

# Annual Report 2017



**North Tees and Hartlepool NHS  
Foundation Trust**

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Data for this report was collected from BadgerNet.

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# Introduction

This is our annual report for the year 2017. The Neonatal unit at North Tees University Hospital continues to provide a Level 3 Neonatal Intensive Care service to the local population of Stockton, Hartlepool and South Durham and provides a consultant-led service with clinicians who specialise in the various aspects of neonatal care including neurology, cardiology, pulmonology, infection, nutrition, research and clinical governance. The unit has been leading nationally on NIHR-HTA funded Baby-OSCAR trial lead by Professor Samir Gupta. All neonatal consultants are research active and are principal investigators on various portfolio studies. The unit successfully takes part in clinical research from locally developed trials, NIHR portfolio studies to commercially-sponsored trials. There is currently a full time research nurse and a research fellow. With the vision to develop neonatal haemodynamic courses at the national level, Professor Gupta and Dr S Job organised the first national haemodynamic echo course in 2017.

The year 2017 has seen the North East of the country remodelling the delivery of neonatal services as witnessed in the other parts of the country with the aim locally to centralise all the neonatal care at James Cook University Hospital, Middlesbrough. As part of this the phase I of reconfiguration was implemented and this witnessed the transfer of all in utero and ex utero neonates of a gestation less than 27 weeks to James Cook university hospital. This will pave the way for the completion of Phase II in 2018 with the vision to deliver all high quality neonatal care at JCUH and for the local unit to become a special care baby unit covered by the paediatricians. As part of this remodelling of services the Consultants have already started a cross site rotation and this will soon be complimented by the remaining work force.

The year has also seen Professor S Gupta who is the Trust R&D director taking a sabbatical for a year in 2018 to work in Qatar.

I must say I am grateful to Dr C Harikumar and Carolynne Proudlock, Head of Information Management, for their considerable input in the production of this document. There are many others who have also contributed and I thank them all on behalf of the team.

**Dr S Job**  
**June 2018**

## 2. Abbreviations and Definitions

<b>Abbreviations</b>	
<b>ANNP</b>	Advanced Neonatal Nurse Practitioner
<b>BAPM</b>	British Association of Perinatal Medicine
<b>CA</b>	Corrected age
<b>CGA</b>	Corrected gestational age
<b>CLD</b>	Chronic Lung Disease
<b>CPAP</b>	Continuous Positive Airway Pressure
<b>CVL</b>	Central venous line
<b>EBM</b>	Expressed breast milk
<b>ETT</b>	Endotracheal tube
<b>FTE</b>	Full time equivalent
<b>GA</b>	Gestational age
<b>HD</b>	High dependency
<b>HHFNC</b>	Humidified High Flow Nasal Cannula
<b>HIE</b>	Hypoxic Ischaemic Encephalopathy
<b>ICU</b>	Intensive care Unit
<b>IUGR</b>	Intrauterine Growth Restriction
<b>IVH</b>	Intraventricular Haemorrhage
<b>LW</b>	Labour Ward
<b>MRSA</b>	Methicillin Resistant Staphylococcus Aureus
<b>MSSA</b>	Methicillin Sensitive Staphylococcus Aureus
<b>NNAP</b>	National Neonatal Audit Programme
<b>NEC</b>	Necrotising Enterocolitis
<b>NLS</b>	Newborn Life Support
<b>NU</b>	Neonatal Unit
<b>NNN</b>	Northern Neonatal Network
<b>NTHFT</b>	North Tees and Hartlepool NHS Foundation Trust
<b>PDA</b>	Patent Ductus Arteriosus
<b>PNW</b>	Post-Natal Ward
<b>PPHN</b>	Persistent Pulmonary Hypertension
<b>PROM</b>	Premature Rupture of Membranes
<b>RDS</b>	Respiratory Distress Syndrome
<b>ROP</b>	Retinopathy of Prematurity
<b>SC</b>	Special Care
<b>SCBU</b>	Special Care Baby Unit
<b>TOF</b>	Tracheo-Oesophageal Fistula
<b>VRE</b>	Vancomycin Resistant Enterococcus

<b>Definitions</b>	
<b>Stillbirth</b>	A baby delivered with no signs of life after 24 completed weeks of pregnancy is registered as a stillbirth. Any babies known to have died between 22-24 weeks gestation are reported as a late foetal loss. Any babies known to have died before 22 weeks gestation are not included in this report.
<b>Early neonatal death</b>	Death of a live born baby occurring less than 7 days from the time of birth.
<b>Late neonatal death</b>	Death of a live born baby occurring after the 7th day and before 28 completed days from the time of birth.
<b>Stillbirth rate</b>	Number of stillbirths per 1000 live births and stillbirths.
<b>Perinatal mortality rate</b>	Number of stillbirths and early neonatal deaths per 1000 live births and stillbirths.
<b>Neonatal mortality rate</b>	Number of neonatal deaths per 1000 live births.

### **3. Categories of Care (British Association of Perinatal Medicine, 2011)**

<b>Categories of Care (BAPM, 2011)</b>
<b>INTENSIVE CARE</b> This is care provided for babies who are the most unwell or unstable and have the greatest needs in relation to staff skills and staff to patient ratios.
<b>HIGH DEPENDENCY CARE</b> This is care provided for babies who require highly skilled staff but where the ratio of nurse to patient is less than intensive care
<b>SPECIAL CARE</b> Special care is provided for babies who require additional care delivered by the neonatal service but do not require either Intensive or High Dependency care.
<b>TRANSITIONAL CARE</b> Transitional care can be delivered in two service models, within a dedicated transitional care ward or within a postnatal ward. In either case the mother <b>must be resident with her baby and providing care</b> . Care above that needed normally is provided by the mother with support from a midwife/healthcare professional who needs no specialist neonatal training. Examples include low birth-weight babies, babies who are on a stable reducing programme of opiate withdrawal for Neonatal Abstinence Syndrome and babies requiring a specific treatment that can be administered on a post-natal ward, such as antibiotics or phototherapy.

#### 4. Staff Profile

- **Neonatal Unit Manager:** Debbie Bryan & Julie Colarossi
- **Clinical Lead / Clinical Educator:** Jane Malcolm
- **Consultant Neonatologists:**

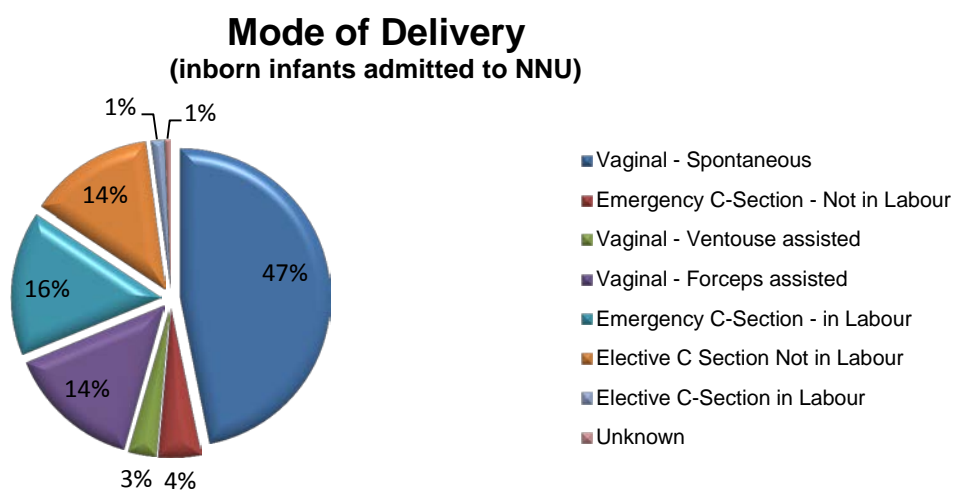
Dr Chidambara Harikumar	Lead Consultant Neonatologist Special Interest: Neurology
Professor Samir Gupta	Consultant Neonatologist Special Interest: Neonatal Ventilation; Cardiology and Haemodynamics; Research
Dr Sundaram Janakiraman	Consultant Neonatologist Special Interest: Nutrition; Cardiology Resuscitation; Education
Dr Sajeev Job	Consultant Neonatologist Special Interest: Cardiology & Haemodynamics Neonatal transport; Resuscitation
Dr P Loganathan	Consultant Neonatologist Special Interest: Academics & Research

Staffing	
Consultant Neonatologist	5
Advanced Neonatal Nurse Practitioners	4 In Practice
Trainee Advanced Nurse Neonatal Practitioners	2 WTE
Matron	1 (1.0 WTE)
Clinical Lead	1 (0.67WTE)
Sisters Band 6	5(4.96 WTE) 1.17WTE Vacancy
Community Sister Band 6	2 (1.28WTE)
Band 5	40 (32.38 WTE)
Research Nurse	1 (1.0 WTE)
Ward Clerk	2 (1.46 WTE)

## 5. Maternity Statistics

Outlined below are the maternity statistics for the last five years including 2017.

