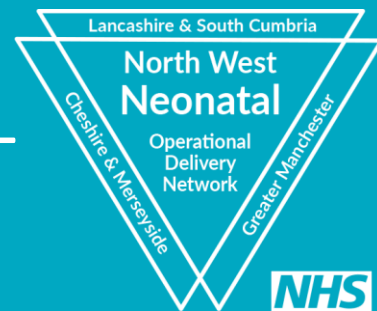


# NORTH WEST NEONATAL OPERATIONAL DELIVERY NETWORK



## A Guide to the NWNODN Dashboard 2021/2022

Working together to provide the highest standard of care for babies and families

# **NORTH WEST OPERATIONAL DELIVERY NETWORK: A Guide to the NWNODN Dashboard (2021/22)**

This document sets out the details of the NWNODN Dashboard measures and describes the following details for each measure:

- Dashboard Measure
- Source of standard
- Numerator & Denominator
- How the data is displayed on the dashboard
- Inclusion Criteria
- Data Source
- Any variation to source of standard

## Sources of standard

This document has been designed to match the standards set out in the National Neonatal Audit Programme (NNAP): A guide to the 2021 audit measures. (RCPCH, November 2021 v1.1). It is recommended that you refer to the NNAP document if you require further information or clarification of the audit measure.

Term Admission information has been collated in-line with the national ATAIN data collection standards – Reducing Harm Leading to Avoidable Admissions of Full-term Babies into Neonatal Units: Findings & resources for improvement. (NHS England, February 2017). NWNODN standards are additional measures agreed by the NWNODN Data Group and ratified by the NWNODN Overview & Planning Group (NOPG).

The following documents have also been referred to in this document:

NHS England. Neonatal Critical Care Service Specification. 2016. Available at: <https://www.england.nhs.uk/commissioning/wp-content/uploads/sites/12/2015/01/e08-serv-spec-neonatalcritical.pdf>.

British Association for Perinatal Medicine (2011) Service Standards for Hospitals Providing Neonatal Care (3rd edition). Available at: <https://www.bapm.org/resources/service-standards-hospitals-providing-neonatal-care-3rd-edition-2010>.

Department of Health. Toolkit for high quality neonatal services. 2009. Available at: [http://webarchive.nationalarchives.gov.uk/20130123200735/http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH\\_107845](http://webarchive.nationalarchives.gov.uk/20130123200735/http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_107845).

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Numerators and denominators stated in this document are for the unit dashboards. For locality and NWNODN dashboards information from individual units will be combined and the appropriate numerators and denominators for the wider groups will be applied.

## **Term Admissions**

*Admissions to NNU for babies born  $\geq 37$  weeks gestation, by first admission only*

**Source of Standard:** ATAIN

**Numerator:** For all measures is the number of babies (no exclusions) born  $\geq 37$  weeks' gestation admitted to a neonatal unit.

**Denominators:** Measure 2 = total number of live births (all gestations)

Measure 3 = total number of admissions to the NNU (all gestations)

Measure 4 = total number of live births  $\geq 37$  weeks

### **Displayed as:**

1. Count of term admissions
2. % of total births
3. % of NNU first admissions
4. % of term births

### **Inclusion Criteria**

1. Term Admission: - count of episodes (term babies), based upon admission date, episode 1, any day location of care NNU (not PNW, OBS, or TC), gestation  $> 36+6$
2. Term admission displayed as a percentage of live births. Maternity return live birth data filtered for gestation  $> 21+6$  and not including "unknown gestation".
3. Term Admission displayed as percentage of admissions regardless of gestation. Based upon admission date, episode 1, any day location of care NNU (not PNW, OBS, TC wards)
4. Term Admission displayed as percentage of term births. Maternity returns data filtered for Gestation  $> 36+6$  and not including "unknown gestation".

### **Data source:**

Badger Episode & Daily Data download

Birth data supplied by HOMs/maternity services

**Variation Source of Standard:** None – Matches ATAIN standards

**Minimising inappropriate separation of mother and Late Preterm & Term babies**

*Average number of special care or normal care days, when oxygen was not administered, for babies born at term or late pre-term (34 to 36 weeks gestational age) who did not have any surgery or a transfer during any admission*

**Source of Standard:** NNAP Measure

**Numerator:** Number of NNU SC and NC days, when oxygen was not administered

**Denominator:** Number of NNU admissions episode 1, with at least 12 hours of care and without major surgery without any transfer of care location, per above Gestation group.

**Displayed as:** Average SC and NC days when no oxygen was administered per baby based upon birth month for babies with final discharge from care

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Measure 1: Babies born 34 to 36 weeks gestational age

Measure 2: Babies born Greater than or equal to 37 weeks gestational age

**Inclusion Criteria:** NNU admission episode 1s lasting at least 12 hours, with all babies care at that Unit for babies who did not have any major surgery (Excludes PNW, TC).

**Data Source:** Badger Episode & Daily Data download.

**Variation to Source of Standard:** None - Matches NNAP

### **<27 Weeks in LNU**

*The number of deliveries below 27 weeks gestation (<28 if multiple delivery) at an LNU/SCU and the number of babies still there after 24 hours. % Born in NICU as per NHSE Report*

**Source of Standard:** NNAP, NWNODN & NHSE

**Numerator:** For Measure 3. NICU Deliveries from Measure 1.

**Denominator:** For Measure 3. Deliveries from Measure 1.

**Displayed as:** Number of deliveries at <27 weeks in LNU/SCU (or <28 weeks if multiple delivery) & number of those babies remaining in LNU/SCU after 24 hours. % Born in NICU as per NHSE Report

**Inclusion Criteria:**

Number of admissions by admission date, for episode 1, admitted to an LNU or SCU, gestation < 27 weeks or <28 weeks if multiple delivery. Multi births are grouped and counted as 1, at unit of admission, as per NHSE quarterly submission.

