

## **Supplementary material S1: Example response from a trust.**

**Please note, the headings in bold reflect what the CQC outliers team expect to see addressed in a good quality response.**

### **TRUST TITLE AND LOGO.**

**Title of review: Review of outlier status for National Neonatal Audit Programme 2017 measure**

#### **Report Outline**

TRUST response to the Care Quality Commission (CQC) following notification from the Royal College of Paediatrics and Child Health (RCPCH) of outlier status for National Neonatal Audit Programme 2017 measure.

#### **Action taken:**

A retrospective and systematic review of the care provided to preterm infants (23 weeks to 33 weeks + 6 days gestation) admitted to TRUST Neonatal Intensive Care Unit (NICU) between January 2017 to December 2018.

The aim of the review was to identify learning lessons, possible trends and themes and identify quality improvement activities aimed to improve the service.

#### **Review team:**

Labour Ward Matron and Lead - Clinical review and assimilation of audit report

Consultant Obstetrician and Gynaecologist

The data was gained by in-depth review of healthcare records documented on Euroking K2 (Electronic Intrapartum records) and Badgernet System.

Euroking and K2 Systems data was extrapolated and reviewed which included all midwifery and obstetric staff documentation entries; Badgernet data was used to review the neonatal team documentation.

The inclusion criteria for this review were:

1. Preterm deliveries
2. Women who received antenatal care at TRUST
3. Babies born from singleton pregnancies

All the above systems record administration of antenatal steroids and both were used to identify infants born to women who had received no antenatal steroids prior to delivery despite being eligible for such treatment.

Women were identified for review on the basis that:

- They received antenatal care at TRUST;
- They had a singleton pregnancy;
- They experienced a preterm delivery, from 23 weeks to 33 weeks + 6 days gestation
- The sample period is January 2017 to December 2018;
- The infants were admitted to NICU.

A sample size of 50 women and 50 infants were identified that fulfilled the above-mentioned inclusion criteria.

A data collection tool was agreed. (Appendix A)

The review tool enabled information to be collected from Euroking and K2 (electronic intrapartum record). It evidenced the documentation of antenatal steroid administration antenatally or in the early stages of labour.

The same data was benchmarked against Badgernet electronic system, where neonatal care is documented.

Twin deliveries were classified as one birth; there were 3 in total per year. Women and babies who received antenatal/ intrapartum care at other hospitals or were transferred in the early stages of labour were also excluded due to gaps in the available data, however these notes will be retrieved and reviewed at a later date.

Of the 150 babies admitted to the Neonatal Intensive Care unit who were eligible for antenatal steroids in 2017. 50 (33%) of infants whose women who were eligible to receive antenatal steroids prior did not receive them prior to delivery

## **Results:**

### *2017 Results*

- 50/150 (33%) of women and babies were included in the review.
- Of the 50 women and babies reviewed;
  - 30/50 (60%) had clear documented evidence that antenatal steroids had been administered to the women in the antenatal period and/or prior delivery;
  - 10/50 (20%) cases did not have documented evidence that the woman received steroids.

These were noted to be either BBA (born before arrival) or arrived to TRUST Maternity Services at the point of delivery where administration of steroids was no longer suitable.

- In 10/50 (20%) cases, there was no evidence documented that steroids were administered before delivery. Of these 3 (6%) sets had no notes recorded on K2

These 50 babies have been incorporated into the overall admissions to NICU requiring steroids (150) which amends the figures as below

Based on the above, in 2017 an amended figure of 86.8% of babies admitted to NICU had documented evidence of having received antenatal steroids prior to delivery.

- 6.6% of cases were unable to receive steroids prior to delivery due to imminent delivery at arrival to TRUST.
- In 6.6% of cases there was no documented evidence of steroid administration

The overall compliance with administration of steroids in the above sample size resulted to be 86%.

As part of the action going forward 2018 women were also reviewed.

A sample size of 33 women were identified for 2018 and included in the review, based on the above-mentioned inclusion criteria.

### *2018 Results*

- 23/33 (69%) had clear documented evidence that antenatal steroids had been administered to the mother prior to delivery.
- In 4/33 (12%) there was no evidence documented of having the time to receive steroids (either born before arrival or arrived at the point of delivery).
- 6/33 (18%) sets of notes reviewed had no documented evidence that steroids were given. Of these 2 (6%) sets had no notes recorded on K2.
- For 2018 an amended figure of 92% of babies admitted to NICU had received antenatal steroids prior to delivery.

