

Title - Each Baby Counts in 2018 – lessons learned and future direction

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Abstract

The Royal College of Obstetricians and Gynaecologists (RCOG) launched the Each Baby Counts (EBC) project in 2015. The aim of the project is to reduce the number of stillbirths, early neonatal deaths and severe brain injuries in term babies born following labour by 50% by the year 2020. The first full report focussed on the quality of local reviews, fetal monitoring, individual human factors and neonatal care. For this article we have not focussed on the neonatal issues but have summarised the main points from each chapter.

The aim of EBC will be achieved by focusing on three themes.

- 1.** Improving the quality of reviews of these babies prompting local units to address their systematic failings that led to the outcome.
- 2.** Development of toolkits and resources to support units to implement the recommendations in the report.
- 3.** Improve care by establishing a platform for shared learning between units in order to adopt a more proactive approach to reducing babies who are harmed during labour.

Key words: Stillbirth, Early neonatal death, severe brain injury, intrapartum,

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Introduction

The Royal College of Obstetricians and Gynaecologists (RCOG) launched the Each Baby Counts (EBC) project in 2015. The aim of the project is to reduce the number of stillbirths, early neonatal deaths and severe brain injuries in term babies born following labour by 50% by the year 2020. In October 2017 the first full report was published concerning the cohort of EBC babies born during 2015 and focusing on the quality of the investigations and significant contributory factors

The 2017 report is the first of a series of reports analysing the care and local review of these babies. Our aim is to highlight recurring themes and develop evidence based recommendations that, along with the support of toolkits and resources and shared learning, will drive improvement in intrapartum care.

Methodology

All eligible babies (See fig 1) are notified by the local EBC reporters to the central EBC team based at the RCOG, London. The notification includes the details of the anonymised local review which is before being uploaded to the EBC web-based platform.

Submitted local reviews are

scrutinised by a team of EBC assessors, an obstetrician, a midwife and a neonatologist.

The EBC reviewers are asked to determine whether

Eligible babies include those born at term (≥ 37 completed weeks of gestation), following labour, that had one of the following outcomes:

- Intrapartum stillbirth:** when the baby was thought to be alive* at the start of labour but was born with no signs of life†. This includes when:
 - Labour was diagnosed by a healthcare professional. This includes the latent phase of labour, i.e. less than 4cm dilatation
 - The mother called the unit to report any concerns of being in labour, for example (but not limited to) abdominal pains, contractions or suspected ruptured membranes
 - The baby was thought to be alive at induction of labour
 - The baby was thought to be alive following suspected or confirmed premature rupture of membranes (PROM).
- Early neonatal death:** when the baby died within the first week of life (i.e. days 0–6) of any cause
- Severe brain injury** diagnosed in the first seven days of life.** These are any babies that had one or more of the following:
 - Diagnosed with grade III hypoxic ischaemic encephalopathy (HIE)ⁱ
 - Actively therapeutically cooledⁱⁱ
 - Had all three of the following signs: decreased central tone;ⁱⁱⁱ comatose; seizures of any kind.

Notes:

* As assessed by any means, including but not limited to: Pinard stethoscope, handheld Doppler, CTG, bedside ultrasound, assessment of fetal movements, or assumed to be alive without confirmation.

† Excludes babies that clearly died before labour (macerated stillbirth) if confirmed by post mortem.

** Severe brain injury equates to neonatal encephalopathy, the clinical manifestation of disordered neonatal brain function.

ⁱ Hypoxic Ischemic Encephalopathy (HIE) is a condition associated with a reduction in oxygen supply to the baby from a variety of causes during the birthing process. The clinical syndrome of HIE is graded according to its severity with grade III being the most severe.

ⁱⁱ Active therapeutic cooling involves reducing a baby's body temperature to 33.5 C and maintaining it at this level for up to 72 hours before a gradual re-warming process is started.

ⁱⁱⁱ Decreased central tone is when the central muscles appear to be less firm than usual and the baby is floppy.

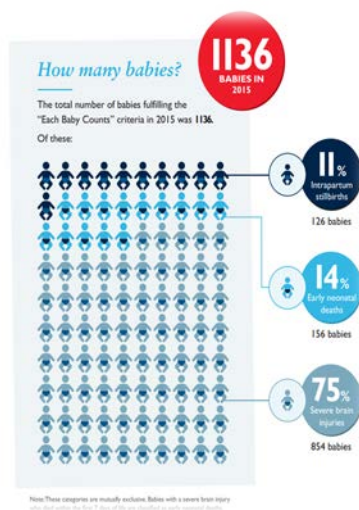
Figure 1 - Eligibility criteria for Each Baby Counts

1. The review provided contains sufficient information to assess the care provided
2. If so, may different care have prevented the outcome?
3. If the outcome could have been prevented, what were the significant contributory factors.

The reviewers then identify the contributory factors that led to the outcome.

Key Findings

In 2015 there were 723,251 term babies born in the UK¹. Of these 1136 babies were reported to EBC (see fig.2).



