The Shrewsbury and Telford Hospital NHS Trust

Neonatal/Maternity Governance Meetings
July 2024

Agenda item				
Report Title	ATAIN (Avoiding Term Admissions into Neonatal Units) report. Quarter 1 2024/2025			
Executive Lead	Hayley Flavell			
Report Author	Jo Kench -Maternity Incident Lead			
	Link to strategic goal:		**Link to CQC domain:**	
	Our patients and community	√	Safe	√
	Our people	√	Effective	√
	Our service delivery	√	Caring	√
	Our governance	√	Responsive	√
	Our partners	√	Well Led	√
	Report recommendations:		**Link to BAF / risk:**	
	For assurance			
	For decision / approval		**Link to risk register:**	
	For review / discussion			
	For noting			
	For information	√		
	For consent			
Presented to:	**Maternity and Neonatal Governance Meeting July 2024**			
Executive summary:	• Rate of admissions to the Neonatal unit for babies >37 weeks is 4.8% for quarter 1 2023/25. This is below the previous quarter 4 rate of 6.1% and below the national target of 6.0%. • The most common reasons for admission to the Neonatal Unit continues to be respiratory distress conditions and infection. • All cases are reviewed in a fortnightly meeting with MDT representation from Obstetrics, Neonatology, Maternity, and the Governance team. • The number of admissions to the NNU in Quarter 1 was 44. • There were 4 Avoidable cases identified this quarter.			
Appendices				
Executive Lead	Hayley Flavell, Director of Nursing			

ATAIN (Avoiding Term Admissions into Neonatal Units) Report for Q4 2023

Background

Admission to a neonatal unit can lead to unnecessary separation of mother and baby. There is overwhelming evidence that separating mother and baby at or soon after birth can affect the positive development of the mother-child attachment process and adversely affect maternal perinatal mental health.

Preventing separation except for compelling medical indications is essential in providing safe maternity services.

NHS providers of maternal and neonatal care can use data collected through ATAIN reviews as a resource to:

- Improve the safety of care.
- Keep mothers and babies together whenever it is safe to do so.
- Identify local improvement priorities.
- Develop an action plan to ensure any relevant resources are introduced into clinical practice.

Improving the safety of maternity services is a key priority for the NHS and the number of unexpected admissions of full-term babies (i.e., those born at 37 weeks or more), is seen as a proxy indicator that harm may have been caused at some point along the maternity or neonatal pathway.

ATAIN focuses on four key clinical areas that represent a significant amount of potentially avoidable harm to babies:

- Respiratory conditions
- Hypoglycaemia
- Jaundice
- Asphyxia (perinatal hypoxia-ischemia)

Review Systems & ATAIN process.

The Women & Childrens Division continue to have regular commitment to attend these meetings from both Obstetrics, Neonatology, Maternity, and the Governance team. Clinicians are attending on a rotational basis, with specific dates provided for all staff and a reminder sent out by the Governance team 1 week before the meeting. The proforma is completed live and any actions, comments or learning recorded on Datix. In addition, this now also includes an Action Tracker and all information recorded on the Datix system.

A structured and robust process is in place to ensure that the MDT ATAIN reviews can be completed within a 14-day turnaround of incidents occurring. This allows for immediate learning from these incidents to be disseminated to all staff. Multi-Disciplinary Team (MDT) meetings continue on a fortnightly basis to review all cases which meet the ATAIN criteria. Term admissions to the neonatal unit are currently monitored utilising the neonatal BadgerNet digital system, Datix submissions, physical review of case notes, both maternity & neonatal, and a manual check of the neonatal unit admissions book. A cross reference is made with all three systems as a failsafe to ensure that no case is missed. The metrics collated from these meetings are presented both monthly & quarterly for assurance, at both Maternity and Neonatal Governance meetings. Any safety concerns

are immediately escalated, and any learning is shared with the multi-disciplinary teams in both areas.

The rate of term admissions to the neonatal unit are calculated as a percentage of live, **term** births in line with the NHS Improvement "Reducing harm leading to avoidable admission of full-term babies into neonatal units" paper from 2017.

Rates

The term admission rate for Q1 (April, May, June 2024) was 4.8% of all births at >37 weeks, a decrease from the previous Q4 figure of 6.1%.

The year-to-date term admission rate is 4.8%. This rate remains below the national target of 6%.

A total of 44 term babies were admitted to the NNU in Q1 2024/5 (comparing with 54 in the previous quarter.)

