Suffolk and North East Essex Maternity and Neonatal Services

East Suffolk and North Essex NHS Foundation Trust

ESNEFT ATAIN and TC Quarterly Report

Q2 2023-24

July - September 2023

Colchester Authors:
Julie Edgcumbe, Clinical Effectiveness Midwife
Laura Grover, NNU Lead Nurse
Emma Hart, NNU Matron

With thanks to:
Ellyn Friend & Tuesday Simpson,
NNU Data Clerks Ipswich/Colchester

Ipswich Authors:
Catherine Hughes & Hayley Moreton,
Clinical Effectiveness Midwives;
Emma Hart, NNU Matron;
Alais Lalonde, Senior NNU Nurse;
Karen Moss, Neonatal Leadership Support Sister

The ATAIN Programme

NHS
Suffolk and
North East Essex

The ATAIN programme was widely introduced in 2018, and forms part of what is now known as the Maternity and Neonatal Safety Improvement programme (MatNeoSIP).

The focus is on babies who are admitted for four key reasons, as these are the areas that NHS England believe can have the most impact:

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

Data is collected and reviewed on a monthly basis as a minimum, by a multi-disciplinary team which includes:

- Midwifery
- Obstetric
- Neonatal / Paediatric
- Neonatal Nursing

There is often lots of useful incidental learning identified when cases are reviewed, but the focus of the programme is to:

- Identify quality improvement work that could reduce causes of harm that can lead to term babies needing to be admitted to a neonatal unit
- Provide evidence to support the development of services that keep mothers and babies together when it is safe to do so

Neonatal hypoglycaemia: learning from claims | ADC Fetal & Neonatal Edition (bmj.com)

Term admissions to neonatal units in England: a role for transitional care? A retrospective cohort study | BMJ Open

Transitional Care (TC)

NHS
Suffolk and
North East Essex

The British Association of Perinatal Medicine (BAPM) published a Framework for Neonatal Transitional Care in 2017. This document describes the ideal provision of care to keep separation of mothers and babies at a minimum. The Trust continues to develop our TC services to work towards meeting these standards as far as resources and staffing allow.

The NHS Resolution Maternity incentive scheme requires evidence and assurance that transitional care services are in place to minimise separation of mothers and babies. Current pathways of care into TC have been jointly approved by maternity and neonatal teams with a focus on minimising separation of mothers and babies.

This report provides evidence to meet the requirements of Safety Action 3 as follows:

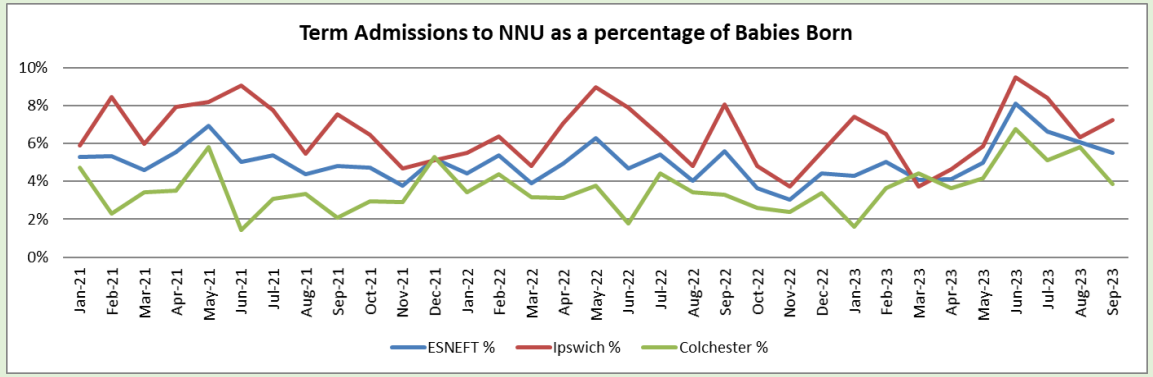
- Evidence of joint maternity and neonatal reviews of all admissions to the NNU of babies equal to or greater than 37 weeks.
- Evidence of high-level review of the primary reasons for all admissions, with a focus on the main reason(s) for admission through a deep dive to determine the relevant themes to be addressed.
- Evidence of an action plan agreed by both maternity and neonatal leads which addresses the findings of the reviews to minimise separation of mothers and babies (progress summarised within this report, action plan shared along with this report).

