Background Variations between neonatal units in implementation of the Early Onset Neonatal Sepsis (EONS) National Institute for Health and Care Excellence (NICE) guideline CG149 were observed by trainees moving between units. Aim To explore variations in implementation of the NICE EONS guideline within the region, and identify quality improvement steps to improve implementation within shared network guidelines.

Method Multicentre audit of compliance with the EONS NICE guideline was undertaken involving eight neonatal units within the two neonatal networks in the region. All neonates (≥34 weeks gestation), suspected of having EONS were prospectively audited over a consecutive four-week period between October 2016 – January 2017. Anonymised patient data was recorded on a standardised proforma.

Results 320 neonates had suspected EONS. 53% were male with a mean ±SD gestation of 38.4±2.1 weeks. 93 (29%) did not fulfil criteria for initiation of antibiotics. 313 (98%) had a second C-reactive protein (CRP) level, but only 103 (33%) received Benzylpenicillin and 310 (97%) Gentamicin. 305 (98%) received the first antibiotic dose within 1 hour of decision to treat, this varied between units from 25.8% to 91.7%. Blood culture result was unavailable in 98 (30%) by the NICE 36 hour target, varied between units from 0% to 96.8% being available at ten hours.

Conclusions NICE EONS guideline is variably implemented. The units which performed better, have various toolkits, these include; use of an EONS proforma or electronic form within Badger.net, use of a drug chart with specific boxes for time management approaches are commonly used and may be suitable for evaluation in trials. Conventional randomised trials may be difficult to perform, although a randomised registry trial may be a suitable alternative.

Aims The objectives of this study were to calculate mental health conditions prevalence in pregnancy, compare adverse neonatal outcomes in relation to mental health status and antidepressants use in pregnancy and evaluate maternal smoking association with mental health conditions.

Methods A retrospective cohort study of babies born between January 1 st and December 31 st, 2016 at Cwm Taf University Health Board. Data was extracted from Maternal Information Technology System (MITS) and Badgernet neonatal database. Statistical analyses were performed using p<0.05 to indicate statistical significance. Odds ratios and 95% confidence intervals (CI) were calculated to compare outcome rates between study groups.
A SYSTEMATIC REVIEW OF QUALITY IMPROVEMENT INITIATIVES IN LOW AND MIDDLE INCOME COUNTRIES FOR HOSPITALISED SICK AND SMALL NEONATES

Aims 98% of the estimated 2.7 million neonatal deaths in 2015 occurred in low- and middle-income countries (LMICs). Within this group, neonates who are preterm or small for gestational age are at higher risk given the notable incidence of cardiopulmonary and neurodevelopmental disorders, and infectious complications, in this group. Quality Improvement (QI) initiatives can reduce the burden of morbidity and mortality for hospitalised neonates in LMICs. We undertook a systematic review to synthesise evidence from LMICs on QI approaches used, outcome measures employed, and the nature of any barriers or promoters for efficacy.

Methods Database searching included Medline, EMBASE, WHO Global Health Library, Cochrane Library, WHO ICTRP and ClinicalTrials.gov, and we conducted citation searching of identified studies and reviews. Search terms were ‘neonates’, ‘quality improvement’, ‘hospitalised’ and derivatives. Studies were excluded if they took place in high income countries, did not include QI interventions, did not include small/sick hospitalised neonates. Included studies were published between January 2000–April 2017. Quality appraisal was conducted with use of Cochrane Risk of Bias tools for interventions.

Results A total of 28 studies were included, covering 23 LMICs and 57,902 participants. The interventions mostly took place at the district and clinic level, and secondly at the level of patient-provider interaction. Educational interventions were most common, and other popular interventions included service organisation and referencing material dissemination. Mortality was the most commonly assessed outcome, and length of admission, sepsis rates and infection rates were also commonly investigated. Barriers included overburdened staff and insufficient equipment; promoters included motivation of key figures and monitoring.

Conclusion To our knowledge this is the first systematic review to examine QI initiatives in this specific population. The majority of QI initiatives for hospitalised small and sick neonates are aimed at the district and clinic level. Outcomes tended to focus on the delivery of safe and effective care, but rarely focused on people-centred, timely or equitable care. Programme planners should aim for coordinated, larger-scale interventions, sustainable information systems, and to be mindful of barriers.