ANNUAL REPORT 2016-17

NEONATAL SERVICES
(SCBU level 1)

South Tyneside NHS Foundation Trust

1 INTRODUCTION AND SUMMARY OF CURRENT ISSUES

The Special Care Baby Unit (SCBU) is located on the ground floor of the maternity block opposite the delivery suite. There are 6 cots, plus an additional stabilisation cot which allows delivery of short term high dependency and intensive care as required.

The SCBU routinely delivers low dependency care to any baby born greater than 32 weeks gestation, and provide non-invasive respiratory support (CPAP) for babies with respiratory distress. Babies of less than 32 weeks gestation are normally transferred to other providers offering Neonatal Intensive Care Units (NICUs) although the SCBU is capable of resuscitating and stabilising any term or pre-term baby with unexpected problems, whilst awaiting the neonatal retrieval team. To this end the SCBU is equipped with 2 ventilators and 2 CPAP drivers.

This report provides a summary of the work within the department and comes at a time where there is a proposal for significant strategic change. Public consultation is currently underway on the future of maternity and paediatric services across Sunderland and South Tyneside, this will close in mid-October 2017, with an announcement on a decision in early 2018. The impact of the recommendations of 'Better Births' the national report led by Baroness Cumberledge (DoH, 2016) and the ongoing work within the region in relation to STP's are all major drivers for change both within maternity and neonatal services.

Dependent on the outcome of the public consultation and regardless of the service model to be taken forward the proposal for the current neonatal unit based at South Tyneside NHS Foundation Trust (STFT) will be closure and transfer of the activity to Sunderland Royal Hospital. This decision is driven by the proposed change to the provision of maternity services on the STFT site and a plan not to continue to provide obstetric-led intrapartum care on this site.

The service continues to face staffing pressures notably medical staff at middle-grade level. The medical rota within paediatrics provides cover across paediatric emergency and short-stay care, Special Care Baby Unit and Maternity Services on a 24/7 basis. There are currently 3 long-term middle-grade vacancies on a six person

rota, this does occasionally impact on the provision of day-to-day services. The paediatric department continues to rely on locum doctors (internally or agency locums) to fill gaps in rota.

Similarly nurse staffing pressures have been significant and have resulted in admission restrictions to the department with a resultant slight increase in in-utero transfers. The arrangements for resuscitation and stabilisation of the new-born have been unaffected by the staffing pressures.

The ongoing issues with staffing, particularly medical staffing has been recognised as a long term issue and in part is one of the drivers for the above proposals across both paediatric and maternity services.

1.1 **Key Findings of the activity report**

- The number of deliveries has decreased over the last three years. This has resulted in corresponding reduction in admissions although the overall admission rate as a percentage of the total number of births in the unit remains around the national average (7.2% of all births).
- Occupancy is around 50% averaged across the year.
- The vast majority of babies admitted were born at South Tyneside 87% with 13% transferring in from other neighbouring units.
- 90% of admissions to SCBU were neonates with a gestational age 31weeks or above.
- Although not formally recorded below breastfeeding maintenance rates continue to be low.
- There are some data quality issues in that there are variances between local held and Regional-national data that needs to be addressed.

1.2 **Notable Achievements**

- Introduction of the Neonatal Early Warning Score (NeWS)
- Continued use of the Perinatal institute customised GROW Charts
- Progressing the implementation of Saving Babies' Lives - A care bundle for reducing stillbirth
- Supporting hybrid practitioner roles within the department through maintaining the paediatric and 'Advanced' Paediatric Nurse Practitioner roles within the service.
- Maintaining service continuity during sustained periods of staffing pressures.

1.3 **Key objectives for 2017/18**

- For parent and family experience to be rated in the top quartile nationally.
- To improve Family and Family response rates.
- To improve breastfeeding maintenance/continuation rates.
- Review clinical guidelines and align with City Hospital Sunderland (CHS) in preparation for future service models to standardise and aid joint working.
- Develop an implementation plan to support the agreed changes following the outcome of the public consultation on the future configuration of maternity and paediatric services and ensure the smooth transition to the future model.
- Improve awareness regarding incident reporting.
- Review of data quality

2 UNIT STAFFING

2.1 Medical Staffing

A Consultant Paediatrician provides the leadership to the unit and undertakes a daily ward round, reviewing the clinical condition and clinical pathways for all babies during weekdays.

Consultant staff will provide sessional support to SCBU 09.00hrs and 21:00hrs Monday - Friday. Thereafter the on-call Consultant Paediatrician will be available to attend the Unit as required.