Number of individual babies still in unit after 24hrs

% Born in NICU as per NHSE Report

**Data Source:** Badger Episode & Daily Data download

**Variation to Source of Standard:** NNAP standard measures whether across the NWNODN a baby <27 weeks gestation is born at a maternity unit where there is a NICU.

### **<32 WEEKS IN SCU**

*The number of deliveries below 32 weeks gestation born in SCU and the number of babies still there after 24 hours*

**Source of Standard:** NWNODN

**Displayed as:** As above but <32 weeks in SCU

**Inclusion Criteria:** As above but < 32 weeks gestation

**Data Source:** Badger Episode & Daily Data download

**Variation to Source of Standard:** N/A as NWNODN measure

## PERCENTAGE OF NETWORK IC ACTIVITY IN NICUS

*The percentage of IC activity taking place in a NICU*

**Source of Standard:** NWNODN

**Numerator:** The number of IC care days in a NICU.

**Denominator:** The number of IC care days within locality.

**Displayed as:** % of activity by NWNODN, % of activity by Locality

**Inclusion Criteria:**

IC Care days at a NICU as a percentage of total IC care days, IC care day based upon BAPM 2011 (level 1), reported by care day date

**Data Source:** Badger Episode & Daily Data download

**Variation to Standard Source:** N/A as NWNODN Measure

## INAPPROPRIATE TRANSFERS OUT OF NWNODN

*Percentage of postnatal transfers out of the ODN, shown by NWNODN & locality*

**Source of Standard:** NWNODN

**Numerator:** The number of inappropriate transfers out of NWNODN

**Denominator:** The total number of all NNU admissions

**Displayed as:** Inappropriate transfers as a percentage of NNU admissions.

**Inclusion Criteria:**

Based upon discharge date from NWNODN, the decision on whether or not a transfer out of the ODN was appropriate will be made following the completion of an exception report and confirmation that the appropriate pathway has been followed. Transfers for specialist treatment/surgery will be declared appropriate and therefore excluded from the inappropriate figures. NNU admissions based upon admission date, episode 1, day one location of care NNU (not PNW, OBS or TC)

**Data Source:** Badger episode, daily data download and manual check.

**Variation to Source of Standard:** N/A as NWNODN measure



## **INAPPROPRIATE TRANSFERS OUT OF LOCALITY (WITHIN NWNODN)**

*Percentage of postnatal transfers out of locality but within the NWNODN, shown by locality.*

**Source of Standard:** NWNODN

**Numerator:** The number of inappropriate transfers out of locality (Within NWNODN)

**Denominator:** The total number of all NNU admissions

**Displayed as:** Inappropriate transfers as a percentage of NNU admissions

### **Inclusion Criteria:**

Based upon discharge date from locality during reporting period. Transfers for specialist treatment/surgery will be declared appropriate and therefore excluded from the inappropriate figures. NNU admissions based upon admission date, episode 1, and day one location of care NNU (not PNW, OBS, and TC)

**Data Source:** ConnectNW summary List

**Variation to Source of Standard:** N/A - NWNODN standard

## **Closed to External Admissions**

*The number of whole days (i.e. 24 hrs +) when closed to external admissions.*

**Source of Standard:** NWNODN

**Numerator & Denominator:** N/A

**Denominator:**

**Displayed as:** The number of whole days (i.e. 24 hrs +) when closed to external admissions. On the locality dashboard this is any day all units are closed across the locality. On the NWNODN dashboard this is any day all units are closed across the ODN

**Inclusion Criteria:** Unit Closures for at over 24 hours

**Data Source:** ConnectNW - daily ring round data

**Variation to Source of Standard:** N/A as NWNODN standard

## **NURSE STAFFING – NURSE NUMBERS**

*Proportion of shifts numerically staffed according to guidelines and service specification*

**Source of Standard:** NNAP Measure

**Numerator:** The number of shifts where nurse staffing met or exceeded recommended staffing levels as per service specification rules (NHS England, 2016)

**Denominator:** The number of shifts per month (2 per day)

**Displayed as:** % of shifts where nurse staffing met or exceeded service specification rules

**Inclusion Criteria:**

Count of shifts (based on a two-shift model of each calendar day), Service specification rules: 1:1 intensive care; 1:2 high dependency care; 1:4 special care; additional shift coordinator

**Data Source:** Badger Nursing Numbers Download.

**Variation to Source of Standard:** None - Matches NNAP criteria

## **NURSE STAFFING – AT LEAST 70% Qualified in Specialty**

*Percentage of shifts which had 70% of the registered nurses qualified in specialty*

**Source of Standard:** NNAP Measure

**Numerator:** The number of shifts where at least 70% of registered staff on duty were QIS

**Denominator:** The number of shifts per month (2 per day)

**Displayed as:** Percentage of shifts where at least 70% of the registered staff were QIS  
Units where more than 50% of shifts are staffed with three registered nurses or fewer are excluded from this measure

**Inclusion Criteria:** Count of Shifts which had 70% of the registered nurses qualified in specialty based on 2 shifts per calendar day.