British Association of Perinatal Medicine (hubble-live-assets.s3.amazonaws.com)
MISyear5-update-July-2023.pdf (resolution.nhs.uk)

Term admission data – ESNEFT summary

NHS Suffolk and North East Essex

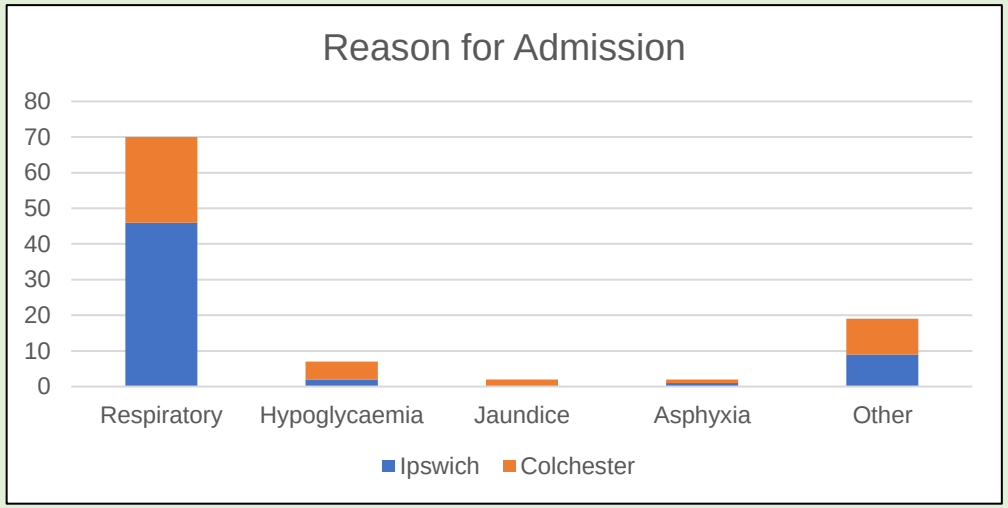
Term admission rate (target <6%)



Across ESNEFT, there were 100 term admissions to NNU in Q2 of 2023-24 which equates to 6.08% of all livebirths. This compares to 94 admissions in Q1 of 2022-23 at 5.73%. July demonstrated the highest number of admissions for both sites within Q2. This report summarises the reviews of all the cases in order to identify any themes and to extract learning to reduce the number of term admissions to NNU going forward.

BadgerNet data continues to be scrutinised and corrected as required to ensure reportable data is accurate.

Reasons for admission



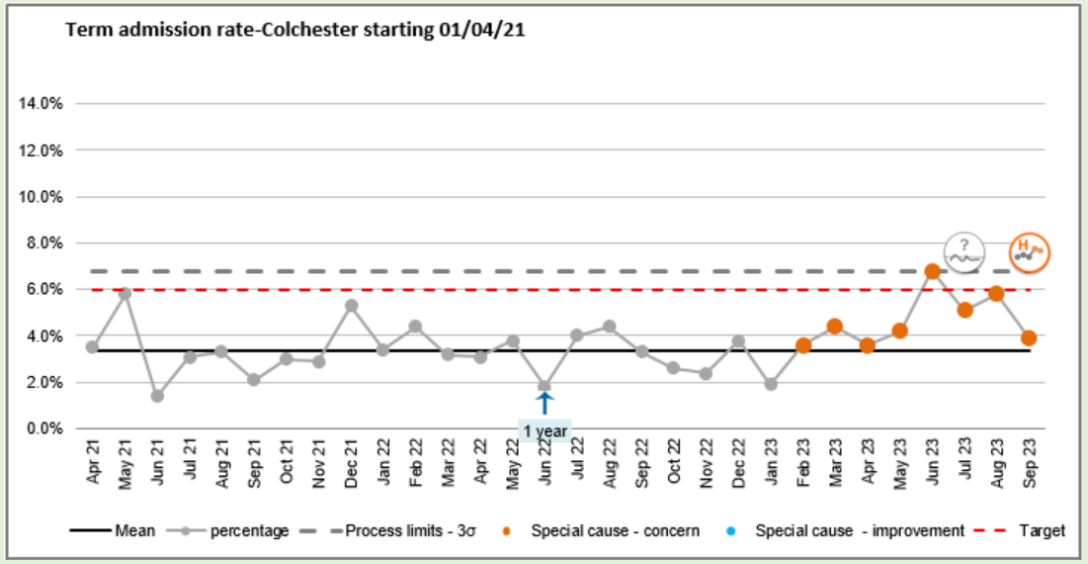
Respiratory symptoms was again the most common primary reason for admission which accounted for 70% of cases.

Deep-dives into each category is within this report.