Activity – Basic Statistics						
	2012	2013	2014	2015	2016	2017
<b>Total Births</b>	3380	3319	3140	3127	3017	2828
<b>Total Still births</b>	14	22	19	10	18	7
<b>Total Admissions</b>	332	327	344	359	416	408

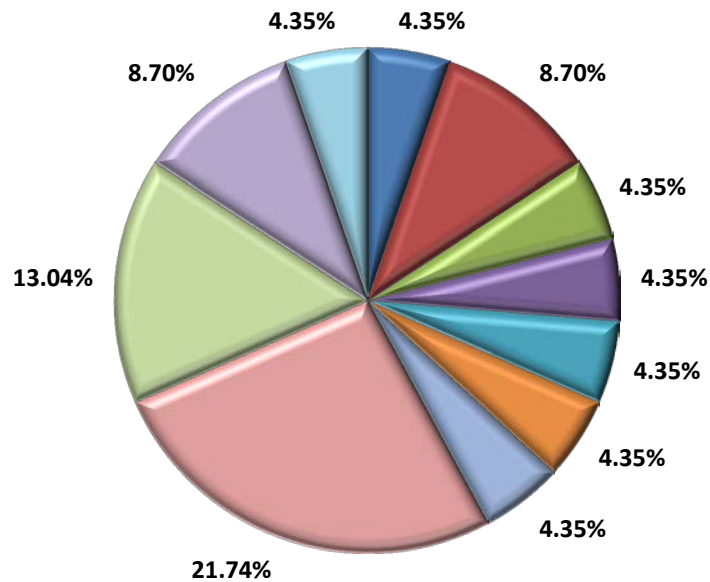


Delivery Type/Babies	Vaginal - Spontaneous	Vaginal - Forceps assisted	Vaginal - Ventouse assisted	Emergency C-Section - Not in Labour	Emergency C-Section - in Labour	Elective C Section Not in Labour	Elective C-Section in Labour	Unknown	Total
2017	156	15	10	48	52	45	5	2	333
2016	143	12	4	40	64	40	4	7	314
2015	124	20	10	43	57	46	8	3	311
2014	127	26	11	44	37	29	1	10	285
2013	102	14	9	42	75	28	5	13	288



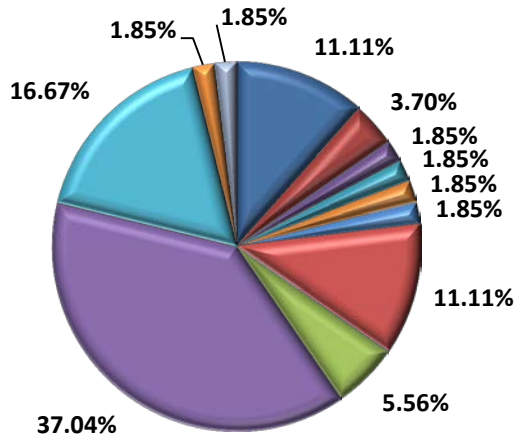
Multiple Births 2017			
Plurality	Number	% Total Admissions to NNU	% Total Live Births
<b>&lt;36 weeks</b>			
Twins	32	21.15%	54%
Triplets	6	1.55%	100%
<b>&lt;30 weeks</b>			
Twins	6	15.38%	100%
Triplets	0	0%	0%

### In utero Transfers



- Cumberland Infirmary
- Darlington Memorial Hospital
- Lincoln County Hospital
- Queen Elizabeth Hospital Gateshead ( Maternity)
- Scarborough General (Maternity)
- South Tyneside NHS Foundation Trust
- Sunderland Royal
- The James Cook University Hospital
- The Royal Victoria Infirmary Maternity (Newcastle)
- Unbooked
- University Hospital Of North Durham (Maternity)

## Ex utero Transfers

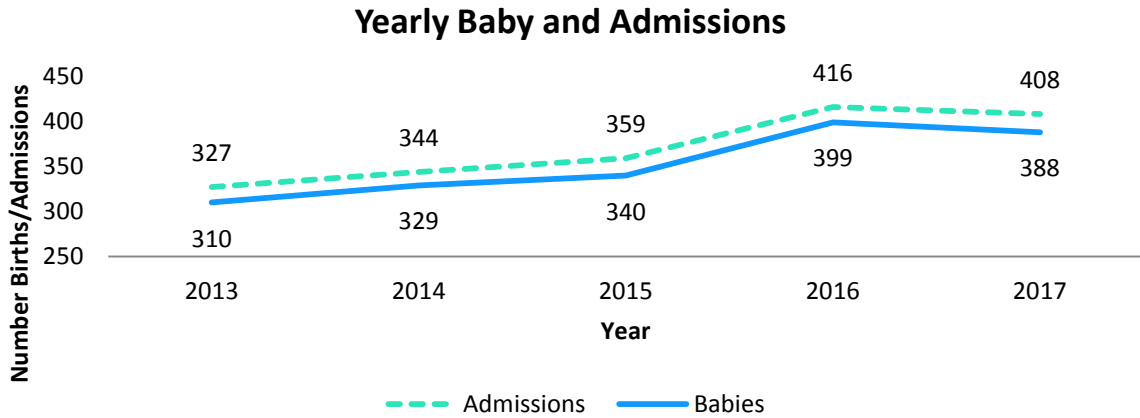


- Darlington Memorial
- Freeman Hospital
- Lincoln County Hospital
- Northumbria Specialist Emergency Care Hospital
- Queen Elizabeth Gateshead
- Rotherham NHS Foundation Trust
- Scarborough General Hospital
- South Tees Hospitals NHS FT
- Sunderland Royal
- The Royal Victoria Infirmary (Newcastle)
- Univ. Hospital of North Durham
- West Cumberland Hospital
- York District Hospital

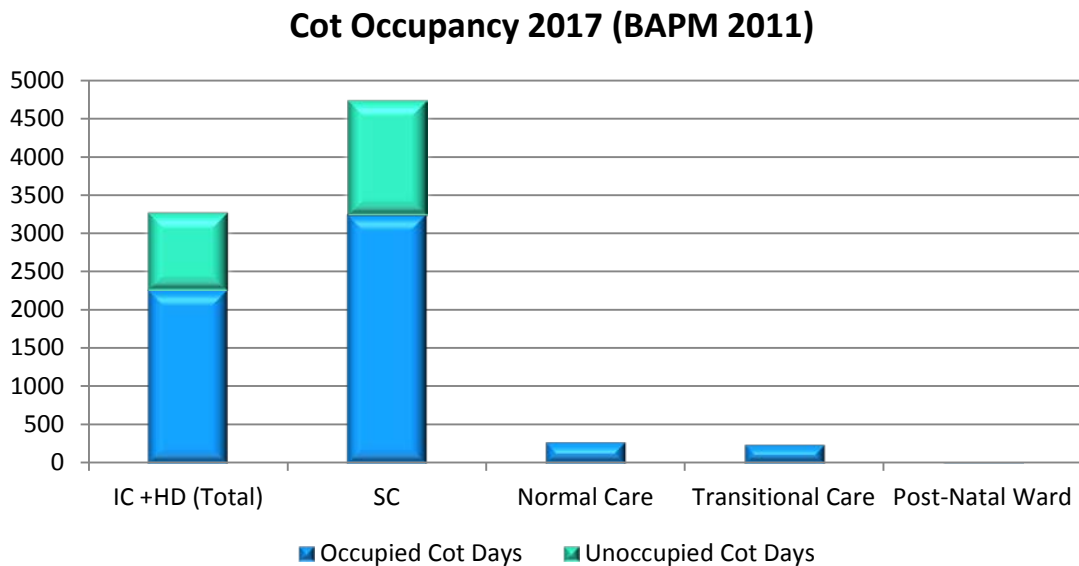
## 6. Neonatal Statistics

Outlined below is the neonatal statistics for the last five years including 2017

### Total Annual Admissions



Year	2013	2014	2015	2016	2017
Admissions	327	344	359	416	408
Babies	310	329	340	399	388

