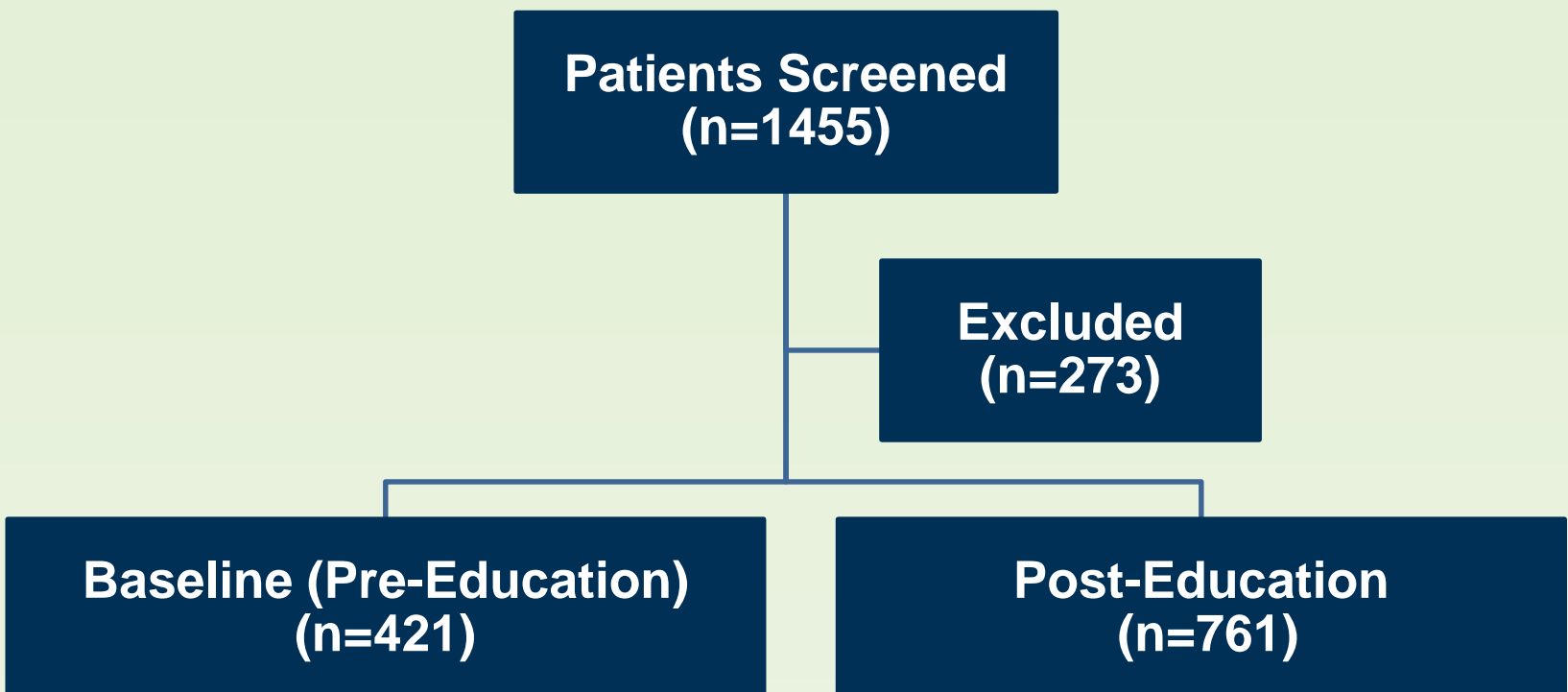
☐ ciprofloxacin HCl (CIPRO) 250 MG tablet Normal, Disp-6 tablet, R-0