Term admission data – Colchester site

NHS Suffolk and North East Essex

Term admission rate (target <6%)



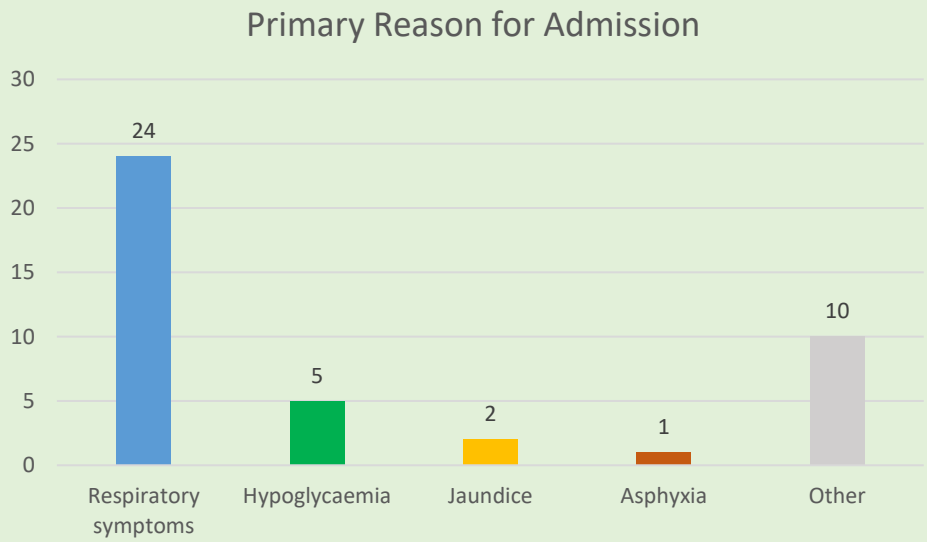
Colchester has seen an overall increase in term admissions to NNU since June 2023. Although this decreased in September, the admission rate in Q2 remains higher than usual.

There are 3 themes emerging;

- Hypothermia and poor thermal management
- Delay in baby's 1st feed
- Delays in IOL or expediting birth due to staffing/acuity

A deep-dive is in progress to exploring these themes and to identify areas for improvement.

Reasons for admission



Respiratory symptoms remains the leading primary reason for admission at 57% although there has been an increase in admissions under the category of 'Other' this quarter. See relevant slides for each category for further detail.

Learning from cases that were potentially preventable - CGH

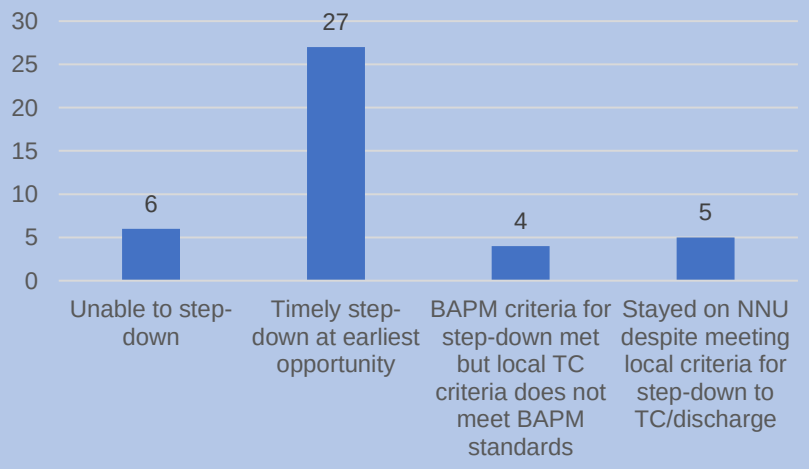
Avoidable Term admissions to NNU

Key learning	No. of term admissions or transfers in which changes to antenatal, intrapartum of postnatal management may have prevented the admission	No. of term admissions to the NNU that met the BAPM TC admission criteria but were transferred or admitted to the NNU because the local TC service does not meet BAPM criteria	No. of term admissions to the NNU that met TC admission criteria but were admitted or transferred to the NNU because of capacity or staffing issues	TOTAL No. and % of potentially preventable term admissions to NNU
	8	2 (1x also had care issues identified)	0	21.4% (9)

One case had both issues with care identified as well as being suitable for TC in line with BAPM criteria (if it was on offer).

Early Learning Reviews have been completed for 5 of the 8 cases where care issues may have contributed to the admission in order to identify deeper learning of events. Learning has been identified in the remaining 3 cases.