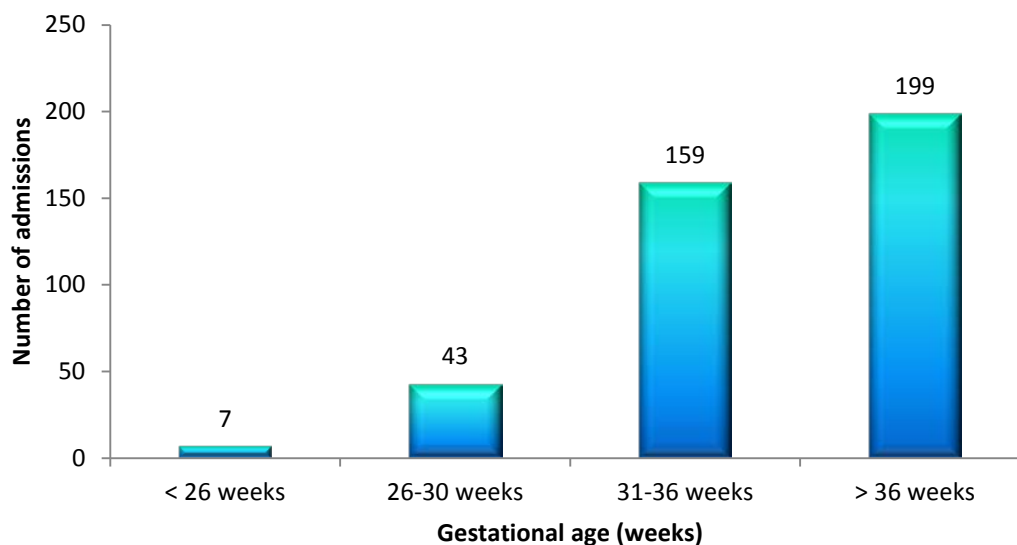


## Cot Occupancy - 2017

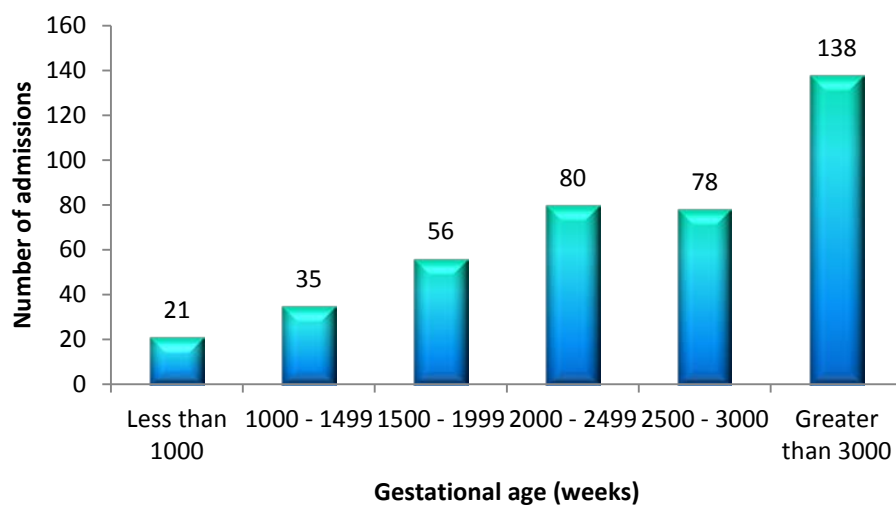
Location	Occupied Cot Days	Total Cots	Total Cot Days	% Occupancy
<b>IC + HD Total</b>	1694	4.5 Network funded 4.5 Trust/Local (3 from September)	3102	54.61%
<b>SC</b>	3362	13	4745	70.82%
<b>Normal Care</b>	314			
<b>Transitional Care</b>	275			
<b>Post-Natal Ward</b>	19			
<b>Totals</b>	5664	22	7847	72.18%

Average duration of stay (number of days) depending on gestation at birth				
Care Level (BAPM 2011)	Less than 26	26 - 30	31 - 36	Greater than 36
Level 1	33	47	18	15
Level 2	36	27	18	10
Level 3	4	23	11	7
Level 4	0	0	1	1
Unknown	0	6	0	0

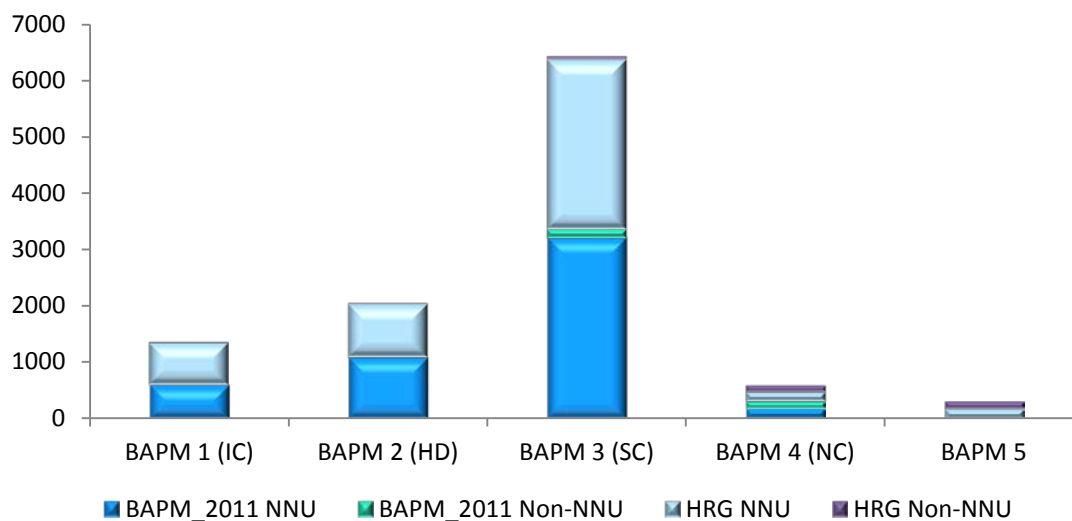
### Number of admissions versus gestational age (weeks) at birth



