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The impact of blood culture identification by MALDI-TOF MS on the antimicrobial Management of Pediatric Patients

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Title: The Impact of Blood Culture Identification by MALDI-TOF MS on the Antimicrobial Management of Pediatric Patients

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Abstract:

Objective: To assess the impact of MALDI-TOF MS coupled with antimicrobial stewardship on clinical outcomes for pediatric inpatients with bloodstream infections.

Methods: Outcomes of pediatric inpatients were compared before and after MALDI-TOF MS implementation. Outcomes measured included time until organism identification and susceptibility, duration of antibiotics, patient length of stay (LOS), mortality and hospital costs.

Results: 210 and 135 patient events were compared pre- and post-intervention. Average time to organism identification decreased from 41 to 11 hours (p=<0.0001). Time to i) susceptibilities decreased from 50.8 to 37.7 hours (p=<0.0001), ii) de-escalation of antibiotics decreased from 58 to 23 hours (p=<0.0001), iii) discontinuation of unnecessary antibiotics decreased from 49 to 20 hours (p=<0.0001). Infection-related LOS decreased from 10.5 to 8.37 days (p=0.006). No significant differences were seen for other outcomes.