Northumbria Healthcare
NHS Foundation Trust

Wansbeck Special Care Baby Unit

NORTHUMBRIA HEALTHCARE FOUNDATION NHS TRUST

ANNUAL REPORT

2013

Executive Summary

Activity & cot occupancy

- The total number of admissions to SCBU remains constant.
- The increase in transitional care days noted is likely to be attributable to our increased efforts to capture this activity.

Research and Nursing Initiatives

- The SCBU contributes to data collection for multi-centre (portfolio) studies.

Challenges

- The forthcoming move to the Emergency Care Centre in 2015 will mark a significant change in how the Special Care is overseen from a medical perspective.

Foreword

This is the first annual report produced by the SCBU at Ashington for a number of years. This will be important in providing more detailed information for parents and stakeholders, including the Northern Neonatal Network.

Data from the previous year is included to provide a limited benchmark upon which future reports will build upon, providing increased insight into the service.

The report is an ideal vehicle in which we can be benchmarked against comparable sized units, from which examples of good practice or need for improvement may emerge.

We look forward to reviewing the annual reports of comparable Special Care units within the Network.

George Brooks (ANNP) Alan Fenton (Consultant Neonatologist)
October 2014

Unit Profile

The Special Care Baby Unit (SCBU) at Wansbeck General Hospital has 14 cots. The service is part of the Northern Neonatal Network and provides an Advanced Neonatal Nurse Practitioner-led service. Medical oversight and support is currently provided by the Newcastle Neonatal Service, based at the Royal Victoria Infirmary.

The unit aims to provide care for all babies born more than 30 weeks gestation and 1500g birthweight. Where possible, women at risk of delivery earlier than 30 weeks are transferred to one of 4 designated NICUs within the Northern Region. If a baby is born at Wansbeck unexpectedly before 30 weeks, the unit initiates resuscitation and stabilisation services and the infant is retrieved by our regional designated Transport Service and transferred to the nearest NICU that can accommodate the baby. SCBU facilities include a parent's sitting room, two en-suite family rooms, breast feeding support and written parent information on all aspects of neonatal care.

We are very committed to our philosophy of care in that each baby is an individual and is cared for in partnership with his/her family to include physical, emotional, social and psychological needs to facilitate a transition to his/her new home as smoothly as possible. The unit team works closely with the community health care professionals to allow this streamlined approach.

Abbreviations/definitions	
Badger	The national neonatal dataset collection system.
High dependency (HD)	**I**nvolves care for babies who need continuous monitoring, for example those who weigh <1000g (2lbs 3oz), or are receiving help with their breathing via continuous positive airway pressure (CPAP) or intravenous feeding, but who do not fulfil any of the requirements for intensive care.
inborn	Born in or en-route to a Northumbria maternity unit
Neonatal Intensive Care Unit (NICU):	Larger intensive care units that provide the whole range of neonatal care for their local population and additional care for babies and their families referred from the neonatal network in which they are based, and also from other networks when necessary to deal with peaks of demand or requests for specialist care not available elsewhere.
Intra-Uterine Transfer (IUT)	Transfer of a pregnant woman to a hospital with facilities and capacity to meet the baby's needs should he deliver.
Livebirth	Baby born alive regardless of duration of gestation.
Nasal Continuous Positive Airway Pressure (**nCPAP)**	Non-invasive respiratory support for the management of mild to moderate respiratory disease
Outborn	Born in another NHS maternity unit and transferred to WGH for special care
PostNatal Ward (PNW)	
Special care	Provided for all other babies who could not reasonably be looked after at home by their mother. Babies receiving special care may need to have their breathing and heart rate monitored, be fed through a tube, supplied with extra oxygen or treated for jaundice.
SCBU or SCU	Provide special care for their own local population. Depending on arrangements within their neonatal network, they may also provide some high dependency services.
Stillbirth	Death before delivery at >24 weeks gestation
Transitional Care (TC)	Special care which occurs alongside the mother but takes place outside a neonatal unit, in a ward setting.

ADMISSIONS TO SCBU WGH 2013

SCBU admissions	2012	2013
Total number of live births NHCFT	**2901**	**2715**
Total number of stillbirths	**9**	**7**
Total admissions	**332**	**315**
% live births admitted to SCBU	**11.4%**	**11.6%**

The % of livebirths admitted to SCBU is consistent with level 1 Special Care Units throughout the UK.

