Methodology Retrospective review of clinical records of babies discharged between Jan 2014 and Dec 2015 were compared to babies discharged between Jan 2016 to Dec 2017.

Old protocol, weaning done in increments of 30 min, 1 hr, 2 hr, 3 hr twice daily off, 6 hr, 8 hr, 10 hr off with an OOS at each step. New protocol, general health and nutritional status guide the daytime O_2 weaning. Weaning done in increments of 30 min, 2 hr twice daily off, 6 hr and 12 hr off in day time followed 2–3 weeks later by two OOS, one in oxygen and one in air.

Results 33 babies were discharged each year on LTOT. Groups were comparable in mean birth weight (kg), gestational age and comorbidities (table 1). New protocol was associated with shorter duration of O_2 therapy (P value0.005). There was saving of £3215.54 for cost of oxygen in 2016–17. The parent satisfaction and the Friends and Family test score were 100%.

Abstract G559(P) Table 1

	2014–2015 Mean (95% CI)	2016–2017 Mean (95% CI)	P value
Gender ratio (M: F)	13:18	16:13	0.350
Birth weight Kg	906.2(812.0–1000.4)	822.9(720.0–925.8)	0.226
Gestational age(weeks)	26.7(25.8–27.7)	25.9(25.0–26.7)	0.141
comorbidity- PDA	77%	93%	0.089
comorbidity NEC	48%	44%	0.782
duration of LTOT (days)	499.3 (360.0–638.5)	280.8 (232.4–329.2)	0.005
No. of oximetry studies (OSS)	13.6 (10.5–16.6)	15.4 (12.6–18.3)	0.364
No. of outreach visits	15.5(13.4–17.6)	16.3(14.3–18.3)	0.593
No. of clinic visits	6.5 (5.4–7.5)	5.2 (4.3–6.0)	0.056
O2 cylinder cost per one patient £	291.59(230.24–352.94)	200.82(176.40–225.24)	0.008

Conclusions Structured monitoring and weaning based on clinical parameters and parental input led to shorter duration of LTOT The service users' feedback was 100% positive. Not all activities to provide this service were coded.

G560(P) SAFETY OF THE KAISER PERMANENTE EARLY ONSET NEONATAL SEPSIS RISK CALCULATOR: A MULTI CENTRE RETROSPECTIVE STUDY

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Aims Early onset neonatal sepsis (EOS) is a rare but significant cause of mortality and morbidity. Babies are treated based on risk factors and clinical indicators, according to National Institute for Health and Care Excellence (NICE) guidelines.

An electronic risk calculator has been developed by Kaiser Permanente, providing an estimation of EOS risk for babies ≥34 weeks gestation. Blood cultures are recommended if the risk is ≥1/1000 live births, plus empirical antibiotics if ≥3/1000. The baby can be categorised as Well/Equivocal/Ill and a 'risk after clinical exam' score given.

We evaluated a large number of EOS cases to determine if it would be safe to introduce the calculator locally.

Methods A list of positive blood cultures from babies ≥34 weeks gestation was obtained from two tertiary neonatal units. Study periods were December 2016–November 2017 and July 2016–July 2018 in the first and second trusts respectively.

The necessary data for the calculator was obtained from maternal and infant records, and the calculator score recorded. For babies treated based on 'risk factors' as per NICE, the score at birth was used. For babies treated according to clinical features, the score after examination was used.

The primary outcome was whether the calculator would have recommended empirical treatment in babies who went on to have EOS.

Following consultation with the research and development department, there was no requirement for ethical approval.

Results There were 21,242 births in the study period and 24 cases of culture-proven EOS. 3 babies were commenced on antibiotics outside of NICE guidance. 11 babies were commenced on antibiotics due to risk factors for EOS; 13 due to clinical indicators.

Of the 24 babies with culture-proven EOS, empirical antibiotics were only recommended by the calculator in seven.

Of the 11 babies commenced on antibiotics due to risk factors, 10 would have had delayed or missed treatment if the calculator had been used.

Conclusion Whilst the calculator has resulted in a substantial reduction in antibiotic use in published studies, we have demonstrated that a large proportion of EOS cases may be missed by the calculator. Currently, the benefit of introducing the calculator does not outweigh the risks.

G561(P) SENSITIVITY OF THE KAISER PERMANENTE EARLY-ONSET SEPSIS CALCULATOR: A SYSTEMATIC REVIEW AND META-ANALYSIS

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Aims Determining which babies should receive antibiotics for possible early onset sepsis (EOS) is challenging. Kaiser Permanente have developed an electronic calculator providing an individualised estimation of EOS risk.

We performed a meta-analysis quantifying how many culture positive EOS cases might be 'missed' using the calculator, in addition to cases missed using National Institute for Health and Care Excellence (NICE) guidelines (CG149 2012).

Methods A systematic literature search using a modified cluster technique, snowballing from studies citing the article in which the calculator was widely publicised (Kuzniewicz 2017) on Ovid MEDLINE, Embase, Maternity & Infant Care Database and Google scholar. Reference lists were reviewed.