Quality of the local reviews

One of the most significant findings from the EBC report was that in **25% of babies the local review contained insufficient information** for the EBC reviewers to classify the care provided.

This could have been due lack of a structured review being uploaded with no clear timeline or only the slides from a morbidity and mortality meeting being provided.

A clear recommendation for units is that all babies should have a review of sufficient quality to allow classification of care.

Of the reviews that were considered sufficient to assess the care provided **96% had a multidisciplinary team, normally comprising** midwives and obstetricians. Senior managers, such as intrapartum leads, were involved in 48% and anaesthetists in 11% of reviews.

Of the 727 babies with sufficient reviews, 628 babies were born alive, but for those babies **neonatal clinicians took part in only 68% (249) local reviews**. Such an omission means that vital insight and/or all relevant contributory factors may have not been captured. This has led to the recommendation that local reviews of EBC babies born alive should include neonatal representation.

EBC has increased the number of expert neonatal reviewers, so that a neonatologist as well as a midwife and an obstetrician now scrutinise local reviews of all EBC live born babies.

Only 9% of local reviews contained an external panel member. It is acknowledged that an external panel member can enhance the quality of a review by providing an unbiased view that may lead to more systematic recommendations and, therefore, all units are strongly encouraged to ensure external participation in future EBC reviews.

Recommendations that focus on individuals do little to prevent recurrence as they do not appreciate the system failures that allow incidents to occur. It is by finding solutions to the system failures that will allow us to prevent the same outcome happening over and over again. When local EBC reports made recommendations for improvement, these focused **solely on individuals in 23% of instances.**

Parents were invited to be involved in only 34% of the local reviews and in 19% the parents were not part of the review process at all. This finding has generated significant media and public attention as they found it difficult to understand a process that does not benefit from vital information that parents may provide. They also considered that the current situation denies parents the opportunity to have their questions addressed by the review.

It would be clearly inappropriate to mandate that parents should be present throughout the whole review but if they wish to submit questions this should be accommodated. Sands, the stillbirth and neonatal death charity, have published guidance on the key elements of bereavement care that may help with this², and research in this area is ongoing³.

Thematic analysis of the babies

Intrapartum fetal monitoring

Fetal monitoring during labour was identified as one of the most common contributory factors identified in 409 babies and was therefore chosen for in-depth thematic analysis.

Intermittent auscultation

The incorrect assignment of risk maternal and fetal risk status limits the intensity of fetal monitoring and, in some instances, limits access to necessary resources, i.e. obstetric or neonatal services.

Another important theme was the lack of appropriate action when an abnormality was identified.

The clinical team must remain vigilant to an evolving situation throughout labour and regularly reassess management plan, as this may need to be adjusted to encompass the change in situation.

A number of local reviews highlighted that intermittent auscultation was not being performed to the recognised national standard, in particular the practice of 5 minute fetal heart auscultation in the second stage of labour⁴. Full compliance with these recommendations, whilst simultaneously providing support for the mother and her birth partners and maintaining contemporaneous documentation, is a major challenge. When full compliance is not achievable help should be sought. Continuous CTG may be needed to provide continuous fetal monitoring.

Finally, intermittent auscultation is distinctly different from continuous CTG monitoring when it comes to different stages of labour as the frequency of IA changes from latent to active and from active to second phase. Care providers must be alert to this transition in order to provide the optimum IA monitoring. Listening, acknowledging and reacting appropriately to what a mother is communicating needs to be central to the care provided. More frequent vaginal assessments may be needed to ensure that frequency of IA is appropriate, rather than adhering rigidly to the previous plan.

Thematic analysis of reviews where IA was identified as a contributory led to the following recommendations:

Women who are apparently low risk should have a formal fetal risk assessment on admission in labour irrespective of the place of birth to determine the most appropriate fetal monitoring method

NICE guidance on when to switch from intermittent auscultation to continuous CTG monitoring should be followed

Healthcare providers should be alert to the possibility of quick transition between different phases of labour (latent phase to active stage, active stage to second stage)

Continuous CTG

A lack of recognition of a pathological CTG was identified as a theme in many of the reviews.

Misinterpretation of the CTG resulted in babies who were potentially asphyxiated were missed.

Failure to expedite delivery following the recognition of a pathological CTG was a further theme. An illustrative example was a delay caused by waiting for maternal blood results prior to performing an emergency caesarean section. Although maternal safety is important, the operation could have proceeded had the urgency of the situation been fully appreciated and communicated.

Another theme was the technical difficulties encountered whilst trying to obtain adequate CTG recording, either of fetal heart rate, uterine contractions or both. The lack of information that from inadequate monitoring can be detrimental to the care we provide. For example, there were several incidents when the tocograph suddenly stopped recording and the contractions were no longer palpable. Unfortunately, there was no consideration of the diagnosis of uterine rupture and the opportunity to expedite delivery was missed resulting in an intrapartum stillbirth.