☐ levofloxacin (LEVAQUIN) 250 MG Tab (Disp-3 each, R-0

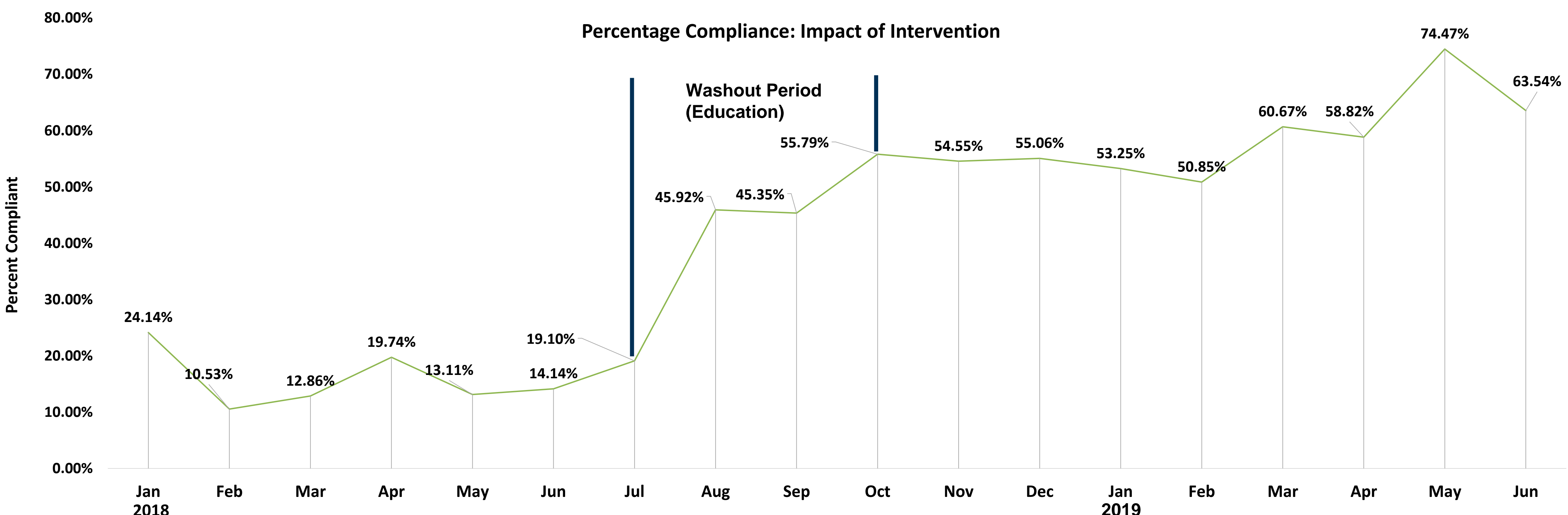
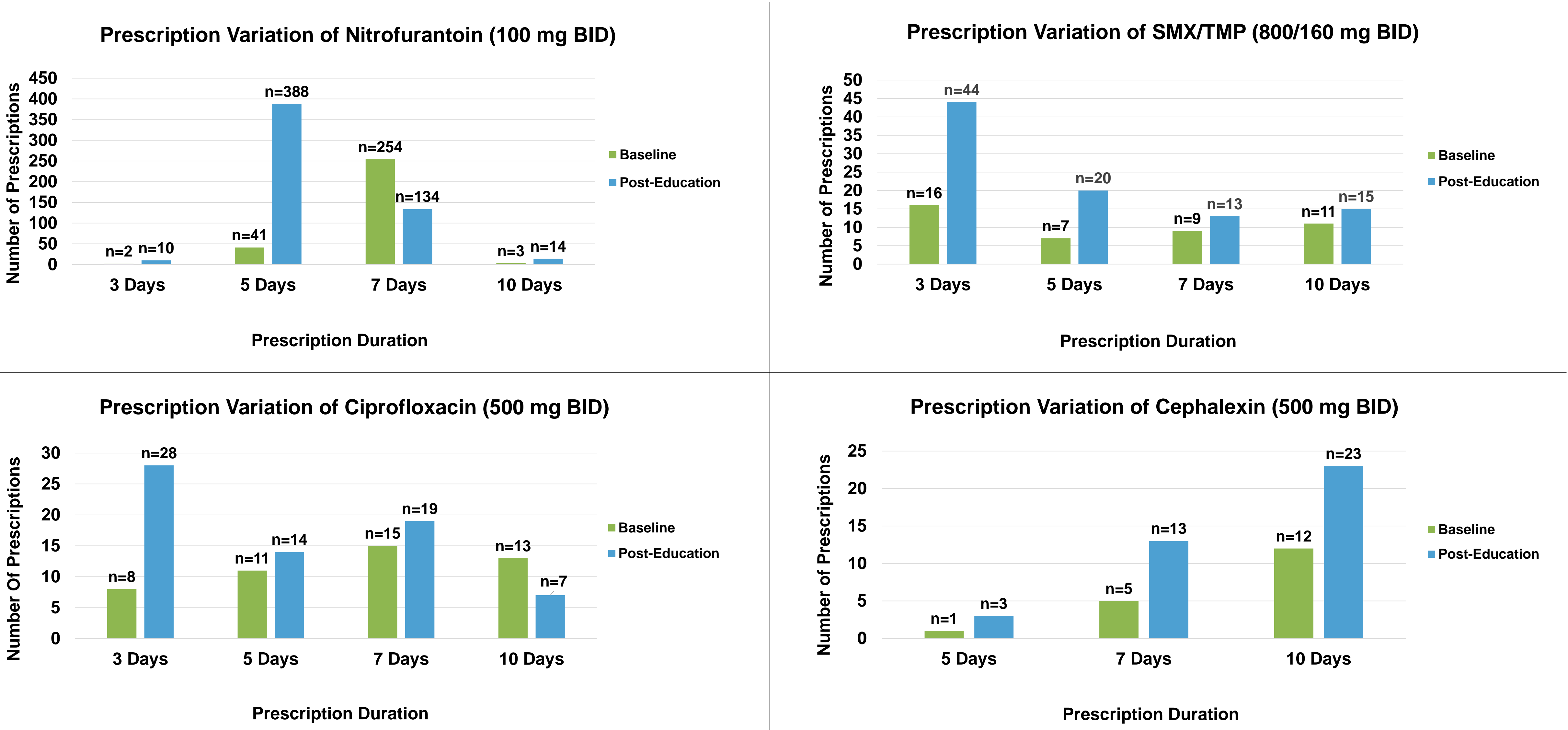
Statistical Analysis:

We used the following calculator for our power analysis: <https://clincalc.com/Stats/SampleSize.aspx>. Based on preliminary study data, we found that if our baseline compliance was 15% and our post-education compliance was 30%, we would need at least 120 people in each arm (alpha 0.05, beta 0.2, power 0.8) for our study to be adequately powered.