'Stepping down' from high dependency or special care on NNU



- **78.6%** of term admissions were either stepped down at the earliest opportunity or were unable to be stepped-down due to ongoing clinical requirements.
- Of the 5 babies that met local criteria for step-down but stayed on NNU; 1 baby went home from NNU and 4 were delayed in stepping down but were eventually transferred to TC on Lexden (1x to the bedroom on NNU). There were no clear reasons for the delays in step-down suggesting that it wasn't recognised at the earliest opportunity.
- No babies were admitted to NNU solely for NGT feeding but 3 babies that were admitted for other clinical reasons could have been stepped down sooner if NGT feeding could be supported on the PN ward (in line with BAPM TC criteria).

Step-down - No. of babies who were transferred, admitted, or remained on NNU because of their need for nasogastric tube feeding, but could have been cared for on a TC if nasogastric feeding was supported there
3

Respiratory:
Deep dive into reasons for admission - CGH

NHS
Suffolk and
North East Essex

Respiratory symptoms — Accounted for 57% of term admissions

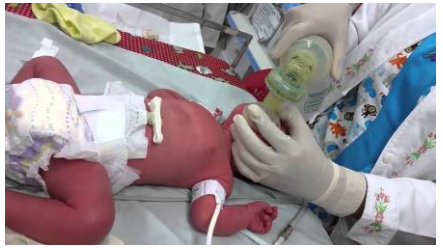
➢ 24x babies admitted to NNU under the category of Respiratory in Q2.
75% required respiratory support in NNU. 4x cases were determined as potentially avoidable following case review; all due to care issues that may have contributed to the admission. Early Learning Reviews (ELR) were undertaken for each case deemed avoidable

Hypothermia:
Some babies were cold on admission within the category of respiratory.
Of all the admissions this quarter, 7 babies were hypothermic either on admission or just before, highlighting a new issue for CGH maternity that requires action.

Learning

- Immediate focus required on good thermal management of the newborn to be shared with staff and to be highlighted through the maternity Stat training programme.
- Deep-dive into term admission themes is in progress to evaluate the extent of potential issues with:
  - delayed feeding
  - poor thermal management
  - delays in care

Deep dive into reasons for admission - CGH



NHS
Suffolk and
North East Essex

Asphyxia (perinatal hypoxia-ischaemia) — **Accounted for 2% of term admissions**

➢ 1x case within the category of asphyxia in Q2.
During the term admission case review meeting, it was identified that a deeper review of the case was required and an ELR was subsequently completed and reviewed by the MDT.

Learning

- The main learning from this case is that any patient complaining of significant pain, which is not eased with the use of analgesia, to the extent that they are unable to sit warrants a full clinical review. This would likely have identified tachysystole/hyperstimulation which would have prompted the use of terbutaline and potentially avoided poor gases.
- Learning fed-back to all staff to investigate maternal pain not related to uterine activity.
- The case was used for teaching at the MDT Tuesday morning CTG review meeting.
- Going forwards, dosage of prostin will be reviewed (if administered) in term admission reviews to ascertain appropriateness of dose.

Jaundice — Accounted for 5% of term admissions

➢ 2x babies admitted to NNU under the category of Jaundice in Q2.

Learning

- Joint ESNEFT jaundice-themed Perinatal Morbidity and Mortality meeting planned for 7th December across both sites.
- Joint ESNEFT meeting held in October to discuss the value of routine TBR checks for those babies at risk of hyperbilirubinaemia and those difficult to visually determine jaundice. No national guidance to support routine TBR checks or that suggests a ‘best time’ except when baby is visibly yellow. Decision made to increase training, especially in assessing babies of colour, and for staff to actively assess and document the baby’s colour at every contact.
- Neonatal ICP to be updated to include risk factors for jaundice as a prompt for staff (in draft).

Deep dive into reasons for admission

Hypoglycaemia — Accounted for 12% of term admissions

➢ 5x babies admitted to NNU under the category of hypoglycaemia in Q2
- CGH has seen an increase in admissions under this category this quarter.

ELRs were completed for 2 of the admissions in this category with both cases presented to the MDT at a hypoglycaemia-themed PM&M:

Learning

- Hypoglycaemia-themed Perinatal Morbidity & Mortality Meeting held on 19th October 2023 with the MDT. 3x cases presented with the addition of specific education for staff regarding the care required for babies at risk of hypoglycaemia and the importance of early feeding.
- MDT discussion of early EBM for babies at risk of hypoglycaemia; agreed to introduce offering early EBM following delivery (especially in theatre) and then to support 1st feed and continue with Red Care Pathway.
- Staff advised to store EBM in the milk fridge on DS for ease of access if required following birth, particularly for at risk babies.
- Patient information leaflet 'Protecting your baby from low blood glucose' is available and staff asked to provide it to any antenatal woman with known risk factors for neonatal hypoglycaemia (already given to diabetic women).
- Deep-dive into term admission themes is in progress which includes timing of 1st feeds and thermal management.

