GIG CYMRU NHS WALES

Bwrdd Iechyd Aneurin Bevan Health Board

Our Ref: AG/JP Direct Line: 01495 765072 16 March 2012

Ms Christine Chapman
Chair
Children and Young People Committee
National Assembly for Wales
Cardiff Bay
Cardiff
CF99 1NA

Dear Ms Chapman

Children and Young People Committee – Neonatal Services

Thank you for your letter dated 21 February 2012 regarding the above and the request for information for the Committee ahead of an oral evidence session to be held after Easter. I am pleased to provide the information requested and for ease of reference I will address each of the bullet points from your letter in turn as follows:

- **A copy of your current local neonatal action plan, including information about the mechanisms you have put in place to monitor and evaluate the implementation of the key actions within these plans with timescales.**

Attachment 1 for is our detailed action plan that we complete for the Network on a 6 monthly basis.

Attachment 2 is our updated action plan towards achieving compliance with the All Wales Neonatal Standards based on the recommendations of the Neonatal Network's 2012 Capacity Review.

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- **A copy of the latest annual report on quality of care (as set out in Standard 6.8 of the All Wales Neonatal Standards), alongside information on the number of instances of when patient safety has been compromised.**

Attachment 3 is a copy of latest Neonatal Annual Report for the Royal Gwent Hospital.

Attachment 4 is a copy of latest Neonatal Annual Report for Nevill Hall Hospital.

- **An outline of any action taken and any plans for investing into neonatal services in the short, medium and longer term to ensure all services in your area are fully compliant with the Standards.**

The Health Board has appointed an additional 10 WTE nurses to its neonatal unit over the last 18 months reducing reliance on nurse bank and agency staffing. You will appreciate that the national shortage of experienced neonatal nurses results in many of the newly recruited nurses requiring skills and competence to care for the most sick and premature babies. As a consequence we have reviewed the induction and training programme where nurses acquire the skills and competencies by the end of a 6 month period rather than previously when this could take up to 2 years to achieve.

The Board recognises that further investment is needed to address the shortfall in compliance with the All Wales Standards. The Health Board plans to continue its investment in nurse staffing on a phased basis and work towards providing the cot configuration and occupancy levels required to meet the recommendations of the 2012 Capacity Review recently published by the Neonatal Network.

A paper on the All Wales Neonatal standards will be considered by the Health Board at its meeting on 28 March 2012. This will propose the appointment of a further 6.2 WTE registered nurses and 1.6 WTE unregistered/nursery nurses in 2012/13.

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- **The costs associated with cross border transfers, including the amount paid to English PCTs for the transfer of neonates as well as the income generated by Welsh Providers.**

Information on our spend outside of the Health Board for neonatal activity is not readily and specifically available on an actual basis. This is because neonatal activity is part of the WHSSC portfolio so all costs get charged there in the first instance and are then recharged back to us on a risk share basis. The current forecast level for this is just over £1m for 2011/12 but this will be predominantly for costs with other Welsh Health Boards (mainly Cardiff but a small element for Cwm Taf and ABM as well). In addition, we pay English PCTs direct as part of our contracts (circa £60k this year) but this is predominantly special care baby unit (SCBU) charges as again neonatal activity will be charged to WHSSC either initially or through contract validation.

In terms of income for the Health Board for neonatal activity, as a provider we report neonatal activity within SCBU numbers. The combined income for income for SCBU and neonatal activity in 2011/12 is forecast at c£300k.

- **Whether you have had any discussions with WHSSC and neighbouring LHBs about the overall increase in cots needed and any joint planning as to where they are located and at what level of intensity.**

Discussions have been initiated by the Neonatal Network (which includes all the local Health Boards and WHSSC in its membership) following the very recent publication of the 2012 Neonatal Capacity Review which identifies cot requirements by level by Health Board. Addressing the recommendations of this Review is a priority for Chief Executives and Boards and Neonatal Services are routinely discussed within and across Health Boards.

- **Whether any work has been undertaken with neighbouring Boards, or the Welsh Government via WHSSC, on workforce planning to address what impact changes to junior doctor recruitment and the number of training places in the future will have on services in coming years.**

I can confirm that all Local Health Boards are currently engaged in reviewing the future implications of changes to junior doctor recruitment and availability on services. Collectively the impact on service delivery is being planned through the work currently taking place to develop a South Wales regional plan. Cleary there will be significant issues to work through around

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sustaining some fragile services and different service models. There will be limits on future paediatric posts and future neonatal services have to be managed alongside those solutions.

