subgroups according to their infectious status and having clinical signs or not. CRP values were compared between neonates infected and not infected. Receiver operating characteristic (ROC) curves were constructed separately in symptomatic and asymptomatic groups. The sensitivity, specificity, positive predictive value, negative predictive value, likelihood ratios and post-test probability were determined using different cut-off values.

Results Among 6314 articles screened, 240 studies with a total of 437,796 patients met the inclusion criteria and were included in our analysis. 99 came from high income countries, 44 from upper middle income countries, 82 from lower middle income countries, 6 from low income countries and 9 were conducted in multiple countries. Overall, the pooled CFR was 0.18 (95% CI, 0.17–0.19). The CFR was the highest in low income countries (0.25 [95% CI, 0.07–0.43]), followed by lower middle (0.24 [95% CI, 0.21–0.26]), upper middle (0.21 [95% CI, 0.18–0.24]) and lastly high income countries (0.12 [95% CI, 0.11–0.13]).

Other factors associated with higher CFRs included prematurity (0.23 [95% CI, 0.19–0.26] vs term CFR 0.10 [95% CI, 0.08–0.13]), low birth weight (0.21 [95% CI, 0.19–0.24] vs normal birth weight 0.19 [95% CI, 0.18–0.20]), early onset sepsis (0.20 [95% CI, 0.17–0.24] vs combined 0.16 [95% CI, 0.14–0.18]) and hospital acquired infection (0.23 [95% CI, 0.17–0.30] vs community acquired infections 0.21 [95% CI, 0.10–0.33]). Time trend analysis showed higher CFRs in the low income countries than the middle and high income countries. A decreasing trend in CFRs over time was observed in high and upper middle income countries, as compared to an increasing trend in lower middle and low income countries.

Conclusions While we saw a declining trend of young infant sepsis CFRs among high and upper middle income countries across the years, the increasing trend amongst lower middle and low income countries highlights a disparity in infant sepsis outcomes based on resource availability. We highlight specific vulnerable patient populations that should be further studied in order to reduce the global burden of young infant sepsis.

### Abstracts

#### 389 CONTEMPORARY TRENDS IN GLOBAL MORTALITY OF NEONATAL SEPSIS: A SYSTEMATIC REVIEW AND META-ANALYSIS

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**Background** Sepsis causes death and morbidity in young infants. Globally, an estimated 1.3 – 3.9 million young infants experience sepsis and 400,000 – 700,000 die from sepsis-related conditions annually. Even though there have been significant progress over the past twenty years in reducing young infant mortality, sepsis currently accounts for up to 15% of all young infant deaths. A thorough understanding of young infant sepsis can inform strategies that span prevention, diagnosis and intervention for young infant sepsis.

**Objectives** We aimed to perform a systematic review and meta-analysis to investigate the case fatality rates (CFRs) among young infants less than 90 days with sepsis globally.

**Methods** We used the Preferred Reporting Items for Systematic Reviews and Meta-analysis (PRISMA) 2009 guidelines. We searched PubMed, Cochrane Central, Embase and Web of Science for randomized clinical trials and observational studies in English language, published between 2010 to 2019. Studies involving young infants less than 90 days old with sepsis and reported CFRs were included. We obtained pooled CFRs estimates using the random effects model. Additional stratifications by gestation, birth weight, onset of sepsis (early onset was defined as <72 hours), source of sepsis and gross national income were also performed. Risk of bias was assessed using the Cochrane risk-of-bias tool for randomized controlled trials, and the Newcastle-Ottawa Scale for all observational studies.

**Results** Of 101 MEs reported in RMS, 59% were related to wrong dose, 22% to wrong medication and 6% to wrong patient. Wrong doses were related to duplicate dose (48%), wrong weight (20%), 10-fold errors (5%) and calculation errors (5%). Majority of MEs occurred during drug