Other — Accounted for 24% of term admissions

➢ 10x babies admitted to NNU under the category of Other
- Persistent vomiting
- Raised lactate requiring IV fluids
- Hyperthermia – infection subsequently confirmed
- Birth trauma requiring head CT and neuro obs
- Seizures
- Dropped baby whilst BF
- Collodion skin
- Distended abdomen – Hirschsprungs Disease
- Significant difference in pre- and post-ductal O^2 sats – PDA confirmed
- Day 3 admission triggering 12 on NAS score

All were appropriate admissions to NNU in accordance to the service available and were unavoidable.

Learning from admissions into Transitional Care - CGH

NHS Suffolk and North East Essex

Progress

- Whilst Colchester does not meet all the BAPM TC criteria, we continue to offer virtual transitional care on the postnatal ward at the mother's bedside.
- In order to align with BAPM recommendations, the service must create a dedicated space for TC and invest in neonatal staffing who can provide care for babies from 34 weeks requiring NGT feeds, septic screens, cannulation, lumbar punctures, ECGs, NAS observations/treatment.
- Virtual transitional care for babies 35-36+6 gestation >1800g continues to be on a case-by-case basis. Discussion at the safety huddle, If CDS/Lexden ward unable to accommodate due to staffing, NNU to provide care if staffing and acuity allows. *Within Q2; 35 week twin requiring feeding support, received TC on Lexden supported by neonatal nursing team. Good communication and collaborative working enabled mother and baby to be kept together.*
- TC business case is currently underdevelopment in line with the TC action plan this is to be presented to CDG approval by 17th January 2024.

Further reducing separation of mothers and babies

- Babies are currently required to visit NNU for partial septic screens, cannula insertion and first dose of antibiotics before returning to virtual TC with mum on postnatal ward.
- Improvement seen in midwives/RNs being available to second checking baby antibiotics with a neonatal nurse on postnatal ward. RNs have now completed the second checker training, which has made a noticeable difference.
- Review current practice of babies needing to visit the NNU for cannula insertion and first dose of antibiotics, to see if this could be supported on the postnatal ward to reduce separation of mother and babies.

How could we improve TC locally?

Emma Hart, Neonatal Matron, held transitional care Teams Listening Events 19th & 21st September 2023. Online feedback form accessed via QR code made available to all maternity and neonatal team. One to one meetings also held with maternity and neonatal staff at their request.
To meet BAPM TC standards we need to utilise the TC action plan, to develop a BAPM compliant pathway, includes clear timescale for implementation. Action plan has been reviewed and agreed by DMT. Plan to present to the trust board for review and approval December 2023.
Development Transitional Care business case, to include staffing model, to provide BAPM compliant pathway. Supported by Women's and Children's ADON and general manager.
Meeting planned with MNVP December 12th 2023, to involve service users in the development of the BAPM compliant TC pathway.

Progress with the ATAIN action plan - Colchester

NHS
Suffolk and
North East Essex

SMART actions added this quarter

Added to the Action Plan:

- To review the current evidence for Intelligent Intermittent Auscultation (IIA) and consider implementing it across ESNEFT to replace the current method of IA (following review of a case from October and one previous case earlier this year).

Closed Actions:

- To review Pulse-oximetry of the Newborn guideline and consider adding pre and post-ductal SATS – **EoE guideline adopted and pre- and post-ductal sats introduced in October 2023.**
- To ensure adequate numbers of midwives are competent to 2nd check IV antibiotics for neonates on Lexden - **Daily compliance achieved of 2nd checking of abx by RN's and Core staffing on Lexden. This will continue to be monitored at the daily safety huddle.**
- To accurately communicate the duration of delayed-cord clamping to ensure >60 seconds is achieved and to enable accurate documentation – **the clock on the resus is commenced at delivery and alarms when 1 minute has passed, staff member waiting to take baby will also verbally call when 1 min has passed**.
- To have an agreed Trust standpoint on when antenatal corticosteroids must be offered – **progress of this is being monitored via another action plan so has been removed as an ATAIN action.**