Admission details	2012		2013	
	No.	%	No.	%
Total admissions	332	11.4	315	11.6
Inborn-booked	286	9.8	228	8.4
Inborn-booked elsewhere	5	0.17	12	0.44
Postnatal transfer in	21	0.72	42	1.54
Re-admissions*	20	0.68	33	1.21
Gestation				
<26	0	-	3	0.95
<26-30	19	5.7	19	6.05
31-36	121	36.8	126	40
>36	191	57.1	167	53
Total	332		315	
Multiple births				
Twins	44	13.25	36	11.42
Triplets	3	0.90	5	1.58
Total multiple	47	14.15	41	13

*There is no in-patient paediatric facility at WGH. This cohort consists of babies <10 days old referred by primary care for feeding problems and /or weight loss or jaundice requiring phototherapy. Babies are usually admitted with their parents into the family rooms available on SCBU.

Reason for admission	2012	2013
Hypoxic Ischaemic Encephalopathy	**2**	**1**
Congenital Cardiac Disease	**2**	**1**
Congenital abnormality	**1**	**0**
Convulsions	**0**	**1**
Failed pulse oximetry screening*	**0**	**1**
Hypoglycaemia	**9**	**19**
(Suspected) Infection	**68**	**63**
Investigations	**3**	**4**
Jaundice	**38**	**34**
Neurological disease	**1**	**0**
Other**	**45**	**43**
Poor condition at birth	**0**	**1**
Poor feeding	**26**	**19**
Preterm <36	**84**	**91**
Respiratory Disease	**104**	**96**
Social Issues	**2**	**2**
Weight loss	**0**	**3**

SOURCE; Badger dataset

***Not routinely undertaken**

**** Needs review of data collection**

Admission from Postnatal ward

Throughout this year no risk reports were generated following admission of term babies from the postnatal ward indicating non-compliance to guidelines. This cohort of babies were roughly divided into two groups, those whose condition unexpectedly changed requiring transfer to SCBU for assessment/treatment and a smaller group of babies who "failed" transitional care, despite adherence to care plans devised in agreement with ANNP, midwife and parents. It is worth noting that throughout 2013 no term babies were cold (temp <36.5ºC), upon arrival to SCBU from the postnatal ward.

TRANSFERS IN AND OUT OF SCBU WGH

Transfers In-utero	**2012**	**2013**
RVI	10	*
Middlesbrough	*	*
Sunderland	*	*
Stockton	*	*
Other	*	*
Transfers Ex-Utero	27	36
RVI	21	23
Middlesbrough	0	5
Sunderland	4	1
Stockton	0	0
Other	2	7

There were some difficulties obtaining accurate details of IUTs as we are reliant on our maternity colleagues. This has been addressed for subsequent reports.

Transfers from WGH post-delivery

DOB	**SEX**	**GESTATION**	**WEIGHT** (gms)	**REASON FOR TRANSFER**	**DESTINATION**	**OUTCOME (IF KNOWN)**
22.1.13	M	36+0	2310	Abdominal Distension	GNCH*	Discharged from GNCH
1.2.13	M	34+4	2535	Ventilated	RVI**	Discharged from RVI D19
23.2.13	F	32+5	1695	Readmission D18 ventilated	RVI	Returned D22 Home D25
27.2.13	M	35+0	2640	Ventilated	RVI	Returned D4 Home D14
2.3.13	F	38+0	2640	?cardiac defect	RVI	Returned D2 Home D9
8.3.13	M	40+0	3230	? cardiac defect PPHN	Freeman***	Returned D3 Home D8
9.3.13	M	40+0	3230	?cardiac defect (PPHN)	Freeman	Return D2 Home D7
22.3.13	M	34+3	2060	Trisomy 21 Hirchsprungs	RVI	Returned D11 Home D21
30.3.13	M	32+2	2105	Ventilated	RVI	Returned D7 transfer to RVI