**Data Source:** Badger nursing numbers download.

**Variation to Source of Standard:** None - Matches NNAP criteria

## **NURSE STAFFING – SHORTFALL**

*Number of additional nursing shifts required to meet recommended staffing levels.*

**Source of Standard:** NNAP Measure

**Numerator & Denominator:** N/A

**Displayed as:** Additional nursing shifts required to meet recommended staffing levels.

**Inclusion Criteria:** Count of any shifts where numbers of nursing staff required based upon ID, HD, and SC activity with a supernumerary shift co-ordinator was not met.

**Data Source:** Badger Nursing Numbers Download.

**Variation to Source of Standard:** None - Matches NNAP criteria

## **TEMPERATURE RECORDED WITHIN ONE HOUR (<32 WEEKS)**

*Babies <32 weeks gestation age admitted to a NNU who have their temperature recorded within one hour of birth where the measurement is within the range of 36.5 °C – 37.5 °C*

**Source of Standard:** NNAP Measure

**Numerator:** The first numerator is the number of babies <32 weeks admitted to NNU who had their temperature taken within one hour of birth. The second numerator is the number of babies with a temperature within the specified range

**Denominator:** The first denominator is the number of babies <32 weeks admitted to the NNU within the first hour of life. The second denominator is number of babies <32 weeks admitted who had their temperature taken within one hour of birth

**Displayed as:** % of eligible babies who had their temperature taken within one hour of birth and % of those babies where the measure was recorded between 36.5°C and 37.5°C

**Inclusion Criteria:**

Count of babies based upon admission date, episode 1, day one location of care NNU, When Admission time is within an hour of birth Gestation < 32 weeks.

**Data Source:** Badger Episode & Daily Data download.

**Variation to Source of standard:** None – as NNAP standard

**ROP SCREENING <32 Weeks or Birth Weight 1501g**

*Babies with a gestational age of <32 weeks or <1501g at birth undergoing first Retinopathy of Prematurity (ROP) screening accordingly*

**Source of Standard:** NNAP Measure

**Numerator:** The number of eligible babies who have had ROP screening in-line with the national guideline, +/-1 week.

**Denominator:** All babies eligible for ROP screening

**Displayed as:** The Percentage of eligible babies who had their ROP Screening when due.

**Inclusion Criteria:** Eligible babies: gestation <32 weeks or birth weight < 1501g; alive at start of ROP window, Count of episodes of eligible babies

Reporting period based on eligible babies' final discharge

Reported at NNU where discharged before screening window closed

Reported at NNU where first screening took place during screening window.

Reported at NNU where admitted when screening window closed but not screened

**Data Source:**

Badger NNAP Report, full update each Quarter

**Variation to Source of Standard:** None - Matches NNAP

### **Preterm Brain Injury**

*The total number of babies < 32 weeks' gestation with a diagnosis of germinal matrix/intraventricular haemorrhage (any grade) or post-haemorrhagic ventricular dilatation or cystic periventricular leukomalacia*

**Source of Standard:** NNAP

**Numerator:** The total number of babies < 32 weeks' gestation with a diagnosis of germinal matrix/intraventricular haemorrhage (worst grade within the first 28 days of life) or post-haemorrhagic ventricular dilatation or cystic periventricular leukomalacia (at any time). Diagnosis can be made on cranial ultrasound or MR scan.

**Denominator:** All babies admitted to neonatal unit < 32 weeks' gestation

**Displayed as:** % of eligible babies by birthplace

**Inclusion Criteria:** Eligible babies: gestation <32 weeks admitted to Unit.

Attributed to place of birth, not location of diagnosis or discharging unit.

**Data Source:** Badger Episode & Daily Data download

**Variation to Source of Standard:** NWNODN – Month of admission, NNAP – month of final discharge. Criteria matches NNAP.

## **Early Breastmilk Feeding**

*The proportion of babies <32 weeks gestation at birth receiving any of their mother's milk at day 14 of life.*

**Source of Standard:** NNAP

**Numerator:** The number of babies born <32 weeks gestation who were receiving their mother's own milk at day 14

**Denominator:** The number of babies born <32 weeks gestation who survived to day 14 of life.

**Displayed as:** % of eligible babies receiving breast milk at day 14 of life, attributed to care location at 48 hours of life.

**Inclusion Criteria:** Count of episodes (eligible babies) based upon care data at day 14 of life and gestation < 32 weeks. Babies who received their own mother's breast milk at day 14 of life (if missing data then best result from day 13 or 15) on an NNU ward, having a NWNODN location of care at 48 hrs of life.

Babies will be classified as meeting the standard if they receive any of the following on Day 14 of life:

- Mother's fresh expressed breast milk
- Suckling at the breast
- Mother's frozen expressed breastmilk.

**Data Source:** Badger Episode & Daily Data download

**Variation to Source of Standard:** None

## **BREAST MILK AT DISCHARGE**

*The proportion of babies of <32 weeks gestation at birth receiving any of their mother's milk when discharged from a NNU and the proportion of babies receiving any of their mother's milk, regardless of gestation at birth, when discharged from a NNU*

**Source of Standard:** NNAP measure and NWNODN additional standard

**Numerator:** Numerator 1 is the number of babies born <32 weeks gestation who were receiving any of their mother's own milk at discharge. Numerator 2 is the same but inclusive of all gestations.

