AAP DISTRICT VIII SECTION ON NEONATAL PERINATAL MEDICINE

2021 ANNUAL CONFERENCE **ORIGINAL RESEARCH** (BASIC SCIENCE or CLINICAL)
ABSTRACT SUBMISSION FORM

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Title: Can WHO Danger Signs be used to identify young infants with bacterial sepsis?

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Background: To assist front-line health workers in recognizing a critically ill infant 0-59 days old in low-/middle-income countries (LMIC) and for triaging and initiating empirical treatment, the WHO and Young Infants Clinical Signs Study Group validated a series of *danger signs* (DS) (Lancet, 2008). These DS have been used as a tool to identify infants with bacterial sepsis although not specifically developed for this purpose. The objective of our study was to evaluate the performance of the WHO DS in predicting bacteremia and mortality in a LMIC setting.

Methods: Re-analysis of a cohort of infants <3 months evaluated for sepsis at Kamuzu Central Hospital, Lilongwe, Malawi - June 2018 to August 2019. The presence of eight DS: feeding intolerance (based on parent/caregiver), drowsiness, lethargy, tachypnea > 60 cpm, grunting, chest recession, temperature instability, central cyanosis, were assessed at initial presentation by health workers. Main outcomes were culture-positive sepsis (blood/CSF) and mortality.

Results: Among 314 infants (mean ± SD: GA 37.1±3.2wks, BW 2872±797g), blood (n=62/314) and CSF (n=2/132) cultures were positive in 20% and 1.5% of the population respectively. Death in-hospital occurred in 10.2% (n=32) infants (67% within 48h of admission). All infants received antibiotics. Fever was the only DS associated with bacteremia (OR 16.5; 95% CI: 8.18 – 33.4), whereas most DS were associated with mortality except for fever, hypothermia and tachypnea. In logistic regressions, number of DS predicted mortality, but not bacteremia.

Conclusion: This study validates the use of WHO DS to predict fatal outcomes. Our findings suggest that WHO DS did not predict culture proven sepsis in a tertiary care LMIC hospital setting.