Summary of progress

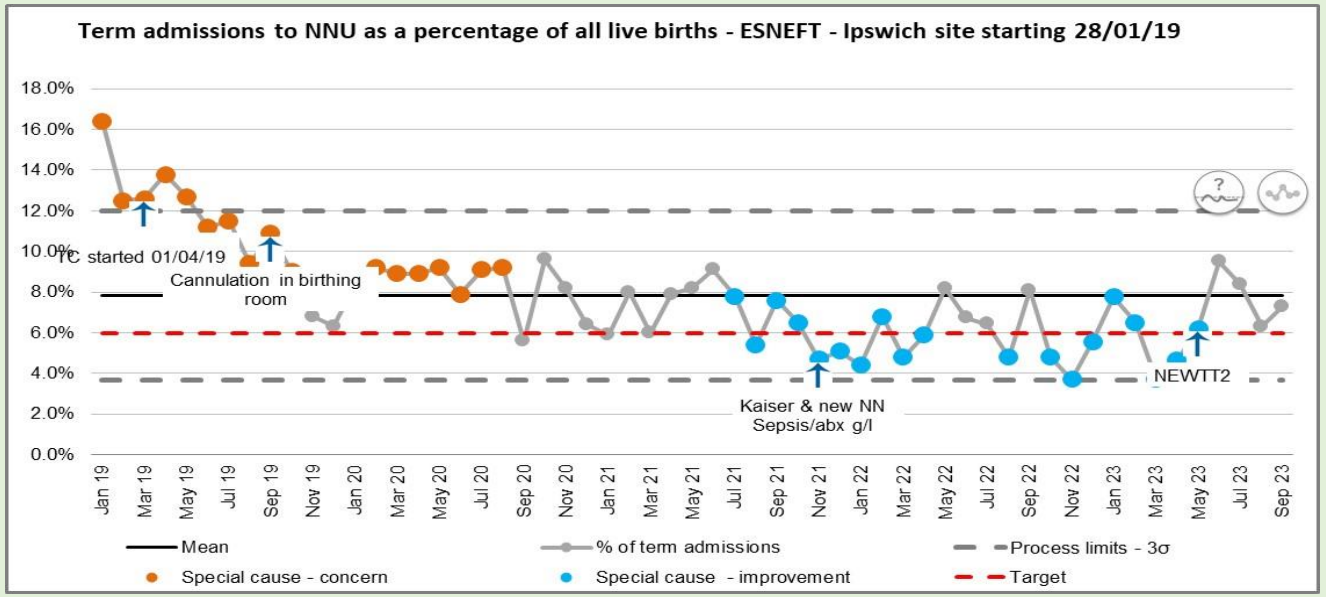
- Neonatal ICP is being updated in line with BAPM recommendations and the current NEWTT tool will be replaced with NEWTT2 tool. Neonatal input is required to progress this work and to meet the local implementation target date of March 2024.
- Monthly MDT ATAIN meetings will be launched as cross-site meetings from January 2024 to enable sharing of learning and a cohesive approach to improving quality of care.
- The ATAIN Action Plan is being merged into an ESNEFT plan and will be monitored via the monthly ATAIN meetings.

Term admission data - Ipswich

Note: look at the data for the whole quarter together and don't separate by month – the aim is to look for themes and trends.

NHS Suffolk and North East Essex

Term admission rate (target <6%)



