I. BACKGROUND

Antimicrobial treatment for patients being discharged from the ED presents unique challenges for ED clinicians. In a setting such as the ED, patients are often discharged home before there is adequate time for organism growth in the culture and the respective susceptibility pattern to be determined.

Current available literature supports the importance of timely follow-up and appropriate antimicrobial selection for discharged patients from the ED.\(^1\,^2\)

Baker et al showed that implementation of an antimicrobial stewardship program (ASP) in the ED resulted in a statistically significant decrease in time for positive cultures to be reviewed, as well as the time taken to contact the patient or their primary care physician (PCP) regarding a needed therapy change.\(^1\)

In addition, Randolph et al showed a statistically significant reduction in the following endpoints after implementation of an ASP in the ED: treatment failures, noncompliance due to cost, noncompliance for reasons other than cost, and allergies to therapy.\(^2\)

We sought to evaluate the impact of implementing a pharmacist-managed antimicrobial stewardship program (ASP) in our hospital’s ED by assessing measurable outcomes related to patient follow-up.

II. METHODS

- **Quality assurance project** – included all patients with positive culture results after being discharged home from the ED
- **See Figure 1 for details regarding the daily culture review process.**
- **Two groups compared and assessed:**
  - **Control group (6 weeks):** current practice of ED Physician Assistant (PA) culture follow-up
  - **Intervention group (15 weeks):** transition of culture follow-up to ASP-pharmacist management
  - Data collected retrospectively for the control phase and prospectively during the intervention period
- **Project was IRB approved and data analyzed using SPSS-PC (ver. 21)**

Figure 1. Daily ED Culture Review Process

III. RESULTS

- **During the intervention phase, attempted patient and/or PCP follow-up occurred in 72/73 (98.7%) cases versus 10/22 (45.5%) in the control group (p < 0.001).**
- **No differences in percentage of inappropriate empiric prescribing were seen (44.9% vs 41.2%, p > 0.05).**
- **Comparing control versus intervention groups, sexually transmitted diseases (STD) and urinary tract infection (UTI) accounted for the majority of mistreated infections. (See Figure 2)**
- **Of the reasons for inappropriate empiric therapy, no treatment prescribed and drug-bug mismatch were the most common for both control and intervention groups. (See Figure 3)**
- **In addition, a sub group analysis of STD treatment in ED patients revealed deficiencies in provider prescribing practices and as a result education was provided.**

Figure 1. Daily ED Culture Review Process

Figure 2. Mistreated Infection Type

IV. CONCLUSION

Implementation of an ASP in the ED can improve timeliness of culture review and provide more consistent patient follow-up while reducing the non-clinical workload of ED providers. As a result of this project, our ASP has been able to permanently provide this service.

In addition, with STD screenings occurring in the ED setting consistently and increased reporting of Neisseria gonorrhoeae resistance to oral cephalosporins, we were able to provide needed education to providers on CDC guideline prescribing recommendations.

V. RESOURCES