**Denominator:** Denominator 1 is the number of babies born <32 weeks gestation discharged home. Denominator 2 is the same but inclusive of all gestations.

**Displayed as:** % of eligible babies receiving breast milk at discharge home

**Inclusion Criteria:** Count of episodes (eligible babies), based upon discharge date.

Discharge Destination = 1(Home). Line 1 - Gestation is <32 weeks, Line 2 - All babies. Daily record on last day or penultimate day - Enteral feeds = breast milk, breast milk & formula or formula only.

**Data Source:** Badger Episode & Daily Data download

**Variation to Source of Standard:** < 32 weeks matches NNAP & Additional NWNODN measure

## **BRONCHOPULMONARY DYSPLASIA**

*Percentage of babies born at <32 weeks gestational age who develop significant Bronchopulmonary Dysplasia (BDP)*

**Source of Standard:** NNAP Measure

**Numerator:** The number of babies born <32 weeks who develop BPD at either 36 weeks corrected gestation if baby dies or at final discharge.

**Denominator:** All babies born <32 weeks gestation

**Displayed as:** % of eligible babies by hospital of birth

**Inclusion Criteria:** BPD will be defined by the level of respiratory support at 36 weeks postmenstrual age. Count of episodes (eligible babies), gestation weeks <32 weeks, final discharge from NWNODN or still in NNU at 36 weeks corrected gestation, receiving any ventilation, CPAP, Non-invasive ventilation (e.g. BiPAP), Hi flow nasal cannula or oxygen treatment. If missing data, then 1 day subsequently/prior to this date will be used

**Data Source:** Badger Episode & Daily Data download

**Variation to Source of Standard:** NWNODN dashboard is final discharge from NWNODN NNAP will be based upon final discharge from all UK NNUs. NNAP will attribute BPD to the hospital of birth but this data for babies discharged outside of the NWNODN.



**NEC**

*Percentage of babies born at <32 weeks gestational age who meet the NNAP surveillance definition for necrotising enterocolitis*

**Source of Standard:** NNAP Measure

**Numerator:** The number of babies born <32 weeks who survived to at least 48 hours after birth who are defined as having NEC.

**Denominator:** All babies born <32 weeks gestation who survived to at least 48 hours after birth.

**Displayed as:** % of eligible babies by care location at 48 hours after birth

**Inclusion Criteria:** Count of babies born <32 weeks, with final discharge from care, who are diagnosed as having NEC at Surgery, post-mortem or based upon the following clinical and radiographic signs. At least one clinical feature from:

- a) Bilious gastric aspirate or emesis
- b) Abdominal distension
- c) Occult or gross blood in stool (no fissure)

And at least one radiographic feature from:

- a) Pneumatosis
- b) Hepato-biliary gas
- c) Pneumoperitoneum

Babies who are found to have 'Focal Intestinal Perforation' at surgery or post-mortem should not be recoded as having NEC.

Data will be collated by month of discharge and attributed to the hospital where baby was resident at 48 hours of life.

**Data Source:**

Badger NNAP Report, full update each Quarter

**Variation to Source of Standard:** None

## **Central line associated bloodstream infection**

*The blood stream infection rate per 1,000 central line days, taken after 72 hours of age*

**Source of Standard:** NNAP Measure

**Numerator:** The number of babies who have a positive blood culture with a central line present, after the first 72 hours of life

**Denominator:** Total number of central line days divided by 1000

**Displayed as:** Babies who have a positive blood culture with a central line present per 1,000 care days by discharge date

### **Inclusion Criteria:**

Babies have a positive blood culture (any species) with a central line present, after the first 72 hours of life, care provided by an NNAP unit. All days where a central line (surgical venous line, umbilical venous catheter (UVC), umbilical artery catheter (UAC), and peripherally inserted central catheter (PICC)) was present will be included in the number of line days when calculating proportions per 1000 line days.

Details for blood cultures and their results will be captured via ad-hoc forms for cultures on BadgerNet, whilst data from “lines in situ today” from daily data summaries will be used to determine line days for the analysis.

### **Data Source:**

Badger NNAP Report, full update each Quarter

**Variation to Source of Standard:** None - Matches NNAP

## **COOLING per 1,000 Live Births**

*The number of babies cooled per 1,000 live births*

**Source of Standard:** NWNODN

**Numerator:** Number of babies actively cooled

**Denominator:** Total number of live births divided by 1000

**Displayed as:** Babies receiving cooling treatment per 1,000 live births on admission date

**Inclusion Criteria:** Based upon admission date of episode 1, for babies actively cooled at any episode.

Live births - maternity data filtered for gestation >21+6 and not including “unknown gestation”. Attributed to place of birth, not location of cooling.

**Data Source:** Badger episode, daily data download & maternity reported birth data

**Variation to Source of Standard:** N/A

**HIE PER 1000 LIVE BIRTHS**

*Babies born ≥35weeks gestation, having a diagnosis of HIE grade 2 or 3, per 1,000 live births*

**Source of Standard:** ODN Measure

**Numerator:** Number of babies born ≥35 weeks who have a principal diagnosis of HIE grade 2 or 3 as per inclusion criteria

**Denominator:** Total number of live births divided by 1000

**Displayed as:** By birthplace, birthdate date per 1,000 live births

**Inclusion Criteria:** Babies ≥35 weeks, with a diagnosis of HIE grade 2 or 3 during any episode of care, including babies who die. HIE rate calculated per 1000 births

Live Births - maternity data filtered for gestation >21+6, not including “unknown gestation”.  
Attributed to place of birth, even if HIE identified at a different unit.