						D20
30.3.13	M	32+2	2105	Hydrocephalus	RVI	Returned D29 Home D41
2.5.13	F	37+1	2090	Pierre Robin VSD	RVI	Transfer D52 GNCH
6.5.13	F	40+3	4310	Readmission from home D2 ventilated	RVI	Returned D5 Home D7
8.5.13	M	40+1	3970	Transposition of Great Arteries	Freeman	Discharged from Freeman
13.5.13	M	37+6	3105	Admitted from home D6 ?sepsis for lumbar puncture	RVI	Returned D7 Home D11
15.3.14	F	40+6	3795	Ventilated	JCUH****	Returned Day 6 Home D7
14.6.13	M	29+0	1410	Ventilated	RVI	Returned D30 Home D 44
14.7.13	M	35+5	2875	RVI booking returned RVI	RVI	Discharged from RVI
10.7.13	M	28+5	1490	Ventilated	LEEDS	Transferred to RVI D8 Returned D24 Home Day 61
24.7.13	F	37+6	3240	Ventilated	SUNDERLAND	Return D2 Home D7
24.7.13	M	35+4	2735	Investigations for hypoglycaemia	RVI	Returned D5 Home D7
26.7.13	F	26+5	875	Ventilated	JCUH	Transferred to GNCH 15 weeks
26.7.13	F	26+5	850	Ventilated	JCUH	Discharged from JCUH 15weeks
27.7.13	M	39+0	2740	NEC D3 coarctation of the aorta	GNCH	Transferred to Freeman
2.8.13	F	35+0	2280	Ventilated	RVI	Returned D17 Home D25
10.8.13	F	36+4	1810	Twin 2 Advanced resuscitation at birth	RVI	Returned D4 Died D4
15.8.13	M	31+2	1425	D4 requiring TPN	RVI	Returned D10 home D48
19.8.13	M	35+3	2915	Pneumothorax D3	RVI	Returned D6 Home D16
28.9.13	M	25+6	1020	Ventilated	JCUH	Died D5
6.10.13	F	40+0	4325	Ventilated	JCUH	Returned D3 Home D6
8.10.13	M	41+3	4510	Pneumothorax	RVI	Discharged from RVI D6
8.10.13	F	26+4	900	Abdominal Distension D31	RVI	Returned D34 Home D71
5.11.13	M	40+4	2930	Transposition of Great Arteries	Freeman	Discharged from Freeman

6.11.13	M	31+2	1570	Ventilated	RVI	Returned D7 Home D22
26.11.13	F	40+5	4070	?cardiac defect	Freeman	Returned D3 Home D6
27.11.13	M	39+1	2175	SVT D1	RVI	Returned D3 Home D7
29.11.13	M	38+0	3150	Thrombocytopaenia	RVI	Discharged from RVI D6
24.12.13	F	40+1	2945	Sepsis Thrombocytopaenia	RVI	Discharged from RVI D7

*refers to paediatric department RVI

**refers to ward 35 RVI (NICU)

***refers to regional cardiothoracic centre

****refers to NICU James Cook University Hospital

Comments

No significant issues pertaining to transfers (such as delays or availability of cots at WGH), in or out of the unit were reported. 5 babies born at Wansbeck were <30 weeks gestation. A review of these cases indicated that none could have been transferred out before delivery. In 2 cases (1 singleton & 1 twin pregnancy) the babies were born soon after the mother's admission to WGH. 1 baby was born before arrival and 1 woman could not be transferred out prior to the birth due to antepartum haemorrhage.

24/36 babies returned to WGH SCU for continuing care. Babies who do not return to WGH SCBU include babies requiring cardiac or other surgery, sick term babies who rapidly improved and were discharged from NICU's postnatal wards or readmissions that are transferred to paediatric unit

ADMISSION OF TERM INFANTS (>36 weeks gestation) 240/398 (60%) admissions* were infants >36/40. Source Badgernet		
Principle reasons for admission	No.	% of term admissions
Respiratory care	**64**	**26**
Suspected Infection	**55**	**23**
Other**	**37**	**15.4**
Jaundice	**22**	**9.1**
Hypoglycaemia***	**18**	**7.5**
Poor Feeding	**14**	**5.8**

*****Note no. of admissions *not* number of babies. A baby may have more than one admission to the unit.

** Other indicates need for more accurate completion of Badger

*** Consists of babies "at risk" of neonatal hypoglycaemia who "failed" transitional care plan on PNW.

Further examination indicates 167 babies born at >37 weeks gestation were admitted to SCBU (6.1% of the total number of infants born in Northumbria in 2013). The large number of term babies reported here will require further investigation in subsequent reports.