The overarching theme, and one that is applicable to all the babies reviewed is the need to appreciate the whole clinical picture, rather than focusing solely on the CTG. It is critically important to maintain a holistic approach to CTG interpretation, identify and consider all the risk factors

present, both those that occur in the antenatal period and that develop for the first time intrapartum.

Following recommendations emerged from our thematic analysis.

Staff tasked with CTG interpretation must have documented evidence of annual training

Key management decisions should not be based on CTG interpretation alone

Human factors and lack of non-technical skills

Human factors have been highlighted as the cause of clinical errors in many reports. The 2014 MBRRACE-UK report⁵ highlighted the problem with “fixation error” where we focus on one element and fail to appreciate the bigger picture, for example when performing a difficult perineal repair we can miss the postpartum haemorrhage.

Nontechnical skills training⁶, human factors training and crew resource management, training that focuses on communication, leadership and decision making in the high stress environment of the cockpit, may improve the healthcare providers ability to understand what is going on around them and thus improve communication and team working. Although there is not yet evidence to directly link human factors training to improvements in outcomes, it is hoped that training will raise awareness that human factors exist. Such training should standardise certain elements such as communication, understanding of personal bias, personality and team working.

Situational Awareness

Situational awareness can be defined as “knowing what’s going on around us”⁷. This can be subdivided in to three key areas

1. Perception - situation assessment is achieved by perception and attention
2. Comprehension - the ability to understand the information gained through perception

3. Projection – the capacity to anticipate how the situation is likely to evolve and communicate that⁸

Once complete, situational awareness forms the foundation of good clinical decision-making⁹.

Ideally, the labour ward team should maintain this ‘helicopter view’ with perfect situational awareness 100% of the time but we know that there are threats to this perfect state. Our working memory is limited to up to seven items and under the stresses of a busy labour ward with fatigue, hunger and distraction this can become only one or two.

In the thematic analysis loss of situational awareness was present as contributory factor in many reviews, although not consistently identified as such by local teams. A good example is a team that became so task focused on achieving vaginal breech delivery that they failed notice the abnormal fetal heart tracing.

Following recommendations emerged from our thematic analysis.

Staff undertaking a complex technical task should focus on it and delegate responsibly for looking at the overall picture to a colleague

A senior member of staff must maintain oversight of the activity on the delivery suite, especially when others are engaged in complex technical tasks

Stress and Fatigue

When exposed to stress clinicians’ ability to perform complex analytical tasks falls and show a preference for “implicit memory and well-rehearsed tasks”¹⁰. This was evident in an incident when repeated attempts at an instrumental delivery caused a reluctance to consider the alternative option of abandoning the vaginal delivery and performing a caesarean section. In high stress situations we have a tendency to revert to behaviours that are well practised leading to a failure to fully analyse the problem and respond appropriately.

Similarly, fatigue is known to have deleterious effects on our cognition and manual dexterity. It is well documented the dangers of driving without sleep as our reaction times can be as low as someone who has blood alcohol of the legal driving limit¹¹.

Inadequate staffing levels compound feelings of fatigue and stress. Tiredness in clinicians was identified as a theme where a certain, ultimately incorrect, decision was made.

There can also be several emergencies occurring simultaneously which can contribute to delays or deviation from standard practice. Although these situations may be inevitable, there were missed opportunities to open another obstetric theatre or postpone less urgent deliveries. The stress of the situation can lead to a failure to adequately prioritise our care.

This has led to the following recommendations related to stress and fatigue

Decision-making is more difficult when staff feel stresses and/or tired. A different perspective improves the chances of making a safe decision

When managing a complex or unusual situation involving the transfer of care or multiple specialities, conduct a 'safety huddle' - a structured briefing for the leaders of key clinical areas

When we assessed all the babies each baby had on average 6 contributory factors. This explains why there is no single answer to how we reduce these tragic events. This is why we will continue to review the babies and identify the changes required to provide safer intrapartum care.

The next steps

EBC is taking a 3 - pronged approach in our desire to improving the care we provide and reduce the number of preventable EBC incidents by 50% by 2020 through the following initiatives:

- Initiatives to improve local review processes including greater external panel involvement, parental involvement and recommendations that focus on systems and not individuals
- Develop toolkits and resources focusing on the significant impact human factors can have on the quality of intrapartum care
- Provide a platform for shared learning. The ethos of EBC is to bring together the lessons we can learn from high quality local reviews in order to improve the care we provide. We also plan to champion local initiatives and share successes that may be suitable for other units – helping us prevent a tragedy before it happens.

Learning in the NHS could be seen as a reflective, retrospective and reactive process that is important for the entire maternity workforce. However to change the way the maternity workforce delivers intrapartum care in order to to improve the quality of care we provide we need a fresh approach that looks forward, anticipates problems and establishes robust recommendations that guard against the human errors that are leading to the tragic outcomes reported to each Baby Counts.

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