**Data Source:** Badger episode & daily data download & maternity birth data

**Variation to Source of Standard:** N/A

## **MORTALITY**

*All Deaths occurring in neonatal units per 1,000 live births, count of 22 & 23 weeks birth gestation deaths and percentages of babies born 24 to 31 inclusive weeks gestational age who die before discharge home or 44 weeks post-menstrual age (whichever occurs sooner)*

**Source of Standard:** NNAP Measure & additional NWNODN standards

**Numerator:** Measure 1 & 2 is the number of babies who die on a NNU. Measures 3, 4 & 5 are the number of deaths for babies born at the specified gestations, prior to either discharge home or before 44 weeks corrected gestation

**Denominator:** Measure 1 is the number of live births divided by 1000. Measures 2 is a count of deaths so not applicable, 3, 4 & 5 are the number of babies born for the specified gestations.

**Displayed as:** Deaths occurring in neonatal units per 1,000 live births, by place of birth and count of babies 22-23 weeks, % of deaths occurring by gestation group.

Measure 1 (rate per thousand) is recorded by month of death)

Measure 2 (count of 22 & 23 weeks birth gestation deaths recorded by month of death)

Measures 3 -5 (% of neonatal deaths >24 and <32 wks) is recorded by month of birth and will continue to be up-dated on a quarterly basis.

### **Inclusion Criteria:**

Episodes (babies) with discharge destination = 3 (died) from a NWNODN Unit

Line 1 is all gestations, live births - maternity data filtered for gestation >21+6 not including "unknown gestation".

Line 2 is gestation 22 and 23 weeks.

Lines 3, 4 & 5 all babies episode 1 day one location of care = 'NNU', gestation within group.

All deaths are attributed to place of birth, not the unit where baby died or was transferred to including hospice.

**Data Source:** Badger episode & daily data download. Birth data supplied by maternity services

**Variation to Source of Standard:** Measure 5 matches NNAP standard. Measures 1, 2, 3 & 4 are NWNODN specific

## **ANTENATAL MAGNESIUM SULPHATE**

*Mother of babies born < 30 weeks gestational age who were given MgsO4*

**Source of Standard:** NNAP Measure

**Numerator:** Number of mothers who delivered <30 weeks gestation and were given MgsO4 within the 24 hours prior to delivery

**Denominator:** Number of mothers who delivered at <30 weeks gestation

**Displayed as:** Percentage of eligible mothers where mother was given MgsO4

**Inclusion Criteria:** Count of episodes grouped by mother's anonymised NHS code (eligible mothers), based upon admission date, episode 1, gestation weeks <30, day one location of care NNU, Mothers given Magnesium Sulphate (multiple births - best outcome used).

**Data Source:** Badger episode & daily data download.

**Variation to Source of Standard:** NWNODN use admission data, NNAP use discharge date

## **ANTENATAL STEROIDS**

*Mothers of babies born at 23 to 33 weeks gestational age inclusive, who were given antenatal steroids*

**Source of Standard:** NNAP Measure

**Numerator:** Number of mothers who delivered at 23 to 33 weeks gestation who were given at least one dose of steroids during their pregnancy

**Denominator:** Total number of mothers who delivered at 23 to 33 weeks gestation

**Displayed as:** % of eligible mothers where mother was given antenatal steroids

**Inclusion Criteria:** Count of episodes grouped by mother's anonymised NHS code (Eligible mothers), based upon admission date, episode 1, gestation weeks 23 to 33, day one location of care NNU, mothers given antenatal steroids (multiple births- best outcome)

**Data Source:** Badger episode & daily data download.

**Variation to Source of Standard:** NWNODN – admission data, NNAP - final discharge data

## **DEFERRED CORD CLAMPING**

*Number of babies born at less than 32 weeks gestation who have their cord clamped at or after 1 minute of age*

**Source of Standard:** NNAP Measure (Benchmarking only)

**Numerator:** The first numerator is the number of babies <32 weeks admitted to NNU who had information on whether delayed cord clamping took place recorded on Badgernet. The second numerator is the number of babies admitted to NNU whose cord was clamped at or after one minute.

**Denominator:** The denominator for both elements is the number of babies born <32 weeks & admitted to the NNU.

**Displayed as:** The % of babies who had the information on deferred cord clamping entered and the % of babies who had their cord clamped at or after 1 minute of age, as recorded on Badgernet

### **Inclusion Criteria:**

All babies born at <32 weeks gestation who were admitted to an NNU. Date for reporting will be quarter of admission to episode 1. Only the first episode of care will be included in the data and therefore will be attributed to place of birth. If the baby is born outside of a hospital (i.e. at home or recorded as unknown) the place of birth will be assigned as 'other' and not included in individual unit data.