### Number of admissions versus birth weight (grams) at birth

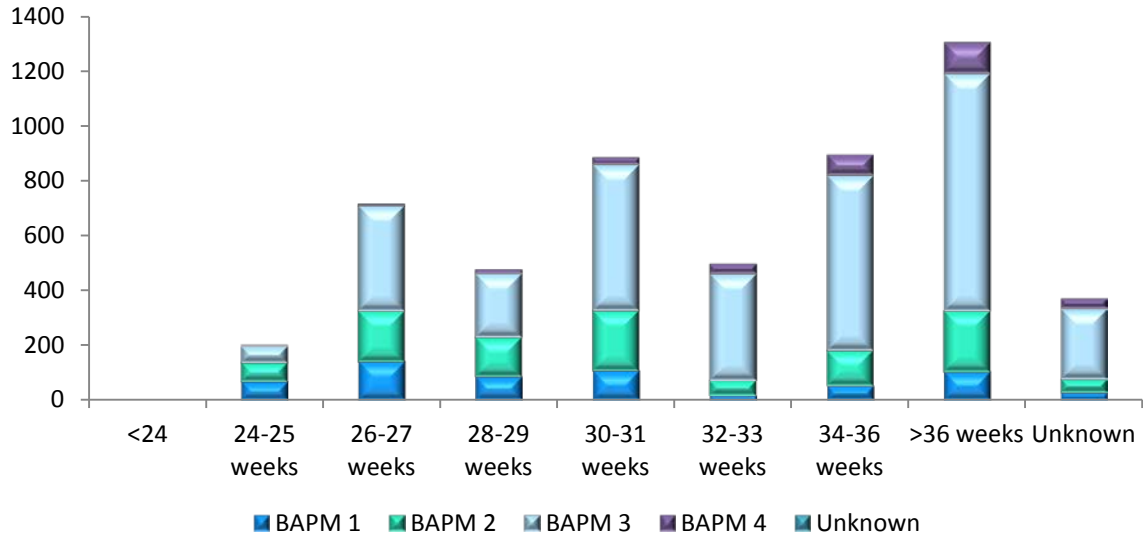


### Neonatal Unit – Activity (Care days)



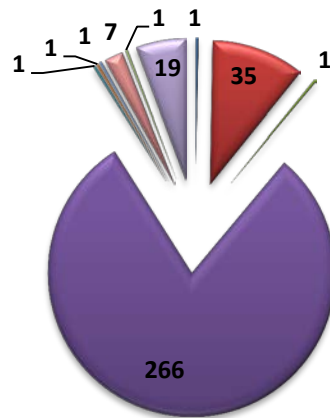
Care Level	Location	Level 1 (IC)	Level 2 (HD)	Level 3 (SC)	Level 4 (NC)	Level 5	Unknown	Total
BAPM_2011	NNU	601	1089	3202	179	0	3	5074
BAPM_2011	Non-NNU	0	4	160	135	0	0	299
HRG	NNU	753	951	3028	163	176	3	5074
HRG	Non-NNU	2	9	43	115	130	0	299

## Neonatal Unit - BAPM '11 Activity by Gestation



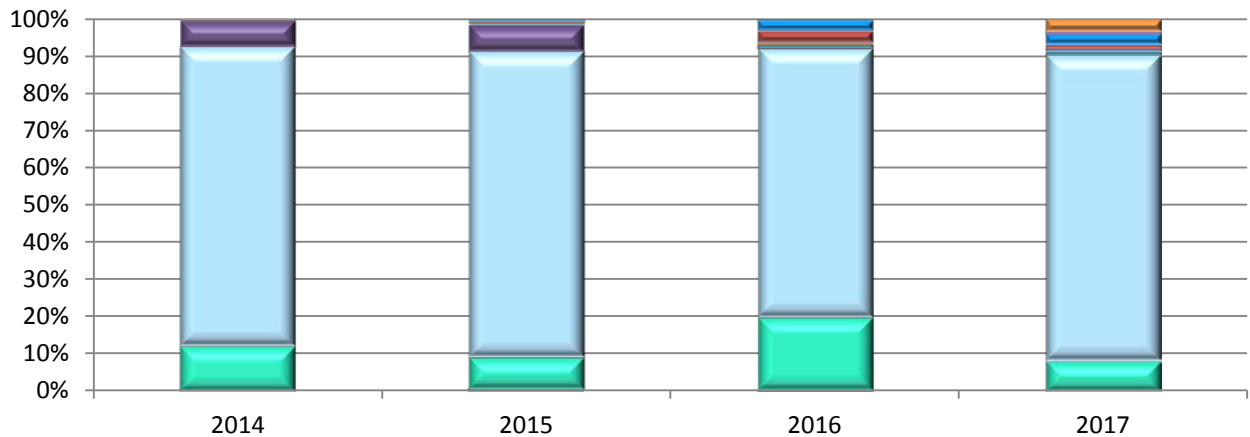
	<24	24-25 weeks	26-27 weeks	28-29 weeks	30-31 weeks	32-33 weeks	34-36 weeks	>36 weeks	Unknown
BAPM 1	2	68	139	85	106	17	53	103	28
BAPM 2	0	71	188	147	223	58	130	225	51
BAPM 3	0	62	386	233	532	389	638	864	258
BAPM 4	0	2	5	16	26	37	76	115	37
Unknown	0	1	1	0	0	0	0	1	0
Total	2	204	719	481	887	501	897	1308	374

## Admissions by Place of Residence



- NHS HILLINGDON CCG
- NHS EAST RIDING OF YORKSHIRE CCG
- NHS LINCOLNSHIRE WEST CCG
- NHS NORTH CUMBRIA CCG
- NHS SUNDERLAND CCG
- NHS DURHAM DALES, EASINGTON AND SEDGEFIELD CCG
- NHS HARTLEPOOL AND STOCKTON-ON-TEES CCG
- NHS NEWCASTLE GATESHEAD CCG
- NHS SOUTH TEES CCG
- Unknown

## Activity by admission source



- Admitted from home
- Admitted from other Unit
- Booked and born in Unit
- Booked elsewhere - born in Unit
- Booked elsewhere - born in Unit maternal choice
- Ex-Utero transfer - Booking unit could not accept
- Ex-Utero transfer - Higher level of care
- In-Utero transfer - Booking unit could not accept
- In-Utero transfer - Higher level of care
- Re-admission
- Booked elsewhere - Out of area when in labour

## **Neonatal Unit – Transfers**

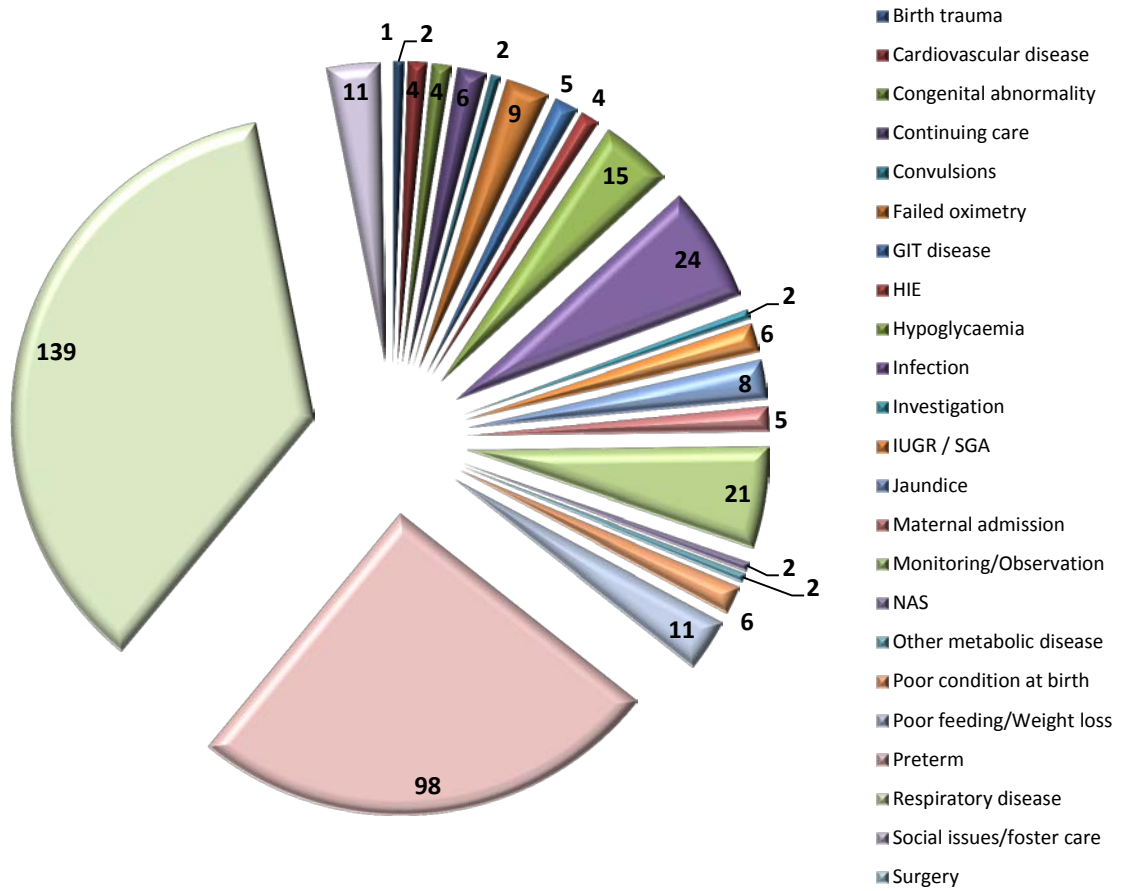
Discharge Hospital Name	Higher medical care	Surgical care	Cardiac care	ECMO	Other specialist care	Lack of equipment	Insufficient staffing	Repatriation	Continuing care	
Cumberland Infirmary	0	0	0	0	0	0	0	1	0	1
Darlington Memorial	1	0	0	0	0	0	0	5	0	6
Freeman Hospital	0	0	1	0	1	0	0	0	0	2
James Cook University Hospital	0	2	0	0	2	0	0	2	0	6
Lincoln County Hospital	0	0	0	0	0	0	0	1	0	1
Northumbria Specialist Emergency Care Hospital	0	0	0	0	0	0	0	1	0	1
Queen Elizabeth Gateshead	0	0	0	0	0	0	0	1	0	1
Rotherham NHS Foundation Trust	0	0	0	0	0	0	0	1	0	1
Scarborough General	0	0	0	0	1	0	0	0	0	1
Sunderland Royal	0	0	0	0	0	0	0	3	0	3
The Royal Victoria Infirmary (Newcastle)	0	13	0	0	2	0	0	5	0	20
Univ. Hospital of North Durham	0	0	0	0	0	0	0	9	0	9
West Cumberland Hospital	0	0	0	0	0	0	0	1	0	1
York District	0	0	0	0	0	0	0	1	0	1
Total	1	15	1	0	6	0	0	31	0	54