Middle-grade/ Advanced Paediatric Nurse Practitioner with SHO support will provide 24 hour on call cover to SCBU.

Doctors in training who support the work of the department consist of GPVTS trainees and foundation 1 and 2 doctors.

2.2 Qualified Nursing Staff

The Unit has 2 Neonatal Nurse Practitioners and 10 Neonatal Nurses who take charge of a shift, 24 hours per day, 7 days per week. The nursing team is supported by Health Care Assistants and Registered Children's Nurses employed within Children's Services who work as required into the SCBU. 76% of the Unit staff are Registered Nurses or Midwives who hold current NMC Registration. Of those registered, 100% are Qualified in Speciality Neonatal Nurses.

2.3 Nurse staffing ratios

1 Neonatal Nurse to 4 babies, requiring non – invasive treatment

1 Neonatal Nurse to 2 babies, requiring respiratory support.

1 Neonatal Nurse to 1 baby, requiring intensive care support.

When staffing falls below the agreed ratio's, the staffing escalation procedure is invoked and will either identify staff who can work into the department or else restrict admissions to maintain safety and manage the workload effectively.

3 STATISTICS- 2016/17

3.1 Birth Statistics

Total number of deliveries	1222
Total number of babies born	1236
Total Number of live Births	1235
Total number of stillbirths	1
Singleton / Twin Pregnancies	1208 / 14

The number of births at South Tyneside Maternity Unit has fallen for the fourth year in a row, and could in part be attributed to a fall in the background birth rate. According to ONS statistics nationally the number of live births decreased during 2016, compared to an increase in 2015 and decrease in the years 2014 and 2013.

3.2 Mode of Delivery

Maternities – Mode of Delivery	**2014/15**		**2015/16**		**2016/17**	
	No.	%	No.	%	No.	%
BE - Breech Extraction	2	0.2%	2	0.2%	4	0.3%
CEPO - Cephalic Other	22	1.7%	5	0.4%	5	0.4%
ECS - Elective LSCS	102	7.8%	82	6.2%	115	9.4%
ECSL - Elective LSCS and TL	4	0.3%	9	0.7%	15	1.2%
EMCL - Emergency LSCS and TL	1	0.1%	1	0.1%	1	0.1%
EMCS - Emergency LSCS	85	6.5%	77	5.8%	96	7.9%
H2O - Delivered in water	65	5.0%	69	5.2%	52	4.3%
NBF - Neville Barnes Forceps	82	6.3%	56	4.2%	46	3.8%
OTH - Other	4	0.3%	0	0.0%	0	0.0%
SCS - Scheduled Caesarean Section	21	1.6%	25	1.9%	20	1.6%

UCS - Urgent Caesarean Section	17	1.3%	36	2.7%	21	1.7%
VB - Vaginal Breech Delivery	2	0.2%	0	0.0%	0	0.0%
VENT - Ventouse Delivery	64	4.9%	69	5.2%	61	5.0%
VERT - Vertex Delivery	833	63.7%	887	67.0%	782	64.0%
VF - Ventouse And Forceps	2	0.2%	5	0.4%	1	0.1%
WRIG - Forceps - Wrigleys	2	0.2%	0	0.0%	3	0.2%
All Delivery Methods	1308	100%	1323	100%	1222	100%

The Maternity Department has a high proportion of vaginal births if compared with national available data.

3.3 **Delivery Method associated with admission to SCBU**

Delivery method	**Total**
VERT - Vertex Delivery	35
ECS - Elective LSCS	23
EMCS - Emergency LSCS	23
Not recorded (Transferred in)	*11*
UCS - Urgent Caesarean Section	5
VENT - Ventouse Delivery	3
SCS - Scheduled Caesarean Section	2
BE - Breech Extraction	1
EMCL - Emergency LSCS and TL	1
Grand Total	**104**

49% of all admissions were following operative delivery equally split between elective and emergency LSCS, with 40% following spontaneous vaginal delivery.

4 SCBU STATISTICS

4.1 **Total numbers of admissions to SCBU year by year comparison**

Year	**Number of Admissions**
2014/15	118
2015/16	110
2016/17	104

The numbers have reduced year on year and as a proportion of the number of birth remains unchanged at around 7 – 9% of the total number of births.

4.2 **SCBU Occupancy 2016/17**

SCBU	**2016/17**
% Bed Utilisation	50.82%
Occupied Bed Days	1113
Available Bed Days (6cots)	2190

Occupancy levels demonstrate significant underutilisation though this does not reflect the level of care category versus nurse staffing available. Throughout the year as nurse staffing has been challenging then this will have impacted on a reduction in the number of admissions, though this is considered to be minimal.

