

P2483 EPIC fail? Delays to antibiotic administration despite integrated electronic prescribingSaher Choudhry*¹, Reem Santos², David Enoch¹, Michael Murphy¹¹ Addenbrookes Hospital, Cambridge Microbiology and Public Health Laboratory, Cambridge, United Kingdom, ² Cambridge University Hospitals, Cambridge, United Kingdom

Background: Electronic prescribing and medical records (EPIC) were instituted in 2014. We aimed to determine the impact of EPIC on time to antibiotic administration for patients whose microbiology results were not optimally covered by empirical therapy as per hospital guidelines. Our target was to administer new antibiotic within one hour of discussion and documentation in the electronic notes.

Materials/methods: We generated a list of blood cultures from October 2016-September 2017. *Enterobacter*, *Citrobacter*, *Pseudomonas*, *Candida*, *Enterococcus faecium* and *Streptococcus pyogenes* were considered sub-optimally covered by empirical therapy and extracted for the purpose of this study. A random selection of 50 results were analysed. Time to blood culture positivity, antibiotic ordering and antibiotic administration were compared using Kruskal-Wallis test. Kaplan-Meier curves were generated and time to antibiotic administration compared between different bacteria using logrank test.

Results: There were 50 blood cultures collected from 46 patients (54% male; median age of 52 [IQR 37-67]; 18 *E.faecium*, 12 *Pseudomonas*, 11 *Candida*, 8 *Enterobacter* and 1 GAS. The median time for the blood culture to flag was 15 hours 31 minutes (IQR 11h23; 21h27). The time to positive blood culture was longest for *Pseudomonas* and shortest for *Enterobacteriaceae* (17h35 vs 6h52; p=0.005). The median National Early Warning Score (NEWS) for the patients at the time of contacting team was 2 [IQR 1,3] and the highest within the preceding 24 hours was 3.5 [IQR 2,6]. Electronic prescribing of new antibiotic after this contact took a median of 32 minutes [IQR 16h2; 2h15]. Median time to antibiotic delivery after discussion with clinical team and documentation of result in the electronic notes was 4h39 [IQR 2h51;9h20]. Times to antibiotic administration (figure 1) were longest for *Candida* compared to *Enterobacteriaceae* (HR 3.03; p0.0095). Only 4% of patients received the new antibiotics <1 hour.

Conclusions:

Delays to antibiotic administration were not eradicated by electronic prescribing and <1hr targets were rarely met. Improvements in electronic and/or personal communication are required to limit delays to antibiotic administration and improve patient outcomes.

Figure 1 Kaplan Meier curves of time to antibiotic administration per organism