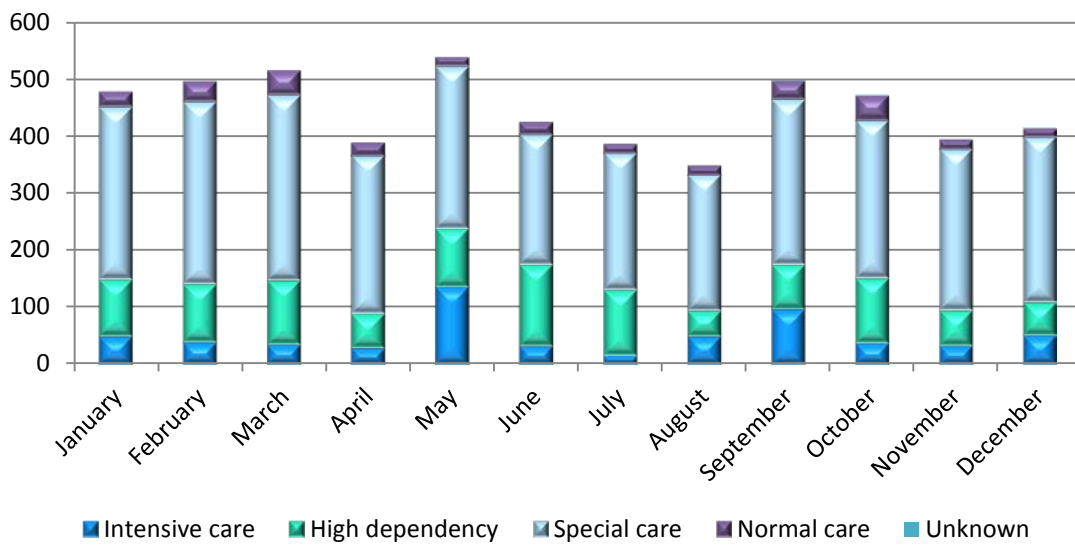
## **Reasons for Admission**

<b>Reason</b>	<b>Number of admissions</b>
Birth trauma	2
Cardiovascular disease	4
Congenital abnormality	4
Continuing care	6
Convulsions	2
Failed oximetry	9
GIT disease	5
HIE	4
Hypoglycaemia	15
Infection	24
Investigation	2
IUGR / SGA	6
Jaundice	8
Maternal admission	5
Monitoring/Observation	21
NAS	2
Other metabolic disease	2
Poor condition at birth	6
Poor feeding/Weight loss	11
Preterm	98
Respiratory disease	139
Social issues/foster care	11
Surgery	1
Total	387

### Reasons for Admission



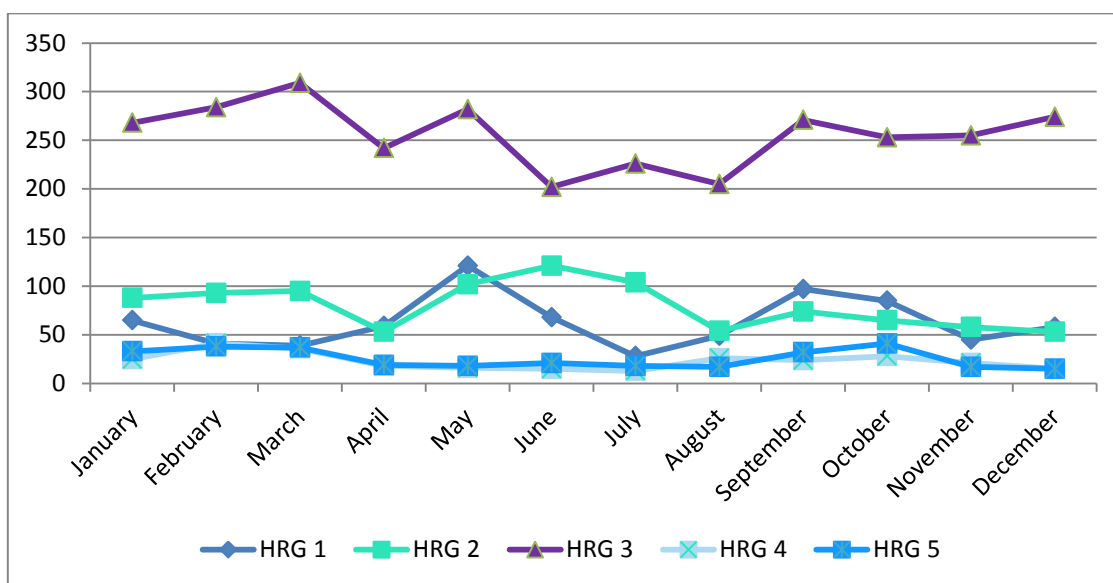
### NNU activity BAPM 2011



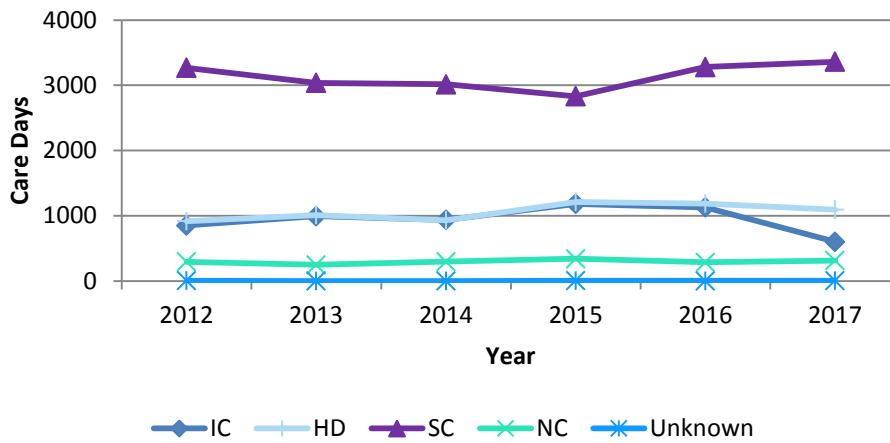
Breast feeding rate at the time of discharge in babies <33 weeks gestation	
Unit	% Receiving Breast Milk
North Tees	35%

**Parenteral Nutrition:** is given to babies <29 weeks gestation and <1500 grams birth weight. The parenteral nutrition rate in 2017 was 92.31% (12 out of 13 eligible babies).