**Data Source:** Badgernet from delayed cord clamping table  
(Missing data, then <1 min and 1 – 2 minutes or 2 minutes or more)

**Variation to Source of standard:** NWNODN – admission data, NNAP - final discharge data

## **FOLLOW UP AT TWO YEARS OF AGE**

*Babies born at < 30 weeks gestational age who have a follow up appointment within 18-30 months*

**Source of Standard:** NNAP Measure

**Numerator:** Number of babies born <30 weeks gestation who have had a medical follow-up at 2 years of age (at hospital of final discharge)

**Denominator:** Number of babies born at <30 weeks gestation excluding babies who died prior to discharge

**Displayed as:** % of follow-up assessments undertaken, reporting period based on eligible babies' birth date, displayed by NWNODN

### **Inclusion Criteria:**

Based upon birth date, babies with gestation < 30 weeks, only babies with final discharge alive, day one location of care NNU, reported at NWNODN final discharge unit.

Assessment should take place within the window of 18-30 months corrected age

Attributed to the NNU of final discharge or last known episode of care.

Dashboard reporting period allows time for 30 months period for follow-up to take place.

**Data Source:** Badger episode & daily data download.

**Variation Standard:** None - Matches NNAP

## **Caffeine**

*Babies born at < 30 weeks gestational age who have be given caffeine before day 4 of life.*

**Source of Standard:** GIRFT

**Numerator:** Number of babies born <30 weeks gestation who were given caffeine (still on unit at 72hrs old)

**Denominator:** Number of babies admitted to NNU at <30 weeks gestation (still on unit at 72 hrs old)

**Displayed as:** % babies given caffeine, reporting period based on 1<sup>st</sup> episode admission date, displayed by NWNODN

**Inclusion Criteria:**

Based upon admission date, babies with gestation < 30 weeks, only babies with day one location of care NNU, reported at NWNODN at episode 1 and still in same unit at day 3 of life.

**Data Source:** Badger episode & daily data download.

**Variation Standard:** N/A



## **PARENTAL CONSULTATION WITHIN 24 HOURS OF ADMISSION**

*Documented consultation between a senior member of the NNU team and a parent within 24 hours of the admission, excluding babies receiving TC care regardless of location*

**Source of Standard:** NNAP Measure

**Numerator:** Number of NNU admissions where there is a documented parental consultation with a senior team member within 24 hours of admission

**Denominator:** Number of NNU admissions with at least 12 hours of care.

**Displayed as:** % of first admissions where a consultation took place within 24hrs

**Inclusion Criteria:** admissions lasting at least 12 hours, receiving SC HD or IC, on an NNU Ward (Excludes PNW, TC, consultation took place within 24 Hours of admission.

**Data Source:** Badger Episode & Daily Data download.

**Variation to Source of Standard:** None - Matches NNAP

## **PARENTAL PRESCENCE AT CONSULTANT WARD ROUNDS**

*Parental presence at Consultant ward rounds for babies admitted to the NNU for more than 24 hours, excluding babies receiving TC*

**Source of Standard:** NNAP Measure

**Numerator:** The first is the number of NNU admissions where a parent was present for at least one Consultant ward round during the entire stay. The second is the number of NNU Consultant ward rounds during entire stay where a parent was present.

**Denominator:** The first is the number of NNU admissions with at least 12 hours of care. The second is the number of NNU Consultant ward rounds during entire stay.

**Displayed as:**

Measure 1, % of admissions where a parent was present during any ward round.

Measure 2, % of consultant ward rounds where a parent was present.

**Inclusion Criteria:** Admissions lasting at least 24 hours, total episodes of care where baby was on NNU, parent was present during at least one ward round

**Data Source:** Badger Episode & Daily Data download.

**Variation to Source of Standard:** None - Matches NNAP

## APPENDIX 1 – SUMMARY TABLE OF ALL DASHBOARD MEASURES

Dashboard Measure	Dashboard Short Description	Numerators	Denominators
TERM ADMISSIONS	Term admissions (measured as per the ATAIN criteria) A term admission is any baby born 37 weeks and above who is admitted to the Neonatal Unit.	The numerator for all term admission measures is the no. of babies (no exclusions) born ≥37 weeks gestation admitted to a neonatal unit.	The denominators are: 1. The total no. of live births (all gestations) 2. The total no. of admissions to the NNU (all gestations) 3. The total no. of live births ≥37 weeks
MINIMISING SEPARATION LATE PRETERM (34 to 36 weeks)	For a baby born at weeks gestational age group, who did not have any surgery or a transfer during any admission, how many special care or normal care days were provided when oxygen was not administered?	Numerator is the no. of Care days at HRG2016 3 or 5 with no added O2 or ventilation/respiratory support for babies 34 to 36 weeks admitted to NNU who only had one episode and no major surgery and admitted for at least 12 hours.	Denominator is the no. of babies 34 to 36 weeks admitted to NNU who only had one episode and no major surgery and admitted for at least 12 hours.
MINIMISING SEPARATION TERM (37+ weeks)		Numerator is the no. of Care days at HRG2016 3 or 5 with no added O2 or ventilation/respiratory support for babies ≥ 37 weeks admitted to NNU who only had one episode and no major surgery and admitted for at least 12 hours.	Denominator is the no. of babies ≥ 37 weeks admitted to NNU who only had one episode and no major surgery and admitted for at least 12 hours.
<27 WEEKS IN LNU (<28 multi deliveries)	1). The no. of deliveries below 27 weeks gestation (<28 weeks if multiple delivery) with a 1st admission in LNU/SCU (for multiple births only one baby will be counted).	N/A	N/A
	2). Actual no. of babies < 27 wks still there after 24 hours.	NICU Deliveries from Measure 1). above.	Deliveries from Measure 1). above.
<32 WEEKS IN SCU	The no. of deliveries below 32 weeks gestation with a 1st admission in SCU (for multiple births only one baby will be counted).	N/A	N/A
	Actual no. of babies <32 wks still there after 24 hours.		
% NETWORK IC ACTIVITY IN NICUS	% of IC activity taking place in a NICU.	Numerator is the no. of IC care days in a NICU.	Denominator is the no. of IC care days within locality.
INAPPROPRIATE TRANSFERS OUT OF NWNODN (TARGET <5%)	% of postnatal transfers out of the ODN, shown by NWNODN & locality.	Numerator is the no. of inappropriate transfers.	Denominator is the total no. of all 1st NNU admissions
INAPPROPRIATE TRANSFERS OUT OF LOCALITY (within NWNODN)	% of postnatal transfers out of locality but within the NWNODN, shown by locality.	Numerator is the no. of inappropriate transfers.	Denominator is the total no. of all 1st NNU admissions within the locality.
CLOSED TO EXTERNAL ADMISSIONS	The no. of whole days (i.e. 24 hrs +) when closed for non-inborn and booked patients.	N/A	N/A
NURSE STAFFING - NUMERICALLY STAFFED	Proportion of shifts numerically staffed according to guidelines & service spec.	Numerator is the no. of shifts where nurse staffing met or exceeded recommended staffing levels. (1:1 IC, 1:2 HD, 1:4 SC plus additional shift co-ordinator).	Denominator is the no. shifts per month (2 per day)
NURSE STAFFING - PROPORTION OF QIS NURSES	Proportion of shifts with sufficient staff qualified in speciality (QIS).	Numerator is the no. of shifts which at least 70% of registered staff on duty were QIS.	Denominator is the no. of shifts per month (2 per day)
NURSE STAFFING - SHORTFALL	No. of additional nursing shifts required to meet recommended staffing levels.	N/A	N/A