Figure 1: WGH SCBU 2013: Rolling Annualised Total workload

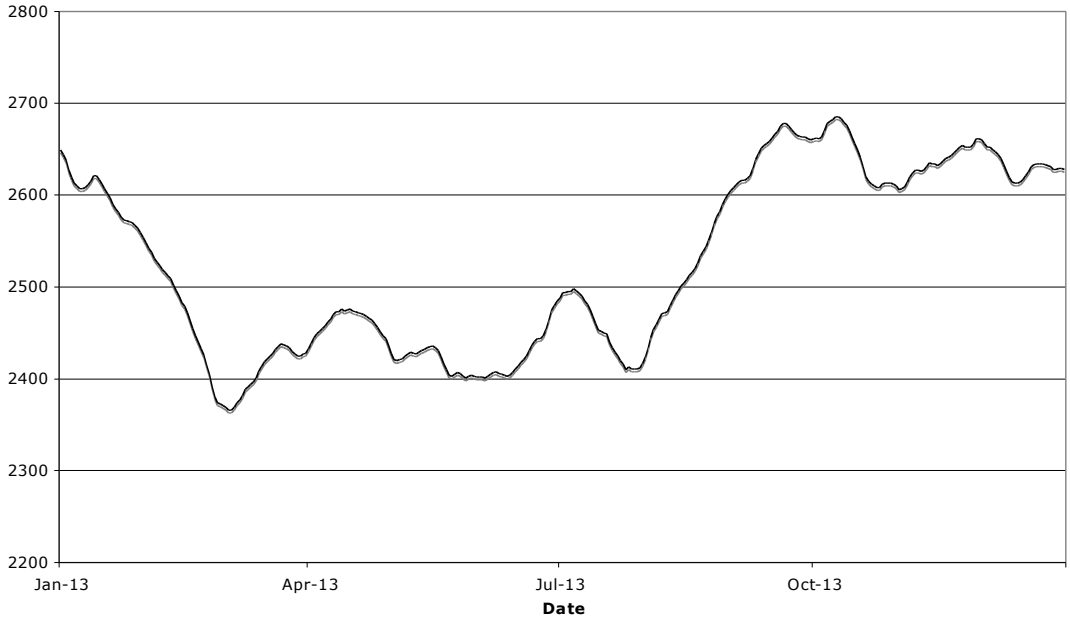
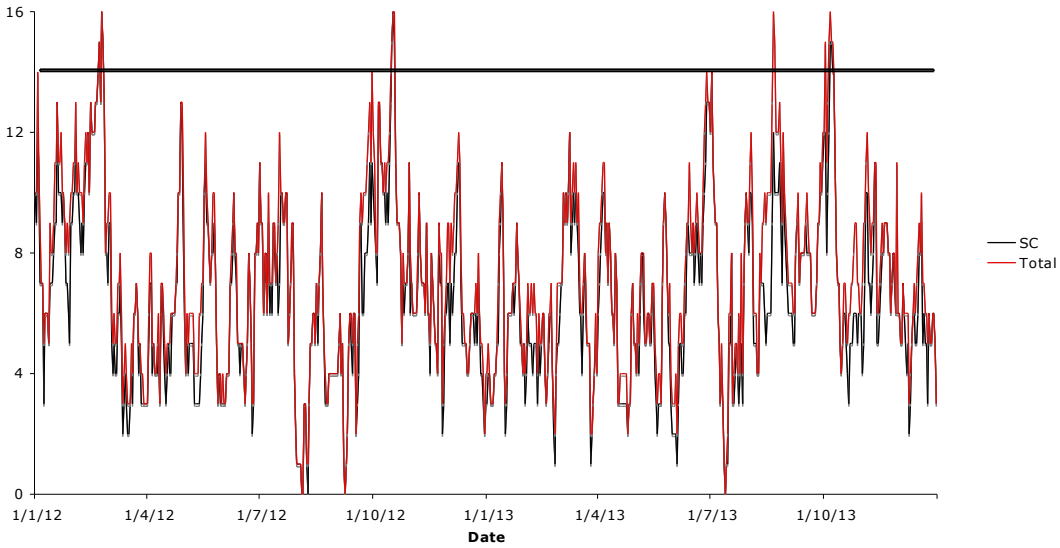


Figure 2: WGH SCBU 2012-3: Cot Occupancy (solid horizontal line indicates 100% occupancy)



Rolling occupancy figures will be used over the next few years to follow trends in workload. Daily occupancy varies considerably, with a median value of 7 cots occupied. Peaks in activity over maximum occupancy are rare, occurring on 13 days during this 2 year period.