**Neonatal Unit activity HRG**

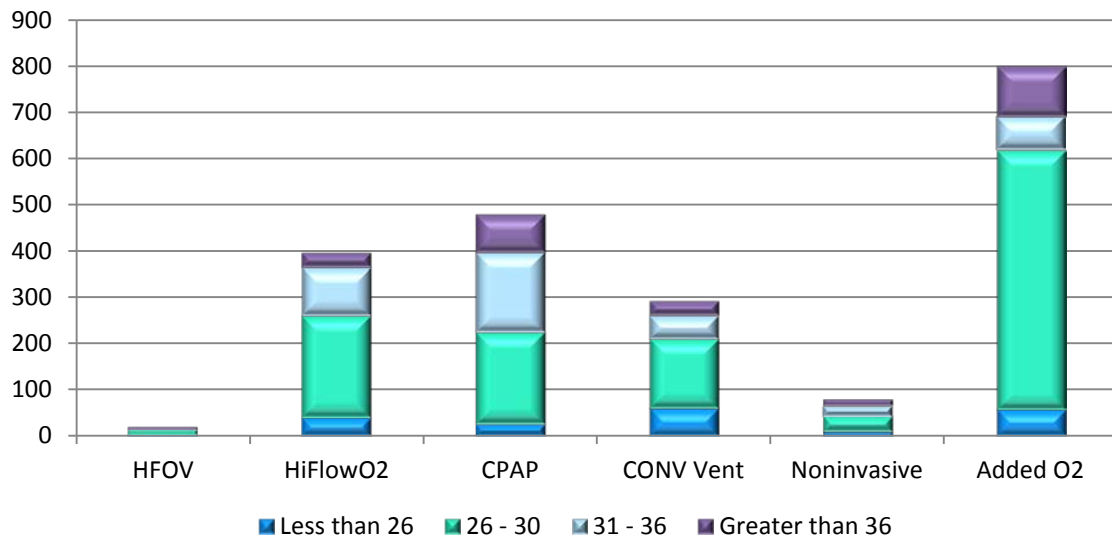


## Neonatal Unit Report - Yearly BAPM2011 Activity Comparison



Respiratory Support – Days by Gestation 2017				
Support Type	<26	26 -30	31- 36	>36
Conv Vent	60	151	51	31
HFOV	4	11	0	6
CPAP	26	200	172	82
HiFlowO2	40	221	105	32
AddedO2	57	561	73	110
Non invasive	10	34	23	14
<b>Total</b>	<b>197</b>	<b>1178</b>	<b>424</b>	<b>275</b>

## Neonatal Unit – Respiratory Support by Gestation



Neonatal Unit – Respiratory Support Babies	
Support Type	Episodes
ConvVent	66
HFOV	7
CPAP	147
HiFlowO2	63
AddedO2	92
<b>Total</b>	<b>375</b>

### **Neonatal Unit - Outcomes - Gestation**

Gestation	Inborn Babies	Inborn Deaths	Outborn Babies	Outborn Deaths	Subs Eps Babies	Subs Eps Deaths	Total Babies	Total Deaths	Survival Percentage
23	0	0	0	0	1	1	1	1	0.0
24	2	1	0	0	0	0	2	1	50.0
25	1	0	0	0	0	0	1	0	100.0
26	3	0	0	0	1	0	4	0	100.0
27	3	0	0	0	4	0	7	0	100.0
28	2	0	0	0	5	0	7	0	100.0
29	4	0	0	0	3	0	7	0	100.0
30	6	0	0	0	4	0	10	0	100.0
31	11	0	2	0	5	0	18	0	100.0
32	4	0	0	0	1	0	5	0	100.0
33-36	115	1	6	0	12	0	133	1	99.2
37-42	182	0	7	0	4	0	193	0	100.0
Total	333	2	15	0	40	1	388	3	

### **Neonatal Unit - Outcomes - Birth weight**

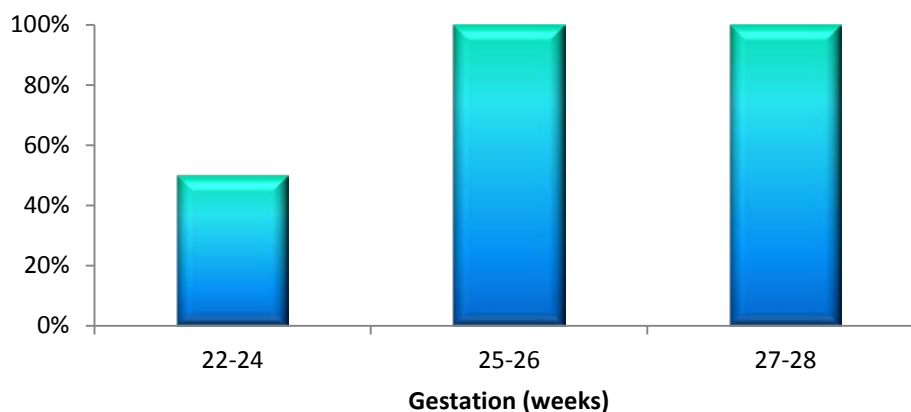
Birth Weight	Inborn Babies	Inborn Deaths	Outborn Babies	Outborn Deaths	Subs Eps Babies	Subs Eps Deaths	Total Babies	Total Deaths	Survival Percentage
501-750	3	1	0	0	1	1	4	2	50.0
751-1000	6	0	0	0	4	0	10	0	100.0
1001-1250	6	0	0	0	8	0	14	0	100.0
1251-1500	15	0	1	0	5	0	21	0	100.0
1501-2500	107	1	8	0	16	0	131	1	99.2
2501-4500	194	0	6	0	6	0	206	0	100.0
>4500	2	0	0	0	0	0	2	0	100.0
Total	333	2	15	0	40	1	388	3	

## 7. Mortality, Morbidity and Survival Data

Admissions and Survival by Gestational Age							
Gestation	Total Admissions	Deaths	<7 days	7 – 28 days	>28 days	Mortality (%)	Survival to Discharge (%)
23	1	1	1			100%	0%
24	2	1		1		50%	50%
25	1					0%	100%
26	4					0%	100%
27	7					0%	100%
28	7					0%	100%
29	7					0%	100%
30	10					0%	100%
31	18					0%	100%
32	5					0%	100%
33	18					0%	100%
34	47	1	1			2%	98%
35	32					0%	100%
36	36					0%	100%
37	63					0%	100%
38	19					0%	100%
39	37					0%	100%
40	48					0%	100%
41	23					0%	100%
42	3					0%	100%
43	0					0%	100%
<b>Total</b>	<b>388</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>0.3%</b>	<b>99.7%</b>

Mortality 2017	
Gestation at birth	Total
<26 weeks	2
<28 weeks	0
<31 weeks	0
31-35 weeks	1
35–42 weeks	0

### Survival Rate to Discharge < 28 weeks (%)



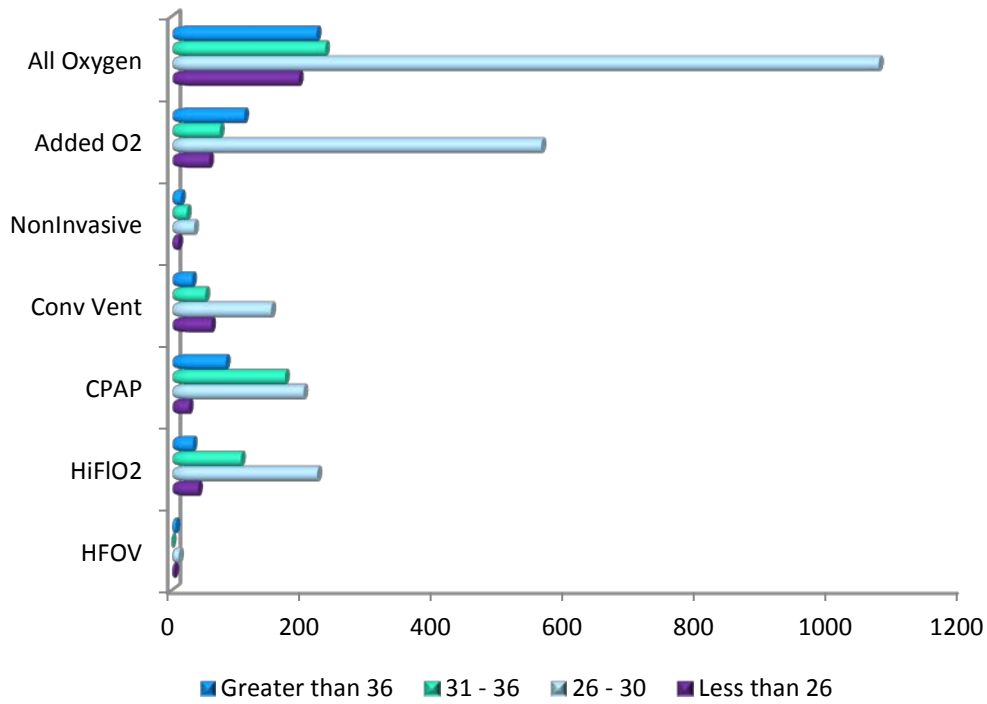
Survival rate in extreme premature babies				
Gestation (weeks)	Total Number	Died	Mortality Rate (%)	Survival Rate to Discharge (%)
22-24	3	2	67%	33%
25-26	5	0	0%	100%
27-28	14	0	0%	100%
<b>Total (23-28)</b>	<b>22</b>	<b>2</b>	<b>9.09%</b>	<b>90.91%</b>