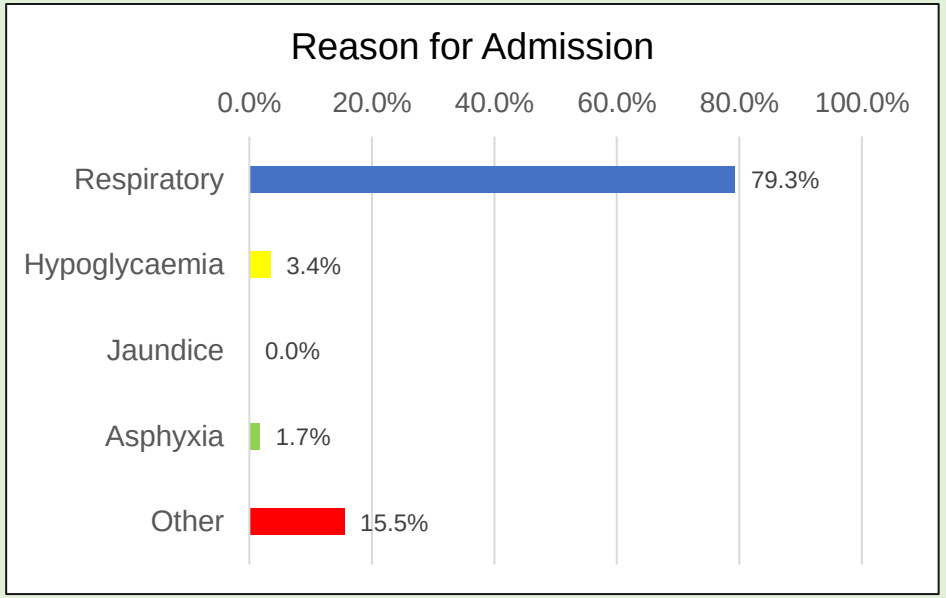
2023 year to date: **6.7%**

During this quarter Ipswich has seen a higher average level of term admissions than in the last 2 years – overall **7.36%** (July: 8.4%, Aug: 6.3%, Sept: 7.3%)

However it should be noted that this is a reduction from a particularly high level in June (9.5%)

An increase in the summer months has previously been identified, however it has also been observed that there also appear to be slight increases each September, a traditionally very busy month. Further investigation is needed into the skill mix, acuity, and any local unit diverts to ascertain a possible correlation.

Reasons for admission



Respiratory symptoms was the most common primary reason for admission which accounted for 79.3% of cases.

Further discussion of this can be found in the deep dive on slide 21.

Learning from cases that were potentially preventable - Ipswich

Suffolk and North East Essex

ATAIN Key learning	No. of TERM admissions or transfers in which changes to antenatal, perinatal or postnatal management may have prevented the admission	No. of TERM babies who were transferred or admitted to, or remained on NNU because of their need for nasogastric tube feeding, but could have been cared for on a TC if nasogastric feeding was supported there	No. of TERM transfers or admissions to the NNU that would have met TC admission criteria, but were transferred or admitted to the NNU because of capacity and staffing issues	No. of TERM transfers or admissions to the NNU that would have met BAPM TC admission criteria, but were transferred or admitted to the NNU because the local TC service does not meet BAPM criteria	TOTAL No. and percentage of potentially preventable TERM admissions to NNU
	3	0*	0	3*	6 / 10.3%

'Stepping down' from high dependency or special care on NNU

- One baby was stepped down later than could have been, and would have been admitted for less than 4 hours, however at ward round other babies were prioritised, delaying the decision for this baby. NNU team to discuss moving straightforward babies such as this to the start of ward round in order to facilitate step down as soon as possible, however this is not always possible depending on clinical situations.

- Three babies were not stepped down despite being suitable for TC, two of which were effectively receiving TC care:
  - One was actually residing with parents in the parent bay but their care record on BadgerNet had not been updated. Therefore was TC in practice, but not recorded as such
  - Another was transferred to a tertiary centre for further investigation and on repatriation to Ipswich was suitable for TC but remained under NNU on BadgerNet, however in practice was being cared for by the mother who was residing on the NNU.
  - The third baby was in the nursery so although not residing with the mother, separation was minimised as she was residing on the NNU also and providing as much care as possible.
    - Communications have been made to staff to remind of the need to step down babies as soon as they are suitable, as well as updating their care record on BadgerNet to reflect this.

Potentially preventable

- **Labour / Birth Management**
  - 3 cases where there was an opportunity to deliver the baby sooner which may have avoided the need for admission to the NNU.

- **BAPM Criteria**
  - *One baby was admitted with hypothermia as well as sepsis and grunting, when he could have remained TC. He later required NG Tube feeding, for which would have required admission had he not already been admitted.
  - Two further babies were admitted with hypothermia and suspected sepsis. Persistent hypothermia is not currently managed in TC.

Deep dive into reasons for admission

NHS
Suffolk and North East Essex

Respiratory symptoms — Accounted for 79.3% of term admissions

Most common reason for admission as is usual – 79.3% of cases (46 cases).

- 30 (65%) of these required oxygen therapy during admission
  - The remainder (16) were all reviewed as appropriate admissions and therefore required close observations currently not possible with our current TC offer.
- 4 cases (9%) – ELCS. All were <39/40, all with valid clinical reasons for ELCS prior to 39/40. none of these had documented evidence of counselling regarding antenatal steroids.
- 15 cases (33%) gestation 37-37^{+6}
- All babies admitted are screened for sepsis routinely. 8 babies required further investigation following initial high CRP results, 6 of whom had a lumbar puncture, but none were diagnosed with sepsis – however it must be noted that any antibiotics given in labour will have potentially treated any infection in the baby.
- 20 babies were documented as fed within 1st hour (6 not documented). 5 of the 17 who did not feed within an hour were admitted directly to the NNU therefore the mother could not provide this first feed. Depending on the situation the NNU team will request that mother attends to feed, or that EBM or formula (depending on preference) is provided.