In total it can now be presumed that 5% of infants admitted to NICU in 2018 were born to Mothers who did not receive antenatal steroids prior to delivery where there was opportunity to do so

### **External validation of results**

The findings of the review were discussed with the local neonatal network on [date]

### **Lessons Learnt:**

Themes identified from cases where steroid administration could not be confirmed:

- A number of the women had experienced significant pregnancy complications which had required both inpatient admission and regular outpatient review. It is not unreasonable to expect that they had received antenatal steroids as a routine element of their management

plan as premature delivery could reasonably be expected, in line with NICE recommendations.

- In over 50% of the cases reviewed, the documentation from both obstetric and neonatal team was noted to have room for improvements.
- The clinical reviewer noted that in some cases, the steroid administration was not be able to be confirmed as the record keeping was suboptimal and may have been written on the medication chart that would have required the notes being retrieved from the offsite storage company.
- Women who presented with suspected or threatening premature labour were not always given steroids, although it was noted that the time between admission and delivery would have allowed administration of at least one dose of steroids prior to the birth of the child.
- Following discussion with staff, it was noted that this could be attributed to a belief that the steroids would not have had time to become effective prior to the birth of the infant.

Themes identified during the review were as follows:

- The number of places that the administration of steroids can be recorded within the antenatal, intrapartum and neonatal records is high, which increases the potential for information to be lost within the system when data analysis is undertaken. When data is obtained from only one source it increases the potential for accuracy
- In addition to the separate IT systems the steroids are prescribed on a paper prescription chart. This further increases the potential for inaccurate data collection

### **Summary:**

The majority of infants included in the review at TRUST in 2017 and 2018 received at least one dose of antenatal steroids prior to delivery regardless of their reason for admission and the length of time spent at TRUST prior to delivery.

The notable exception being those infants born shortly after arrival in the Hospital who were unable to receive steroids prior to their arrival.

### **Conclusions:**

The majority of infants born between 23 and 33 weeks gestation at TRUST in 2017 and 2018 were born to mothers who received at least one dose of antenatal steroids

It is also important to note that there was a reduction in babies admitted to NICU who had not received steroids from 6.6% in 2017 to 5% in 2018. It is anticipated that with ongoing work and actions developed as a result of this review that this figure will reduce further in 2019

However, discrepancies in data collection methods may not reflect this figure accurately and work should continue to improve both data collection techniques and more importantly, to ensure that every mother has the opportunity to receive antenatal steroids prior to the premature delivery of her child(ren)

**Areas Identified for Improvement:**

- Improvement around documentation
- Accuracy of information entered in different systems
- Education and training on this topic for both midwifery and medical staff

**Clinical leads and timescales for improvement actions**

CQC would expect named clinical leads and timescales for improvement to be documented here.

**Appendices that should be included, as appropriate:**

Appendix A: Review tool proforma

Appendix B: Summary case note reviews

Appendix C: Audit timetable (eg coding audit timetable, where this has been identified as an area for improvement)

**Action plan:**

<b>Issue</b>	<b>Action</b>	<b>Lead</b>	<b>Completion Date</b>
A task and finish group to review and plan QI initiatives to improve service delivery	A Maternity and Neonatal Task and Finish group has already been established to improve the administration of steroids. A spate action plan has been developed to improve outcomes and encourage a collaborative and problem solving approach to these issues	Maternity Leads/ NICU Leads	January 2019  Completed
Disseminate findings to staff	Disseminate findings to staff via Audit Meeting and local newsletter	Report Lead	February 2019
Records keeping documentation	Staff to be reminded via staff meetings, Safety Brief and at the annual mandatory training record keeping session	Report Lead/Task and Finish Group/NICU Matron/Safeguarding team	April 2019
Improve handover between NICU and obstetric team	Handover sheet to be developed for effective sharing of data between maternity staff and NICU staff	Report Lead/Task and Finish Group/NICU Matron	April 2019
Steroids not always administered if labour has commenced	Teaching sessions for staff to be held in order to increase understanding of importance of steroid administration	Education Team/ Obstetric Education Lead/ Report leads (for oversight)	Jan 2020
Ongoing Audit to ensure continued compliance	Undertake annual audit of compliance with steroid administration and 6 monthly 'spot check'	Task and Finish Group/ Report Leads/Audit Midwife	Annual reporting of data- ongoing