The numbers of babies admitted each month were:

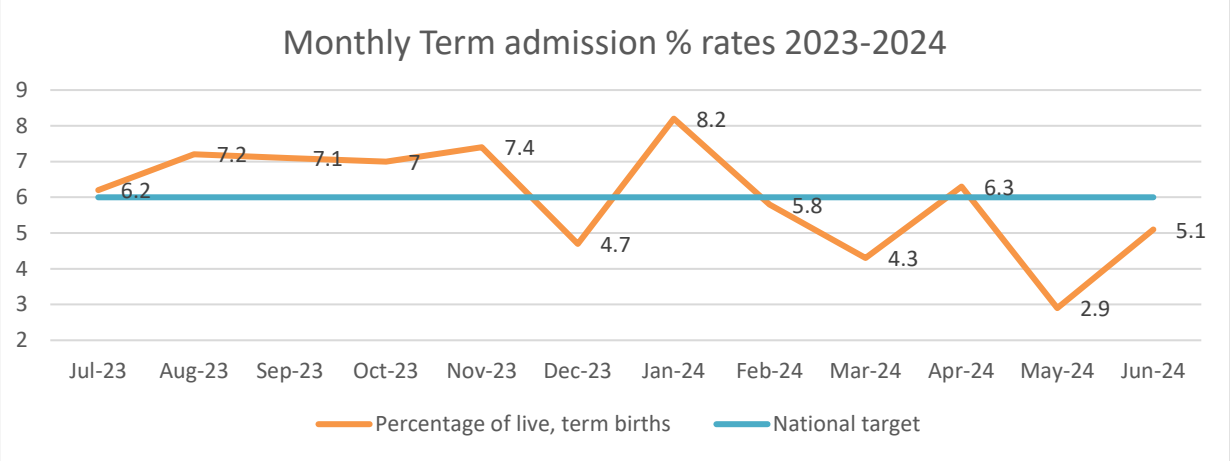
318 Term births at PRH
April 2024 – 6.3% of all term births at >37 weeks (n = 20)
Avoidable admissions: (n=1)

312 Term births at PRH
May 2024 – 2.9% of all term births at >37 weeks (n =9)
Avoidable admissions: (n=2)

296 Term births at PRH
June 2024 – 5.1% of all term births at >37 weeks (n = 15)
Avoidable admissions: (n=1)

Summary of Term admission rates for the 2024-2025

The table below shows the rolling monthly term admissions in the year for 2023-2024. The National target is to maintain term admissions to the neonatal unit below 6%.



Quarter 1 Metrics

Reason for admission	Number of babies > 37/40
Respiratory conditions	29
Infection	4
Babies who were transferred out for therapeutic hypothermia	2
Hypoglycaemia	3
Jaundice	3
Other/ Admitted poor feeding weight loss	3
Total	44

Respiratory conditions

Respiratory conditions continue to make up the majority of admissions to the NNU, with 29 babies this quarter. This is equivalent to 76.3% of our NNU admissions.

19 cases were caesarean births, 8 were Elective and 11 were Emergency. 17 were vaginal births, 5 of which were following induction of labour. 6 of the respiratory admissions were babies born by forceps/ventouse. Where required all the babies received Antibiotics during their stay.

Mothers booked for elective caesarean sections prior to 39 weeks gestation are offered the option of antenatal corticosteroids to reduce the risk of neonatal respiratory morbidity as per the 'Caesarean Section – Emergency and Elective' Guideline. The ATAIN review group monitor whether the parents received informed discussion regarding steroids and document this conversation and its outcome in the notes.

Infection

4 babies were admitted to the neonatal unit with suspected infection this quarter.
1 baby was admitted following Elective Caesarean Section for Maternal diabetes baby Grunting @ 7 hrs old admitted for additional respiratory support (maternal infection Group b Strep (GBS) Hypoglycaemic risk - Insulin & metformin Maternal Graves disease.
1 baby born 38 weeks ELCS for Maternal Diabetes. Admitted from PNW at about 3.5hrs of life following grunting admitted for High Flow Respiratory support, blood gas, sepsis screen, bay received 5 days Abx, Chest Xray carried out,
1 baby admitted for respiratory distress /Newborn sepsis. Known Polyhydramnios & Short Bones delivered by CATS 2 CS due fetal tachycardia Born in good condition, however needed PEEP at 6mins of as sats were below 85% At 8mins of sats>90%, SVIA however had some work of breathing and nasal flaring
1 baby born 39+1 gestation IOL for maternal GBS risk factors suspected Sepsis fluctuating temperature.

Babies who were transferred out for therapeutic hypothermia (HIE)

2 babies were transferred out for therapeutic hypothermia due to suspected hypoxic-ischemic encephalopathy (HIE); both were referred to MNSI.

MI-037050 The mother attended maternity triage with absent fetal movements at 38+6 weeks gestation. Baby was found to be in distress, and the mother was immediately

moved to maternity theatres for an emergency caesarean section. Baby was born in poor condition and required resuscitation at birth. The decision was made for therapeutic hypothermia and baby was transferred to Coventry. The case was reviewed and rejected by MNSI due to the mother not being in labour and the baby's MRI being normal. Baby has gone home with a normal MRI and is doing well. Excellent care was noted during the review of the case.