Learning

- Good support noted from NNU by the CMW team with family declining multiple investigations – to be fed back.
- 4 cases could have been delivered sooner (although only two were possible unavoidable admissions)

Actions

- Escalation regarding documentation of obstetric reviews – to remind staff responsible for own documentation
- Reminder to staff to sign APGAR sheet
- NNU to remind staff to document date and time of step down to TC

Deep dive into reasons for admission

NHS
Suffolk and North East Essex

Hypoglycaemia — Accounted for 3.4% of term admissions

2 Babies were admitted for hypoglycaemia management (as the main reason for admission)
Both were fed within one hour of birth. One was managed appropriately however management of the other did not follow our local guidance:

All women are routinely given a hand expression pack at 36 weeks to encourage antenatal expression. Women with diabetes in particular are advised of the risks of low blood sugar in their babies and encouraged to express prior to birth.

Learning

- Feed back to be passed to neonatal team for learning regarding blood gas timings and hypoglycaemia management

Asphyxia (perinatal hypoxia-ischaemia) — Accounted for 1.7% of term admissions

1 baby admitted with likely birth asphyxia:

Learning

- Main learning to be confirmed following PSR:

- Minor learning:
  - Documentation could be improved: documentation around LSCS, the condition of baby on transfer to NNU, and CTG stickers not always completed correctly

Learning from admissions into Transitional Care

Suffolk and North East Essex

Progress	Further reducing separation of mothers and babies
During Q2 71 babies have been able to be with mothers in TC rather than an inpatient on the Neonatal Unit. 86% of those babies to meet T.C. criteria either had anti-biotic therapy or were stepped down from the Neonatal Unit. This has facilitated bonding, providing a less medicalised environment while enabling staff to support and empower parents in the care of their babies. Venepuncture, cannulation and administration of IVAB can be undertaken within the treatment room or a mothers bedside on the postnatal ward reducing need for separation. TC business case is currently underdevelopment in line with the TC action plan this is to be presented to CDG approval by 17th January 2024.	Update Transitional Care Guidelines to include babies requiring nasogastric tube feeds within dedicated TC bay on the neonatal unit due December 2023. Raise awareness; provide all parents whose baby meets the criteria for transitional care a full explanation and written parental information to ensure informed decision and awareness of TC pathway. Utilising language line as required to ensure all parents are offered the same opportunity to be together with their baby. The development of Transitional Care competency which covers the admission criteria, NEWTT2 and medication protocols. This is being developed in response to audit results showing babies not being stepped down in a timely manner. Train midwives to check IM IVAB reducing need for babies to be transferred between wards for administration of medication

How could we improve TC locally?

To meet BAPM TC standards we need to:
TC business plan being evolved to involve patient/staff input to change this service.
To explore staffing models to use to implement TC service.
To secure financial budget for separate service.
To compile TC guidelines/policies/pathways to ensure BAPM criteria is met.
To ensure service is safe for neonates and mothers with appropriately trained Neonatal staff.
Meeting planned with MNVP December 12th 2023, to involve service users in the development of the BAPM compliant TC pathway
Local action plan developed to improve current TC provision. Plan to present to the trust board for review and approval December 2023.

Progress with the ATAIN action plan - Ipswich

NHS Suffolk and North East Essex

SMART actions added this quarter

Added to the Action Plan:

- Ensuring BadgerNet reflects the true care situation of babies on NNU or TC – to change prompts on NNU documentation and ensure staff are aware of the importance.
- Planning for TC cross-site plans – to gather staff and service user opinions.
- Discharge pathway different from TC on NNU and Orwell – To consider the use of Outreach Services for TC
- Provision of meals on NNU – To explore further regarding hot meals for parents
- Higher admission rates in summer months and Sept shows increased admission rate of 7.3% - To examine possible causes for increase in numbers

Minor Actions:

- Reminders to staff via newsletters for example for: documentation, use of flowcharts for management in guidance, use of CTG stickers, documentation on BadgernNet.
- Suggestion to re reprioritise ward round where possible to help move babies back to TC as soon as possible

Summary of progress

- Attendance by obstetric consultant at review meetings – Agreement in place for on-call consultant to attend where possible, if an allocated consultant is not available.
- Audit into NEWTT2 implementation – first audit completed (data from 7 weeks post implementation) with mixed results – to be re-audited after a further period of establishment in practice.
- Steroid information leaflet created for parents – currently in the review stages.

Action Plan to be merged with Colchester to create a joint ESNEFT Action Plan. To follow.