Studies were eligible if they presented data evaluating the calculator, either by retrospective case review or prospective cohort study and identified at least one episode of EOS.

The primary outcome measure was numbers of culture positive EOS cases where the calculator did not recommend empirical antibiotics. If the NICE guidelines would not have recommended treatment either this was not classified as a 'miss'. Risk of bias was assessed using QUADAS-2.

Data were pooled using a random effect meta-analysis, quantifying heterogeneity using I^2. A subgroup analysis was performed using data from studies of babies exposed to chorioamnionitis.

Results Eleven studies were eligible. There were 75 EOS cases and a minimum of 14, and a maximum of 22 cases where use of the calculator would have resulted in delayed or missed treatment, compared to if NICE guidelines were followed.

The probability of 'calculator' delayed or missed treatment for an EOS case (additional to cases missed by following NICE guidelines) were best case 0.19 [95% confidence intervals 0.11 – 0.29,I^2 0%], worst case 0.31 [95% CI 0.17 – 0.49, I^2 37%].

The probability of missing cases was significantly (p=0.03) more in babies exposed to chorioamnionitis, up to 0.56 [95% CI: [0.25, 0.82], I^2 0%].

All included studies had a low/moderate probability of bias.

Conclusion A substantial proportion of EOS cases were missed by the calculator. Further evaluation of the calculator is recommended before it could be safely introduced into UK clinical practice.

G562(P) LIFESTART RESUSCITATION PLATFORM TO ENABLE DEFERRED CORD CLAMPING IN PRETERM INFANTS <32 WEEKS

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Aims Randomised controlled trials have demonstrated improved survival with deferred cord clamping (DCC) at preterm birth.

We adopted the use of Lifestart trolley (LS) in preterm deliveries at our centre in March 2013 to enable stabilisation of babies with an intact umbilical cord. Initial compliance with our guideline was poor.

A quality improvement project was undertaken with the aim of increasing LS use at delivery in preterm babies with 2 minutes DCC.

Methods A quality improvement programme from April 2018-April 2019 was undertaken using Plan, See, Do, Act (PDSA) cycles. Data were reviewed from 113 consecutive preterm (<32 weeks) deliveries to identify whether LS was used and whether 2 minutes DCC occurred in eligible infants. Episodes of non-compliance were analysed, causes established and interventions implemented to improve compliance rates. Data collected was distributed via alternate monthly newsletters to staff, including lessons learnt from the reviews of non-compliance.

Results The use of Lifestart was noted to increase progressively through the period to almost 80% in April 2019.

Of those infants eligible, the rate of DCC also showed a progressive increase from 16% in the first three months to 80% in the April 2019 (table 1).

This is in marked contrast to national data collected from Badgernet, which shows only 5% of preterm babies born before 32 weeks gestation have a documented period of DCC of 60 seconds or more.

Abstract G562(P) Table 1

	April-June 18	July-Sept 18	Oct-Dec 18	Jan-March 19	Apr 19
% Lifestart used	26.9	53.3	72.0	52.4	77.8
% Received DCC	16	31.6	68.4	73.3	80

Conclusions DCC at preterm birth increases survival. Despite this knowledge, there is limited implementation of this intervention across UK.

By undertaking regular PDSA cycles we have changed our practice of management at preterm deliveries.

The learning from the project enabled us to produce an instructional video (Available at http://bit.ly/LWHLifeStart) to support its use in our practise.

G563(P) WHAT OUTCOMES IN NEONATAL RESEARCH ARE IMPORTANT TO HEALTHCARE WORKERS AND PARENTS IN NIGERIA?

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Background There is a scarcity of information around the most important outcomes for research in neonatal units in low-resource settings. Identification of important outcomes, which reflect shared clinical decisions between healthcare workers and parents, would inform the development of a core outcome set (COS) for use in research.

Objective To identify the outcomes that are important to healthcare workers and parents of newborn babies in neonatal units in Nigeria.

Methods A Delphi process was conducted amongst healthcare workers from various centres in Nigeria to identify and rank outcomes they considered important. Semi-structured interviews were then undertaken with parents of babies (mostly mothers) admitted to two neonatal units to ascertain their opinions and rank the outcomes previously identified by clinicians that were particularly important to them.

Results Outcome domains of most importance identified by healthcare workers and parents were short-term morbidity, nutrition, mortality, bonding, quality of life, length of hospital stay, financial cost, and long-term outcomes (both medical and functional). Healthcare workers prioritised short-term morbidity, neonatal mortality, and long-term complications; however, there was substantial variation between physicians and nurses, the latter raising quality of life as important. Parents placed more emphasis on quality of life and functional status than health complications.

Conclusions Clinical trials in low-resource settings should consider the outcomes identified in our study. The opinions of parents and nurses (as opposed to just physicians) need to be considered in developing COS for neonatal research in low-resource settings.