I hope this information is helpful but if anything further is required please do hesitate to let me know.

Yours sincerely

Judith Paget

Judith Paget
Deputy Chief Executive
For and on behalf of Dr Andrew Goodall, Chief Executive, and in his absence

Enc.

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6.8	It is essential that each designated specialist centre:- • identifies a named individual who is responsible to the Trust clinical governance lead for the comprehensive capture of information on all neonatal cases admitted to the designated specialist centre; • produce an annual report for the Trust on quality of care; • participate in the all Wales audit programme co-ordinated through the MCN; • participate in national neonatal audit programmes coordinated through the BAPM - set up a clinical audit group; • to consider the audit report produced by the lead clinician and to recommend improvements within the Trust; • audit the service against these standards and report the outcome to the Trust clinical governance committee on an annual basis; • ensure exception reporting to the Trust Board occurs when patient safety is compromised; • ensure systems are in place for reporting, investigating and learning from adverse incidents.					Not achieved - in some areas	Audit participation and reporting will be completed after a full year of data and once the the All-Wales audit programme is up and running	2012
OBJECTIVE 7: EDUCATION AND TRAINING/CLINICAL GOVERNANCE **Rationale: All members of the multi-professional team are trained to the required standard to deliver a high quality service safely.**								
7.1	Staff attending home births, including paramedics are trained in Newborn Life Support (NLS).					Achieved	NLS programme is part of mandatory training for ABHB Community Midwives. Paramedics not under remit of ABHB.	
7.2	All doctors and nurses caring for critically ill neonates have initial access to and a rolling revalidation programme for Newborn Life Support (NLS).					Achieved		
7.3	Post registration neonatal education is readily available based on a competency framework.					Achieved		
7.4	All staff involved in feeding babies receive training on supporting the family unit for successful breastfeeding.					Achieved		
7.5	Research into neonatal care is a core component of the service.					Partially achieved	Compliance and Development Plan being prepared to set out gap and confirm investment requirments - to be presented to ABHB Executive Group in January 2012	2012/13

ATTACHMENT 1

OBJECTIVE 6: CLINICAL PATHWAYS, PROTOCOLS AND GUIDELINES/CLINICAL GOVERNANCE **Rationale: Care will be delivered based on the best available evidence. Pathways and guidelines circulated widely and agreed nationally will ensure that the child receives high**								
6.1	Clinical pathways, guidelines and protocols are in place and audited within the MCN. These include as a minimum, hand washing, use of alcohol gel and the care and management of babies requiring: Antenatal steroid administration Surfactant therapy Ventilatory support Fluid management Inotropic support Inhaled nitric oxide ECMO					Achieved		
6.2	An agreed protocol is in place for the resuscitation and management of the extremely preterm infant.					Achieved		
6.3	Protocols are in place to ensure babies are transferred between units within the network according to clinical need. Arrangements are in place with neighbouring networks to ensure a seamless service when babies need to be transferred across in Wales or across the border to England.					Partially achieved	Protocols still require formalisation between networks	2012/13
6.4	Protocols are in place for: a. Cerebral Ultrasound examination of the brain b. Screening and treatment for retinopathy of prematurity c. Screening for hearing loss d. Screening of hip abnormalities e. Post mortem examination procedures. f. Infection control (including HIV and Hepatitis B)					Achieved		
6.5	Every unit must submit detailed reports on morbidity to the MCN. The MCN will produce an annual report that assesses morbidity.					Ongoing and possible	Further work required through BadgerNet	2012/13
6.6	All babies with an identified neurodevelopmental condition should be referred to a local child development team.					Achieved		
6.7	Systems are in place to feed into National Databases - CARIS and CESDI.					Achieved		