Dashboard Measure	Dashboard Short Description	Numerators	Denominators
ANTENATAL MAGNESIUM SULPHATE (<30 weeks)	Mother of babies born in Month with gestation < 30 weeks should be given Mgs04	The numerator is the no. of mothers who delivered a baby below 30 wks gestation who were given magnesium sulphate 24 hours prior to delivery.	The denominator is the total no. of mothers who delivered a baby below 30 wks gestation.
ANTENATAL STEROIDS (23 to 33 incl) Target 85%	Mothers of babies born in month at Gestation 23 to 33 weeks incl. Who were given Antenatal steroids.	Numerator is the no. of mothers who delivered a baby 23 to 33 weeks inclusive who were given at least one dose of steroids.	The denominator is the total no. of mothers who delivered a baby 23 to 33 wks gestation.
TEMPERATURE RECORDED WITHIN 1 HOUR (<32 weeks)	Promoting normal temperature on admission for very pre-term babies.	Numerator is the no. of babies <32 weeks admitted to NNU who had their temp. taken within one hour of birth	Denominator is the no. of babies <32 weeks admitted to Unit within 1 hour of birth.
% MEASURED AS 36.5°C - 37.5°C (for the above babies)		Numerator is the no. of babies with a temperature in the specified range.	Denominator is no. of babies <32 weeks admitted to NNU & had their temp. taken within one hour of birth
DEFERRED CORD CLAMPING RECORDED (<32 weeks)	Promoting Deferred Cord Clamping to 1 minute or later.	Numerator is the no. of babies born < 32 weeks who had "Was cord clamping immediate" recorded "Yes" or "No".	Denominator is the no. of babies <32 weeks admitted to Unit.
DEFERRED CORD CLAMPING TIMING (<32 weeks, at 1 minute or later)		Numerator is the no. of babies born < 32 weeks who had their cord clamped at or after 1 minute.	Denominator is the no. of babies <32 weeks admitted to Unit.
Caffeine (<30 weeks, at day 4 of life)	Proportion of babies <30 wks receiving caffeine within 3 days of life	Numerator is the no. of babies <30 weeks admitted to NNU who were given caffeine within 3 days of life.	Denominator is no. of babies born <30 weeks & admitted to the NNU and still in unit at 72 hours of life, episode 1 only.
EARLY BREASTMILK FEEDING (<32 weeks)	Proportion of babies born <32 weeks gestation receiving any of their mother's milk at day 14 of care	Numerator is the no. of babies born <32 wks gestation who survived to day 14 of life and were within a NW neonatal unit at 48hrs of life and were receiving their mother's own milk at day 14 (if missing data then best result from day 13 or 15).	Denominator is no. of babies born <32 wks gestation who survived to day 14 of life and were within a NW neonatal unit at 48hrs of life.
BREASTMILK AT DISCHARGE	Proportion of babies born <32 weeks gestation receiving any of their mother's milk when discharged home.	Numerator is the no. of babies born <32 wks gestation who were receiving any of their mother's own milk at discharge.	Denominator is no. of babies born <32 wks gestation discharged home.
	Proportion of all babies receiving any of their mother's milk when discharged home.	Numerator as above but inclusive of all gestations.	Denominator are as above but inclusive of all gestations.
ROP SCREENING (<32 weeks or birth weight<1501g)	Are all babies with a gestational age of <32 weeks or <1501g at birth undergoing first Retinopathy of Prematurity (ROP) screened accordingly?	Numerator is the no. of eligible babies who have had ROP screening in-line with the national guideline, +/-1 week.	Denominator is all babies eligible for ROP screening.
BRAIN INJURY PER 1,000 LIVE BIRTHS (<32 weeks)	The % of babies born <32 weeks with a diagnosis of Germinal matrix/ intraventricular haemorrhage within 28 days of life or Post haemorrhagic ventricular dilation or Cystic periventricular leukomalacia at any time.	Numerator is the no. of babies <32 weeks diagnosed with Brain Injury.	Denominator is no. of babies admitted <32 wks gestation.
BRONCHOPULMONARY DYSPLASIA (<32 weeks)	The % of babies born at <32 weeks who develop significant Bronchopulmonary Dysplasia.	Numerator is the no. of babies admitted <32 weeks, survived at least 48 hours who develop BPD at either 36 wks corrected gestation if baby dies or at final discharge.	Denominator is no. of babies admitted <32 wks gestation who survived at least 48 Hours.

