Background Clinical prediction rules (CPRs) are developed to aid the identification of serious infections (SI), but their value in young febrile infants remains unclear.

Aim To systematically review existing CPRs and subsequently validate these CPRs in two external cohorts of young febrile infants at risk for SI in the Netherlands and Spain (N = 2148; ≤3 months).

Methods We included seven multivariable developed CPRs for febrile children to predict SI, including clinical predictors and/or diagnostic tests results. CPR performance was assessed by sensitivity, specificity, calibration analyses and area under the receiver operating characteristic curve (AUC).

Results All CPRs (including 19 different predictors) originally performed moderate-good (AUC 0.60–0.93). The original cohorts, with SI prevalence variation of 0.8–27%, varied between 531 and 5279 febrile children. Almost all CPRs were derived in emergency care populations including wide age ranges of 0–16 years.

Validation of CPRs missing ≥2/3 of the required variables was not performed, resulting in limited evaluation of two CPRs including eg capillary refill time and vital signs (heart/respiratory rate) in the Spanish cohort.

Four out of 7 CPRs showed acceptable ROC-areas (0.76–0.89) in both cohorts. Sensitivities of CPRs predicting high/low risks ranged from 0.60–0.93 and specificities from 0.71–0.97. Three CPRs were non-informative (AUC 0.49–0.50). Calibration slopes were mostly <1, which could indicate overestimation of predictor effects in young febrile infants.

Discussion and Conclusion Four (out of 7) CPRs showed comparable performance in the identification of SI in infants ≤1 year, although with more emphasis on their rule-in value (specificity). However, predictor effects were generally overestimated.

Methods We retrospectively analysed all neonates aged ≤32 weeks gestation transferred before 6 h of life from the South Paris University Hospitals to another TCC. Transfer was due to organisational problems. Control group consisted of neonates born the month before or after the cases and matched for gestational age, birth weight and CRIB-II. Simple linear and logistic regressions were used for analysis.

Results We included 60 cases and 60 controls. The two groups were similar for basic clinical characteristics. No difference in clinical features (RDS, infection related respiratory failure, air leaks, hypotension) were present between the groups (Table 1).

Early outcomes (IVH, periventricular leucomalady, NEC, BPD and NICU stay) rates were not influenced by the transfer transport (Table 1).

Conclusions Perinatal transfer for preterm babies born in a TCC is not a negative prognostic factor. It is conceivable that optimal care in delivery room is a keystone for better outcome.