4.3 **All Admissions to SCBU 2016/17**

	Q1	**Q2**	**Q3**	**Q4**
Live Births	366	332	278	255
Admissions	35	29	20	18
Inborn	30	25	14	18
Term Admissions	11	8	6	7
Deaths	0	0	0	0
IC Care Days	4	3	5	4
HD Care Days	15	15	7	4
SC Care Days	331	288	228	160
Transfers OUT to Level 3 units	6	8	2	3
Transfers IN from other units	5	4	6	0
Total LOS (days) - All admissions	350	306	240	168
Average LOS (days) - All admission	**10.0**	**10.6**	**12.0**	**9.3**

31% of all admissions to SCBU were babies at term (>37 weeks). This is of particular importance and will be addressed this year as part of the work being undertaken in relation to the report 'Preventing avoidable admissions of full-term babies (NHS Improvement, 2017)

4.4 **Multiple Birth Admission to SCBU**

Plurality	2016/17 Number	% of Total Admissions	% of Total Live Births
<=37 weeks (Twins)	28 (14 Sets) / 14 Admitted SCBU (7Sets)	26.9% / 13.5%	2.3% / 1.1%
>37weeks (Twins)	0	0.0%	0.0%

4.5 **Admissions to SCBU by Birth Weight 2016/17**

Birth Weight	**Admissions**
1000g-1499g	4
1500g-1999g	17
2000g-2499g	25
2500g-2999g	17
Greater than 3000g	27

4.6 **Admissions by Gestational Age 2016-17**

Gestational Age	**Admissions**
< 31 Weeks	3
31-36 Weeks	53
> 36 Weeks	34

32% of all admissions to SCBU were for neonates of 36 week gestation or above. Currently there is no dedicated transitional care facility. Currently babies who are categorised as requiring transitional care for examples low birth-weight babies, babies who are on a reducing programme of opiate withdrawal for Neonatal Abstinence Syndrome and babies are nursed within the SCBU. Babies requiring antibiotic or phototherapy could be nursed either in the SCBU or the postnatal ward. Further work is required to understand if there was an opportunity for admission avoidance.

4.7 **Reason for Admission - Term Admissions (Inborn)**

	Q1	Q2	Q3	Q4
Respiratory disease	5	5	2	1
Monitoring (short observation)			3	2
Infection suspected/confirmed	2			2
Poor feeding or weight loss	1			1
Hypoglycaemia	1	1		
Congenital anomaly suspected/confirmed		1		1
Cardiovascular disease		1		
Jaundice	1			
Convulsions suspected/confirmed				
Poor condition at birth			1	
IUGR/SGA	1			
HIE suspected/confirmed				
Total	**11**	**8**	**6**	**7**

The single major reason for admission to the SCBU for term babies was recorded as respiratory problems (40%). Of the remaining referral reasons 'short observation', 'poor feeding' and 'hypoglycaemia' are of particular importance and will be addressed this year as part of the work being undertaken in relation to the report 'Preventing avoidable admissions of full-term babies (NHS Improvement, 2017).

4.8 **Reason for Admission - All Admissions (Inborn**)

	Q1	Q2	Q3	Q4
Preterm	13	10	6	8
Respiratory disease	8	10	4	4
Monitoring (short observation)	1		3	2
Infection suspected/confirmed	2			2
IUGR/SGA	2	2		
Hypoglycaemia	1	1		
Jaundice	1			
Poor feeding or weight loss	1			1
Congenital anomaly suspected/confirmed		1		1
HIE suspected/confirmed	1			
Cardiovascular disease		1		
Convulsions suspected/confirmed				
Poor condition at birth			1	
Total	**30**	**25**	**14**	**18**

4.9 **Infant Feeding**

A small audit of healthcare records was undertaken during 2016-17, this has confirmed that breastfeeding maintenance rates are low as a proportion of

those who mothers have intended to initiate breastfeeding. Further work is planned to understand the reason for the actual as compared to intention to breastfeed numbers in order to identify learning or practice changes that may be required. The Trust has an infant feeding policy in place based on Unicef baby friendly standards, although the Trust does has not yet attained full baby friendly accreditation.

5 GOVERNANCE

5.1 Clinical Guidelines

All clinical guidance is based on relevant national guidance and formally approved through the Trust process.

Within maternity and the Special Care Baby Services, national guidance is reviewed within the Obstetrics and Gynaecology Evidence based Practice Forum and local guidance is written accordingly.

Baseline audit assessment of latest recommendations are discussed within this multidisciplinary forum to ensure robust and evidence based guidelines are implemented.