Birth Weight	First Admission				Deaths				Survival
	2015	2016	2017	Total	2015	2016	2017	Total	
< 500 grams	0	0	0	0	0	0	0	0	100%
501-750 grams	5	8	8	21	1	3	2	6	77%
751-1000 grams	19	8	13	40	2	1	0	3	93%
1001-1250 grams	17	13	18	48	1	0	0	1	98%
1251-1500 grams	22	17	20	59	0	0	0	0	100%
1501-2500 grams	109	108	133	350	0	2	1	3	99%
2501-4000 grams	157	155	186	498	0	0	0	0	100%
<5000 grams	11	5	25	41	0	0	0	0	100%

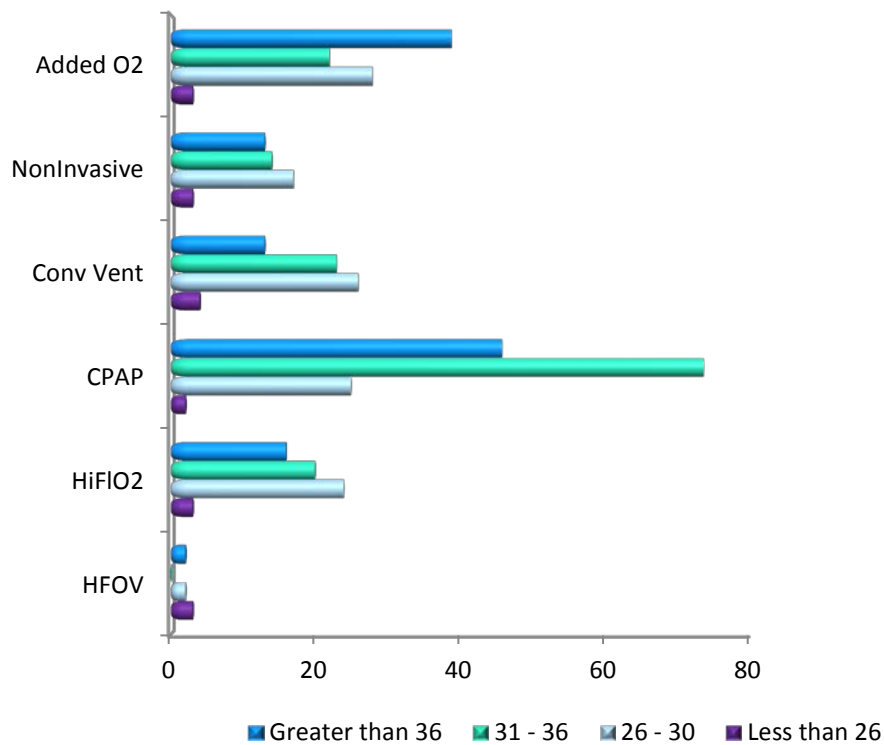


## Key Morbidities

### Respiratory Support days 2017 – Days



### Respiratory Support days 2017 – Babies



<b>BPD/ CLD (Oxygen requirement at 36 weeks in babies born at &lt; 32 weeks)</b>				
<b>Gestation at birth (weeks)</b>	<b>Total number of infants</b>	<b>Death (Rate)</b>	<b>Rate of BPD (survivors) at discharge</b>	<b>Home Oxygen</b>
23	0	0		0
24	1	0	100	1
25	1	0	100	1
26	5	0	100	3
27	4	0	100	3
28	1	0	100	1
29	0	0	100	
30	2	0	100	2
31	2	0	100	1
<b>Total</b>	<b>16</b>	<b>0</b>	<b>100</b>	<b>12</b>

12 babies within those classified as having BPD needed to go home on Oxygen. This means 75% of the total babies with BPD were discharge home on Oxygen.

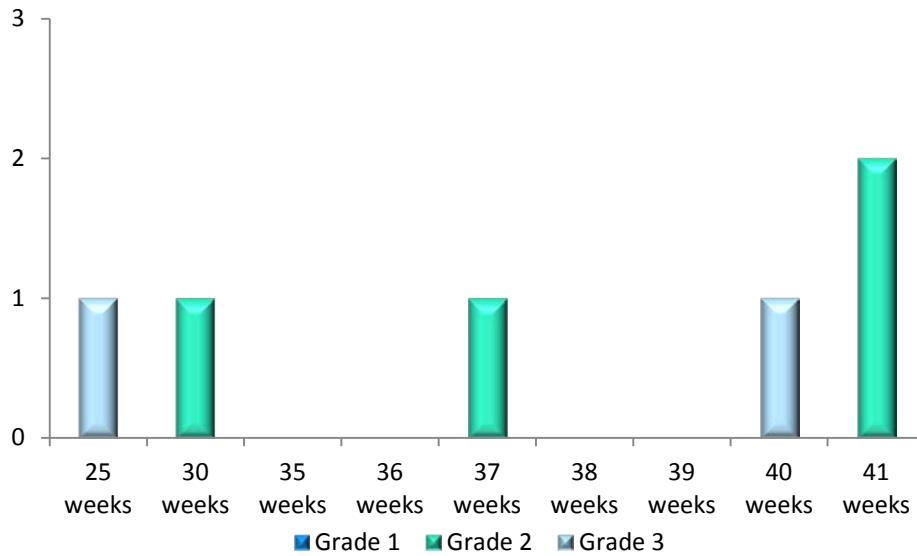
### Patent Ductus Arteriosus (PDA)

<b>Patent Ductus Arteriosus (PDA) in babies &lt;30 weeks gestation at birth</b>	
	2017
Total number of infants <30 weeks gestation at birth	22
Infant diagnosed with PDA	13
Infants requiring medical treatment only (ibuprofen)	9
PDA closed with ibuprofen (rate)	77%
PDA closed with surgical ligation	1

### Necrotising Enterocolitis (NEC)

<b>Necrotising Enterocolitis (NEC) in babies &lt;30 weeks gestation at birth (n = 41)</b>		
	<b>Number of Infants (%)</b>	<b>Gestation (n)</b>
Clinical suspected	7 (31.82%)	24 weeks (1), 26 weeks (2), 27 weeks(3) 28 weeks(1)
Clinical and radiological	5	24 weeks (1), 26 weeks (1), 27 weeks(2) 28 weeks(1)
Transfer to surgical centre	1	27 weeks
Surgery required	1	27 weeks

**Hypoxic Ischaemic Encephalopathy and Therapeutic Hypothermia:**



<b>Hypoxic Ischaemia Encephalopathy and Therapeutic Hypothermia</b>			
Gestation at Birth	Number of Babies	Grade of HIE	Outcome
25	1	3	Home
30	1	2	Home
35			
36			
37	1	2	Home
38			
39			
40	1	2	Home
41	2	2 x grade 2	Home
Total	6		

**Retinopathy of Prematurity (ROP):**

Number of babies eligible to have ROP screening: **43**

Number of babies with screening within the desired time window: 43

Number of babies that developed any ROP = **15**

Number of babies needing laser therapy = 5

Rate of laser therapy in babies ≤ 28 weeks = 4/17 less than 28 %

## **8. Support Services**

As with all intensive care settings, we at times require expert advice from colleagues in other departments to assist in the care of the babies admitted to the neonatal unit. We have the following services available to ensure they receive the best care possible whilst on the unit and after discharge.