Dashboard Measure	Dashboard Short Description	Numerators	Denominators
NEC (<32 weeks)	The % of babies born at <32 weeks who meet the NNAP surveillance definition for necrotising enterocolitis.	Numerator is the no. of babies born <32 weeks who survived to at least 48 hours after birth who are defined as having NEC.	Denominator is all babies admitted <32 wks gestation who survived to at least 48 hours after birth.
CENTRAL LINE ASSOCIATED BLOODSTREAM INFECTION	Central Line Associated Bloodstream infection rate per 1000 central line care days Surgical venous line, UVC, UAC & PICC will be included in the number of line days when calculating the rate.	Numerator is no. of babies who have a positive blood culture with a central line present, after the first 72 hours of life.	Denominator is total no. of central line days divided by 1000.
COOLING PER 1,000 LIVE BIRTHS	The number of babies born in Network cooled per 1,000 live births	Numerator is no. of babies born who are cooled	Denominator is total no. of live births divided by 1000
HIE PER 1,000 LIVE BIRTHS (HIE grade 2 or 3, ≥ 35 weeks)	Babies born ≥35 wks gestation who have a principal diagnosis of HIE Grade 2 or 3 within any admission to NWNODN, per 1,000 live births.	Numerator is no. of babies born ≥35 wks gestation who have a principal diagnosis of HIE Grade 2 or 3 within any admission to NWNODN	Denominator is total no. of live births divided by 1000
MORTALITY	Rate of deaths occurring in a neonatal units per 1,000 live births. (The live birth count includes any baby born ≥22 weeks.)	Numerator is No. of babies who die on a neonatal unit	Denominator is no. of live births divided by 1000
	Deaths occurring at neonatal units for Gestation 22-23 weeks inclusive	Numerator is No. of babies who die on a neonatal unit 22 to 23 wks gestation.	N/A
	% Deaths occurring at neonatal units for Gestation 24-27 weeks inclusive before post-menstrual age 44weeks.	Numerator is the no. of deaths of babies born 24 to 27 wks gestation before discharge from hospital to home, who died before 44 wks corrected gestation.	Denominator is no. of babies admitted to a NNU birth gestation 24 to 27 wks.
	% Deaths occurring at neonatal units for Gestation 28-31 weeks inclusive before post-menstrual age 44weeks.	Numerator is the no. of deaths of babies born 28 to 31 wks gestation before discharge from hospital to home, who died before 44 wks corrected gestation.	Denominator is no. of babies admitted to a NNU birth gestation 28 to 31 wks.
	% Deaths occurring at neonatal units for Gestation 24-31 weeks inclusive before post-menstrual age 44weeks.	Numerator is the no. of deaths of babies born 24 to 31 wks gestation before discharge from hospital to home, who died before 44 wks corrected gestation.	Denominator is no. of babies admitted to a NNU birth gestation 24 to 31 wks.
FOLLOW-UP AT TWO YEARS OF AGE	Babies born < 30 wks gestational age should have a Follow up appointment within 18-30 Months. (Refer to NNAP 2019 audit measures for more detailed information)	Numerator is the no. of babies born <30 weeks gestation who receive a medical follow up, at two years gestationally corrected age.	Denominator is the no. of babies born < 30 wks gestation who were not recorded as deceased as final outcome at discharge.

Dashboard Measure	Dashboard Short Description	Numerators	Denominators
<b>PARENTAL CONSULTATION WITHIN 24 HOURS OF ADMISSION</b>	Is there a documented consultation with parents by a senior member of the neonatal team within 24 hours of a baby's admission. (TC admissions & NNU admissions where the stay is <12 hours are not included)	Numerator is the no. of neonatal admissions where there is a documented parent consultation with a senior team member within 24 hrs of admission.	Denominator is the no. of NNU admissions with at least 12 hours of care.
<b>PARENTAL PRESENCE AT CONSULTANT WARD ROUNDS</b>	Has there been parental presence during at least one consultant ward round whilst the baby was a patient on the NNU? (TC admissions & NNU admissions where the stay is <24 hours are not included)	Numerator is the no. of neonatal admissions where a parent was present for at least one consultant ward round.	Denominator is the no. of NNU admissions with at least 12 hours of care.
<b>% PARENTAL PRESENCE AT ALL CONSULTANT WARD ROUNDS</b>	Percentage of consultant ward round with parental presence whilst the baby was a patient on the NNU? (TC admissions & NNU admissions where the stay is <24 hours are not included)	Numerator is the no. of ward rounds where a parent was present.	Denominator is the no. of ward rounds for NNU admissions.