MI-037179 The baby was born via vaginal birth after an induction of labour for maternal pre-eclampsia. The baby was born in poor condition and was transferred to the neonatal unit after resuscitation and stabilisation on delivery suite. The decision was made to transfer baby to a tertiary unit for therapeutic hypothermia. CTG concerns were noted on review of the case – these were not escalated at the time of the incident. This case has been accepted for review by MNSI due to concerns raised by the family and the trust regarding CTG management and escalation. The baby has gone home with a normal MRI and is doing well.

There was an additional case referred to MNSI, MI-037530 (further details below in Hypoglycaemia section as this was primary reason for admission to NNU).

Hypoglycaemia

During the quarter, there were 3 babies admitted to the neonatal unit due to hypoglycaemia. 2 babies were born to diabetic mothers; both babies were admitted from the post-natal ward with low blood sugars and were promptly escalated to the neonatal team for review and management.

The 3rd baby was admitted to the neonatal unit with unrecordable blood sugars on day 3 of life. She was stabilised but developed significant seizure activity which lasted for > 36 hours. An urgent MRI was carried out which showed restricted diffusion involving bilateral occipital lobes and throughout the left hemisphere. Posterior predominant abnormalities are typical neurological sequelae of neonatal hypoglycaemia.
An MNSI referral was completed due to the seizure activity and evidence of brain injury – MI-037530. Acceptance has not yet been confirmed.

Neonatal Jaundice

There were 3 babies admitted to the neonatal unit for treatment of jaundice in quarter 1.
1 baby was admitted following induction of labour for maternal antibodies and was therefore high risk of haemolytic disease of the newborn and was a planned admission.
1 baby with known Downs Syndrome was admitted for observation for jaundice.
1 baby born following induction of labour for maternal GBS and previous rapid labour, was admitted with a raised SBR (above exchange) following ANNP review, and was commenced on phototherapy.

Other issues

3 babies were admitted to the neonatal unit with other reasons.
1 baby was admitted for management of weight loss, poor feeding, and as a place of safety prior to discharge into foster care.
1 baby had a cardiac defect found antenatally: Isolated right aortic arch with aberrant left subclavian artery. An induction of labour was arranged for intra-uterine growth restriction. Baby suffered a postnatal collapse requiring inflation and ventilation breaths and was

admitted for monitoring. Baby has also been screened for infection and commenced on IV antibiotics.
1 baby has previously been incorrectly reported as an admission for HIE. This baby had hypovolaemia & DIC following complications in labour. Baby deteriorated and sadly passed away the following day. The review has been accepted by MNSI and they are making early enquiries – MI-037285.

April
20 term babies were admitted to the neonatal unit and reviewed in ATAIN in April (these numbers have been verified against the red admission book held on NNU). April's percentage was 6.3%, an increase from the previous month and just above the national target of 6.0%.

1 case was identified as an avoidable term admission to the NNU.

Case 1 - Primary Reason for admission – Respiratory Distress
Baby was born at 39+1 weeks gestation and was admitted to the NNU at less than one hour of age.
Delivery was by elective caesarean section. Baby was admitted from theatre due to respiratory distress. Baby was initially in poor condition and required resuscitation. Following transfer baby received high flow oxygen for 1 hour and was transferred to the postnatal ward shortly after. Following discussion in ATAIN it was felt that the neonatal team could have remained with the baby to monitor their condition prior to transfer the NNU.

May
9 babies were admitted to the neonatal unit and reviewed in ATAIN in May (these numbers have been verified against the red admission book held on NNU). 66.7% of admissions in May were for respiratory distress where babies required ongoing oxygen support which cannot be provided in the obstetric setting. There was a decrease in the percentage of term admissions to 2.9%, which is significantly lower than the national target of maintaining admissions below 6%.

2 cases were identified as avoidable term admissions to the NNU.

Case 1
Baby was born at 38 weeks gestation and was admitted to the NNU at less than one hour of age. Baby was born via a spontaneous vaginal birth. APGARS were 6 at 1 minute and 8 at 5 minutes. Baby required inflation breaths and ventilation breaths; they then received PEEP and HiFlow oxygen support. Baby was admitted from directly from Labour Ward. The primary reason for admission was respiratory distress. Baby received Hiflow oxygen and had a septic screen, before being commenced on IV antibiotics and fluids. Blood gases showed a respiratory acidosis, and chorioamnionitis was diagnosed. Following discussion in ATAIN it was felt that earlier delivery may have prevented admission. Baby received 5 days of IV antibiotics.