### **Physiotherapy**

Input from the paediatric physiotherapy team is available within the neonatal unit to promote the developmental care of babies, especially those considered at risk from long term problems. Once discharged from the unit, they will be followed up by the community physiotherapy team and seen at the high risk clinic in conjunction with the physiotherapist.

### **SALT**

This service is available for babies who may be experiencing long term feeding issues related to their ability to suck and swallow milk.

### **Ophthalmology**

There is a well-established paediatric ophthalmology service that offers routine screening for Retinopathy of Prematurity to all babies meeting the national criteria for screening. All screening takes place on the unit. Babies that go on to develop advanced ROP requiring treatment with laser surgery are transported to James Cook University Hospital for this procedure.

### **Bereavement support worker**

Despite our best efforts it is unfortunate that some of our babies will not survive. Whilst we endeavour to support the families of these babies as much as possible we also have support from two bereavement counsellors who provide specialist care to parents, families and staff.

### **Radiology**

There is a bedside-service providing X-ray, ultrasound and, in addition, echocardiography, carried out by both trained radiographers and neonatal consultants. Computerised tomography (CT), magnetic resonance imaging (MRI) and spectroscopy (MRS) are also available at UHNT. A consultant paediatric radiologist is available to report and interpret information and a monthly x-ray meeting takes place.

### **Dietician**

A paediatric dietician attends the Unit on a referral basis to assist with the nutritional assessment and management of babies. She follows up babies in the Neonatal High Risk Clinics, providing additional advice and support to parents.

**CONI (Care of Next Infant)**

This is a national scheme providing a range of support and advice for parents in caring for a subsequent child following a death. There are two paediatric consultants responsible for managing the scheme at UHNT.

**Pharmacist**

A pharmacist will attend ward rounds on a regular basis and will at this time also review all drug and parenteral nutrition charts. They are also available to provide any assistance that may be required with regards to medication and administration guidance.

We have close links with other hospitals within the Northern Neonatal Network:

- James Cook University Hospital where babies will go for EEG and laser treatment for ROP
- Royal Victoria Infirmary which provide neonatal surgical care
- Freeman Hospital which is the recognised cardiology and cardio-thoracic surgical centre for the North East.

## 9. Research and Audit

### Neonatal Research Team

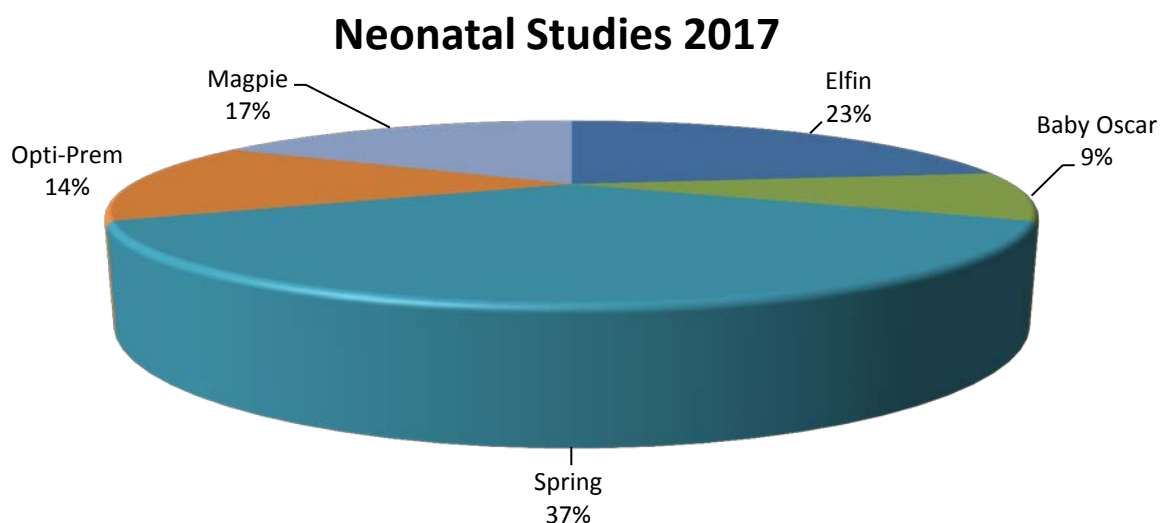
The research team is led by Professor Samir Gupta (neonatal/ paediatric research lead and Trust Deputy Director of Research & Development). Professor Gupta successfully engaged all Neonatal Consultants as Principal Investigators (PI) for research studies conducted within the department. The research team also consists of one full time Research Fellow, one full time Research Nurse employed by the Trust reflecting its commitment to research and an additional 0.5 WTE Research Nurse secondment.

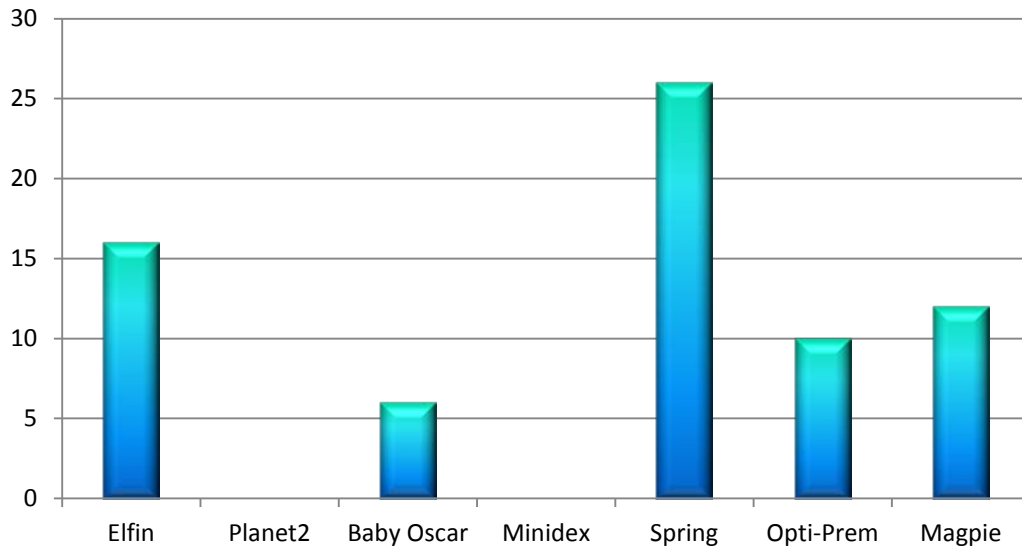
### Leadership in Research and Development and Evidence Based Practice

The Unit continues with an active research agenda participating in portfolio and non-portfolio /academic studies. Recruitment figures, taking into account the start date of studies, have continued on time and to target or are currently exceeding targets.

Professor Gupta established the annual, international Teesside Neonatal Cardiology and Haemodynamics Conference, which is now in its seventh year and the team continues to build expertise in this area. Alongside this, Professor Gupta established and is Chair of the NICHe (Neonatologists with Interests in Cardiology and Haemodynamics) clinical specialty group, which currently has around 90 members worldwide. The year 2017 also witnessed Professor Gupta and Dr S Job set up the first neonatal ECHO course in the country using the ECHO SIM baby.

### Research Studies





## **Networking**

Networking activities are well attended by team members providing on-going support for current and prospective research projects.

Forums include:

- Teesside Perinatal Neonatal Research Group (TPNRG)
- Paediatric Research Interest Group (PRINT) North Tees & Hartlepool
- Research Nurse Working Group North Tees & Hartlepool
- North East and North Cumbria Clinical Research Network Paediatric Clinical Specialty Group
- North East and North Cumbria Clinical Research Network Reproductive Health Specialty Group
- National Institute for Health Research events
- Northern Neonatal Network
- Neonatal Research Newsletter
- Northern Neonatal Network Inaugural Research Event