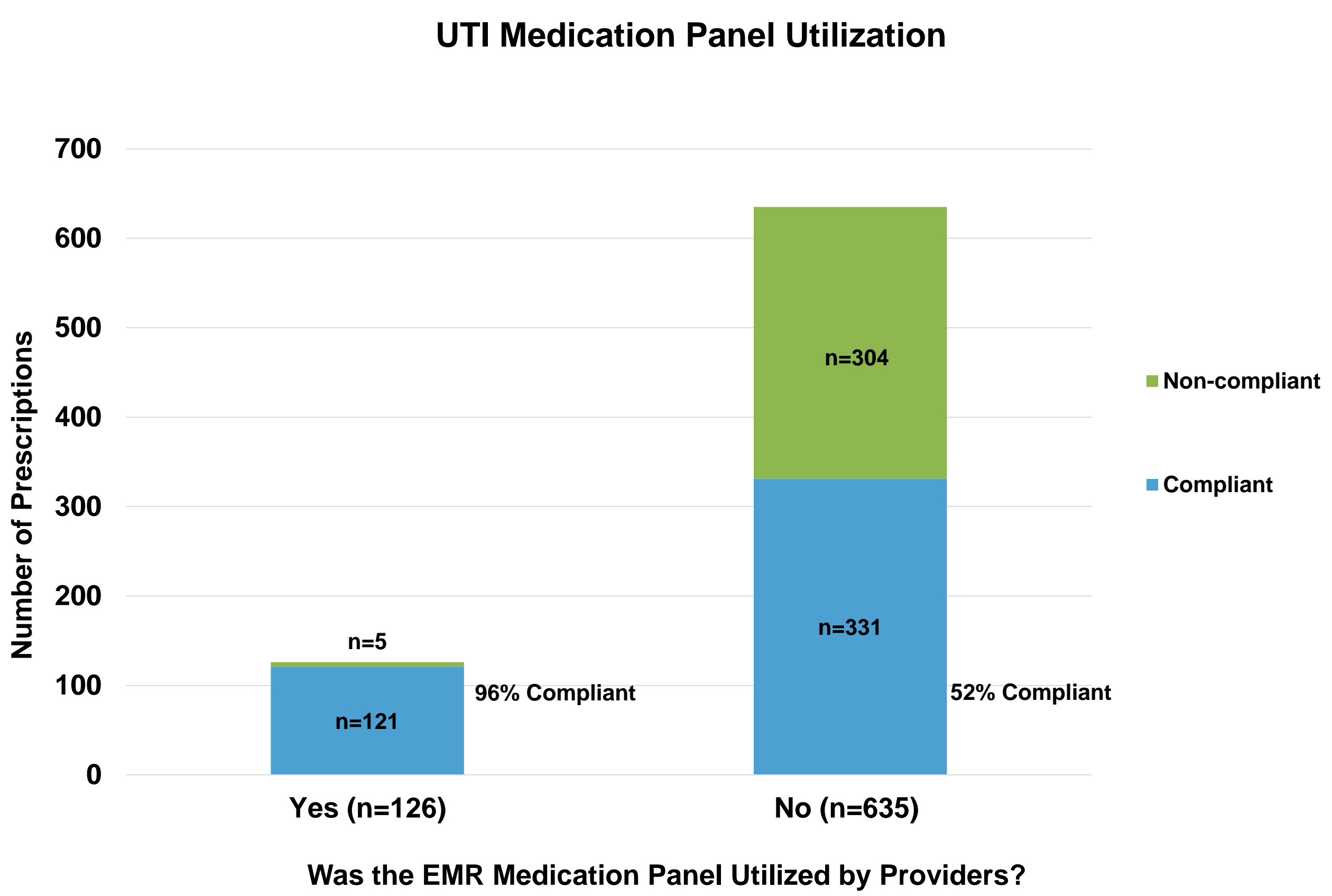
Results



Results



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Conclusions

Provider education and the implementation of a UTI medication panel in the EMR were successful in increasing the compliance rate with IDSA guidelines for the treatment of AUC in adult females treated in Tower Health urgent care centers.

Providers who prescribed using the UTI medication panel had a higher guideline compliance rate compared to providers who did not use the medication panel.

References

International Clinical Practice Guidelines for the Treatment of Acute Uncomplicated Cystitis and Pyelonephritis in Women: A 2010 Update by the Infectious Diseases Society of America and the European Society for Microbiology and Infectious Diseases. Gupta, K, et al. Clinical Infectious Diseases 52.5 (2011): e103-e120.

Disclosures

Authors of this presentation have nothing to disclose concerning possible financial or personal relationships with commercial entities that may have a direct or indirect interest in the subject matter of this presentation.