UNIT ACTIVITY

Cot activity in days*	2012	2013
Intensive Care (IC)	122	140
High Dependency (HD)	99	153
IC & HD total	221	293
Special Care (SC)	2424	2329
Transitional Care (TC)	435(HD/SC)	754(HD/SC)
Total	2645	2622

*BAPM guidelines

For the two year period noted the workload as expressed as 'care days' on SCBU has essentially remained constant. Moderate increase in intensive care may be in part attributable to our reduction in gestational threshold for IUT from <32 weeks to <30 weeks, following justification for change being made by detailed audit. By doing this we ensured our transfer criteria were similar to that of other SCUs within the network.

The increase in transitional care days is attributable to efforts to keep babies with their mothers on the postnatal ward and increased vigilance at capturing transitional care activity.

Resp support days	2012	2013
Ventilation no.of babies	15	23
Ventilation no.of days provided	19	23
nCPAP no. of babies	60	58
nCPAP no. of days provided	104	129

The intensive care/high dependency workload undertaken by WGH SCBU remains constant. Throughout the UK it is accepted practice that special care units provide some intensive/high dependency care depending on arrangements within the network (DHGB, 2009). Ventilatory support care episodes are instances whereby resuscitation and stabilisation has been completed by the resident nursing team and the baby is subsequently being cared for prior to transfer to other centres for specialist care.

nCPAP concerns non-invasive respiratory support for the management of mild-moderate respiratory distress. Although this is usually effective treatment for the acute phase of neonatal lung disease all cases are considered on an individual basis and the NICU at RVI are involved as there is the potential need escalation to a higher level of (NICU) care.

Perinatal Statistics (Northumbria)	**2012**	**2013**
Total deliveries	2901	2715
Total livebirths	2892	2708
Total stillbirths	9	7
Early neonatal deaths*	2	3
Late neonatal deaths	0	0
Stillbirth rate /1000 births	3.1	3.6

*Includes Northumbria booked babies who died at WGH only.

Neonatal Deaths	2012	2013
In Unit (WGH DS)	2	2
In Unit (WGH SCBU)	0	1
Post-intrauterine transfer		
Post-extrauterine transfer	0	0

Deaths on delivery-suite were infants born at <24 weeks gestation who demonstrated signs of life but received palliative care. The baby who died on SCBU was a 36 week second twin, diagnosed with hypoxic brain injury who returned from NICU for withdrawal of intensive care closer to home.

From January 2014 increased efforts have been made to monitor the number of women transferred out for delivery in maternity units with on-site neonatal intensive care facilities and to determine their babies' outcome. Details of infants transferred out after birth are readily obtainable from SCBU records and Badger database. The majority return to WGH SCU for continuing care, however there is limited formal feedback from NICUs provided in cases where infants are not repatriated to the Northumbria Unit.

STAFFING

4 Datix reports were submitted in 2013 reporting inadequate staffing levels they concerned 4 separate shifts. 3 of the incidents were caused by escalation of workload and 1 by staff absence.

Monthly statistics are submitted to the network detailing the number and status of nursing staff on each shift. This is then married with the workload using activity details captured on Badger. We are then informed of the number of days each month that we have met BAPM recommendations for staffing neonatal units.

From reviewing these quarterly reports we can determine WGH SCBU met BAPM standards 35.5% of the time in 2013. This is comparable with the other SCUs in the network who achieve the standard on average 36.1%. This varies greatly from unit to unit (range 12-73.6%).

QUALITY IMPROVEMENT INITIATIVES

Several issues have been reviewed and will need to be monitored in subsequent annual reports.

Retinopathy of Prematurity (ROP) Adherence to national guidance is a core indicator within the National Neonatal Audit Programme, (NNAP). Efforts are being made to ensure we capture all our ROP screening activity.

Breastfeeding Our endeavour to promote breastfeeding reflects the efforts made throughout the maternity unit working towards Baby Friendly Initiative (BFI) status. Indicators for success will be an increase in the number of babies who receive any breastmilk and evidence that more babies are being discharged still receiving breastmilk.

Examination of the Newborn The unit continues to support midwives undertaking the in-Trust examination of the newborn course.

Delayed Cord Clamping This practice change by our midwifery and obstetric colleagues requires further review.

Bliss The national charity supporting neonatal care has published a “Baby’s charter” evidence of achieving the principles set within this document will be rewarded with kitemark award and we have expressed interest in being assessed.