Case 2
Baby was born at 39+5 weeks gestation and was admitted to the NNU at less than one hour of age. The mother had an induction of labour due to gestational diabetes. The mother developed a pyrexia, and an elevated baseline and decelerations which were slow to recover were noted on the CTG. Oxytocin was stopped and the decision was made for a

passive hour. The mother's pyrexia increased further and following review the impression was chorioamnionitis. A plan was made for a septic screen and a trial of forceps in theatre. Terbutaline was administered and the sepsis pathway was commenced. Baby was born via forceps delivery. Baby required resuscitation at birth, had a pyrexia, and needed ongoing respiratory support. A chest Xray showed changes suggestive of congenital pneumonia. Recognition of chorioamnionitis and earlier delivery may have prevented admission, and if chorioamnionitis is suspected, a passive hour is not appropriate. In addition, septic screening should not delay delivery especially if CTG concerns are evident.

June

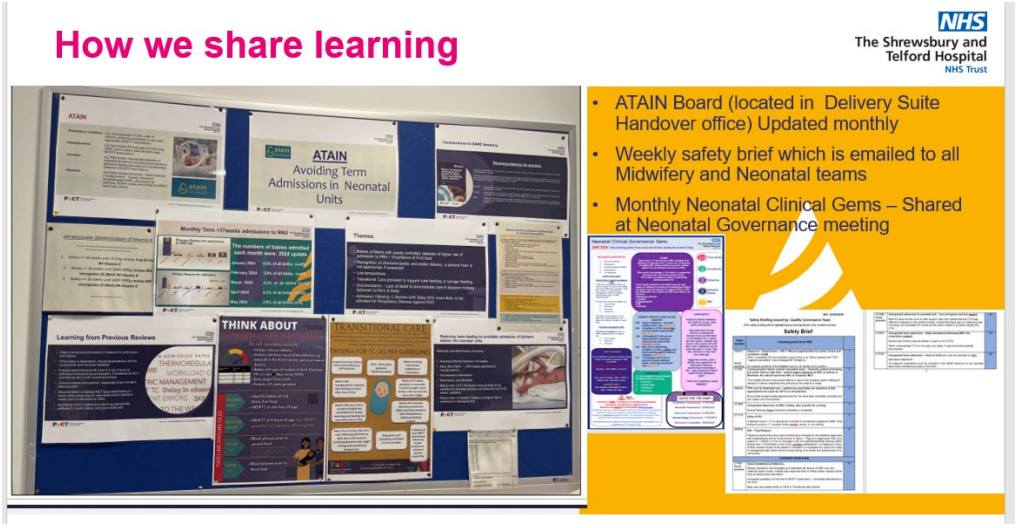
15 babies were admitted to the neonatal and reviewed in ATAIN in June (these numbers have been verified against the red admission book held on NNU).
The percentage of term admissions in June was 5.1% a slight increase from the previous month but remained below the National target of 6%.

1 case identified as an avoidable Term admission for NNU.

Case 1
Baby was born at 39 weeks gestation and admitted to the NNU at 11 hours of age following a dusky episode on the MLU. Baby was born via a normal vaginal birth, and all observations had been normal. The baby was noted to be breath holding with no colour change. The baby was reviewed, and the decision was made to admit baby for monitoring. The baby did not require any additional respiratory support. The escalation did not follow the appropriate process, and the documentation was poor.

Shared Learning

Immediate learning and actions are shared through the weekly safety brief/neonatal clinical gems. There is a new ATAIN board located in the handover room on Delivery Suite which is updated monthly with any newly identified themes. These themes are also shared in the ATAIN presentation for the maternity specific mandatory training day 2.



A Quality Improvement project has been registered "Reducing Term Admissions to NNU when poor feeding requires NG tube fed provision & Early recognition of Chorioamnionitis".
This is in line with CNST Safety Action 3 - Reducing term admissions, using case study.

Plan for Q2 2024/25

1. Continue two-weekly MDT meetings to review all eligible cases. Encourage more MDT engagement with the neonatal nursing team These meetings will now be reviewing the most recent term admissions to the NNU.
2. Continue to ensure failsafe processes are in place to confirm all eligible cases are captured for review whilst awaiting outcome of neonatal full BadgerNet.
3. Share learning from ATAIN reviews with all staff.
4. Continue to produce a monthly ATAIN specific clinical gem publication which is shared across maternity & neonates.
5. Continue to populate the shared learning board for ATAIN on Delivery Suite.
6. To monitor and review more closely the babies admitted with respiratory conditions and/or infection with a view to establish if admission to the neonatal unit can be avoided by alternative methods of treatment.
7. To monitor number of babies admitted to NNU where a transitional care facility would have been a more appropriate setting.
8. To present the report monthly to maternity and neonatal governance meetings.
9. To include any learning in the ATAIN presentation for the maternity specific mandatory training day 2.