POSTER ABSTRACTS

235. Use of electronic de-escalation alerts to facilitate prospective audit and feedback for antimicrobial stewardship

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Background. Prospective audit with intervention and feedback (PAIF) to prescribers can decrease inappropriate antimicrobial use. At our institution, PAIF previously had been performed by manual chart review limited to only several broad-spectrum antimicrobials on select inpatient units. To improve efficiency of PAIF, we developed an electronic alert to identify opportunities for de-escalation. Our aims were to determine performance characteristics of the alert and to compare the number of successful de-escalation events before and after the alert was implemented.

Methods. We used a prospective cohort study to evaluate performance characteristics of the electronic alert at the Hospital of the University of Pennsylvania, a 772-bed tertiary-care hospital from July 1, 2013 through October 31, 2013. All adult inpatients receiving a broad-spectrum antimicrobial were eligible. Using Theradoc® (Hospira, Salt Lake City, UT), an electronic alert was created and was used to notify antimicrobial stewardship pharmacists (ASP) in real-time of opportunities for de-escalation. The alert was introduced July 1, 2013, at the same time inpatient ASP resources decreased from 3.0 full-time equivalents (FTE) to 2.0 FTE. A random sample of 200 broad-spectrum antimicrobial prescriptions over the study period was reviewed by two physicians, blinded to whether an alert fired, and was used to determine performance characteristics. PPV was also determined by ASPs reviewing alerts in real-time. Successful de-escalation interventions were compared during and 1 year before the study period.

Results. The alert had a sensitivity of 77.5% (95% CI 61.1-88.6), specificity of 84.3% (95% CI 77.4-89.5), positive predictive value (PPV) of 56.4% (95% CI 42.4-69.4), and negative predictive value (NPV) of 93.5% (95% CI 87.6-96.8). The prospectively determined PPV was 19.4% (95% CI 12.7-28.4%). The successful de-escalation interventions per month increased from 2.8 to 5.3 after introduction of the alert ($p = 0.01$).

Conclusion. Compared to the prior method of PAIF at our institution, electronic alerts were associated with favorable performance characteristics. The implementation of the alert was associated with an increase in successful de-escalation interventions at a time when inpatient ASP resources decreased. Electronic alerts may facilitate more efficient PAIF.

Disclosures. **All authors:** No reported disclosures.

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