5.2 Risk Register

Service Specific and Divisional Risk Registers have been developed and managed in accordance with the Trust's Risk Management Policy and Procedure.

Departmental risks are identified through adverse events/near misses, complaints, claims, clinical risk assessments, health and safety inspections, audit and incorporate risks associated with care delivery.

Incident reporting is low which could indicate under reporting.

5.3 Complaints, concerns and comments are examined for trends and themes.

During this reporting period one informal complaint was received regarding communication issues relating to one member of staff, this was addressed on an individual basis.

5.4 Family and friends feedback

The department participates in the Organisational wide Friends and Family survey achieving a star rating of 4.83 out of five. This is based on a small number of returns only (n6) which may be due to the low number of service users during the collection process.

Regular feedback is also received through thank you cards, photographs and poems.

"To all of our Aunties in SCBU.
Thank you for taking so much care and helping us grow strong!
See you soon.
Love always"

5.5 Clinical Audit

There has been no audit activity other than the submission of data to the National Neonatal Audit Programme which is included in the Northern Neonatal Network Annual Report. Although the Unit has signed up to the Bliss Baby Charter Audit Tool, implementation has not yet taken place. However, this will be a focus for 2017 - 2018.

6 MORBIDITY AND MORTALITY

Two deaths are attributed to SCBU, however deaths occurred in Level 3 Units.
Baby 1 – born 04/04/16, Weight 690grams, 23 weeks gestation
Baby 2 – born 05/07/16, Weight 678grams, 24 weeks gestation

There were 11 admissions from Post-natal Ward

Infection rates data currently unavailable.

There were zero incidents of Patent Ductus Arteriosus (PDA).

There were 10 babies who had Retinopathy of Prematurity (ROP) screening.

7 NEONATAL FOLLOW-UP

All preterm infants discharged from SCBU who have ongoing healthcare needs whether short or long term are supported by a Specialist Health Visitor, who will work with the hospital team to identify and organise packages of health care to support ongoing health needs within the community.

SCBU facilitates daily ward attenders, undertaking 224 in this reporting period. Attendances included weight checks, blood tests and milk review.

7.1 Screening Clinic

The clinic is looking for motor developmental delay in babies born with the following criteria:

- 34 weeks gestation or under

- Intrauterine Growth Restriction (of any gestation)
- Neonatal mechanical respiratory intervention (of any gestation) – includes CPAP
- Neonatal encephalopathy requiring either phenobarbital or head cooling

The clinic is jointly run by a Senior Paediatrician and Paediatric Physiotherapist with developmental interest.

All eligible babies, regardless of gestation, are seen at 3 identical waypoints – 4, 8 & 12 months corrected age.

There are insufficient babies born locally to warrant the commissioning of follow up to 2 years at STFT and eligible babies are therefore offered appointments at their former NICU provider's clinics (RVI Newcastle, James Cook Middlesbrough).

7.2 Screening Clinic activity data

A total of 184 appointments were sent out.

- 99 distinct individuals were offered appointments
- Including multiple attendances by some individuals within the year
- 51 appointment slots were taken by babies born less than 32 weeks gestation
- 98 appointment slots used by babies born 32-36 weeks gestation
- 39 appointment slots used by babies born 37 weeks and above
- Some outborn premature babies did not come to STFT SCBU at any point, however STFT were asked to provide local follow up.

Within the 184 appointments:

- 14 appointments offered to outborns within the period, comprising 8 individuals
- 1 baby born 2014 at 25 weeks gestation
- 4 babies born in 2015 at 26, 27, 30, 31 weeks gestation
- 3 babies born in 2016 at 28, 28, 29 weeks gestation

In total, 36 DNA/UTA, of which

- Were discharged, primarily for being out of range of the Alberta Infant Motor Scale assessment tool, minimal concerns on previous assessments, or moved out of area. A letter to GP and parents was sent in each case, after review of clinical notes of need for ongoing appointments, explaining the outcome of the non-attendance.
- 2 were discharged from non-attendance at this clinic, but were already under local neurodevelopmental paediatrician

- 17 unanticipated DNA were sent further appointments
- 8 notified STFT of UTA, and were sent further appointments

Outcomes

- 37 babies discharged with no motor developmental concerns at final visit.
- 6 babies were identified as having significant delay or issues and were referred on to local paediatric neurodevelopmental follow up with Dr Ghazavi. Primarily the concerns surrounded likelihood of cerebral palsy and the gestations of the six babies were 25, 26, 28, 30, 36 & 40 weeks gestation.
- All other babies were offered a 4 month follow up appointment and remained under follow up within the specified period.