4.3	Access to the following support services are available: Social Worker Spiritual Adviser Bereavement Counsellor Breastfeeding support staff Psychological/Psychiatric Advice Multi-ethnic health advocates and translators.					Not/ or partially achieved for bereavement counsellors; psychological/psychiatric advise; multi-ethnic health advocates.	Directorate to pursue partnership arrangements in order to develop and provide relevant support services - skills / experience not currently held within the Directorate	2012/13
4.4	Post discharge care is provided for all babies by appropriate staff with specialist training.					Achieved		
4.5	Resources are available to support parent training.					Partially achieved (staff within the unit have taken on these roles in addition to their routine work).	Parent training will be formalised following confirmation of staffing levels - Compliance and Development Plan being prepared to set out gap and confirm investment requirments - to be presented to ABHB Executive Group in January 2012	2012/13
4.6	Information is available at all antenatal facilities about post natal service provision.							
OBJECTIVE 5: TRANSPORTATION **Rationale: A transport service, staffed by trained personnel is in place 24/7 for all areas of Wales, to provide rapid and timely transport for neonates to and from appropriate service across the network and country boundaries.**								
5.1	Transport services are planned and commissioned on an all Wales basis with working arrangements in place for each network and across the border with England. All units accepting and/or referring neonates have, or have access to, an appropriately staffed and equipped transport service.					Achieved with the start of the CHANTS		
5.2	Arrangements are in place in partnership between maternity and neonatal units for the timely transfer of the mother (in-utero transfer) when a high-risk situation is anticipated. Written arrangements are in place for the transfer of the neonate who requires care at a level not available at the place of birth.					Partially achieved (informal agreements and arrangements are in place).	Arrangements to be formalised with written protocols in agreement with the Network	2012/13
5.3	Written arrangements are in place for: the transfer of a mother with a high risk pregnancy across the network. the transfer of mother and baby together when moving back to a unit near home.					Partially achieved (informal agreements are in place agreed by obstetricians and neonatologists)	Arrangements to be formalised with written protocols in agreement with the Network	2012/13
5.4	Staff responsible for transfers are in addition to those of the clinical inpatient team.					Achieved	Achieved but funding only provided for a 12 hour period via the neonatal Transport Network, therfore gap covered by ABHB	
5.5	Each unit keeps a detailed log of all transfers including unmet requests with the reasons. This information should be included as part of the MCN annual audit process.					Achieved with the data available from BadgerNet		

3.6	An agreed appropriate budget is available to purchase and maintain equipment for neonatal care to meet these standards.					Partially achieved (replacement equipment requirements are identified on a rolling basis, however there is no top sliced funding and all replacement items have to be bid for).	Compliance and Development Plan being prepared to set out gap and confirm investment requirments - to be presented to ABHB Executive Group in January 2012	2012/13
3.7	Joint working arrangements are in place with the local Medical Technical Department responsible for equipment safety and maintenance including the blood-gas analyser.					Achieved		
3.8	24-hour laboratory services are available which are orientated to neonatal needs.					Achieved		
3.9	Each cot on a Neonatal Intensive Care Unit or High Dependency Unit has the following equipment: a. Incubator or unit with radiant heating b. Ventilator* and NCPAP driver with humidifier c. Syringe/infusion Pumps d. Facilities for monitoring the following variables: i. Respiration ii. Heart rate iii. Intra-vascular blood pressure iv. Transcutaneous or intra-arterial oxygen tension v. Oxygen saturation vi. Ambient Oxygen. * Intensive Care Cot only					Achieved at Royal Gwent Hospital and Nevill Hall Hospital		
3.10	Each Neonatal Intensive Care or High Dependency Unit has access to the following equipment: a. Resuscitation b. Blood gas analysis (on the neonatal unit by unit staff) c. Phototherapy d. Non-invasive blood pressure measurement e. Transillumination by cold light f. Portable x-rays g. Ultrasound scanning h. Expression of breast milk i. Transport equipment (including mechanical ventilation) j. Instant photographs (consent based).					Achieved		
OBJECTIVE 4: CARE OF THE BABY AND FAMILY/PATIENT EXPERIENCE **Rationale: The baby and the family receive holistic child and family centred care as close to home as possible, with ease of access to specialist centres when this care is required.**								
4.1	Breast feeding is actively encouraged in the unit.					Achieved		
4.2	Breast feeding is facilitated by the provision of breast pumps, an area for expressing and for storing expressed milk.					Achieved		

2.21	A Level II unit has SHOs/ANNPs dedicated to the neonatal service.					Not achieved at Nevill Hall Hospital (SHO's cross cover General Paediatrics out-of-hours)	Compliance and Development Plan being prepared to set out gap and confirm investment requirments - to be presented to ABHB Executive Group in January 2012	2012/13
LEVEL III Care in Level I Unit Neonatal Special Care								
2.22	A nursing ratio of 1:4 is provided for babies requiring Special Care.					Not applicable to the Aneurin Bevan Health Board		
2.23	The unit can provide evidence that the establishment is correct for the number of Special Care cots commissioned.					Not applicable to the Aneurin Bevan Health Board		
2.24	A Level I unit has a designated consultant paediatrician responsible for the clinical standards of care of the newborn babies.					Not applicable to the Aneurin Bevan Health Board		
OBJECTIVE 3: FACILITIES FOR NEONATAL SERVICES, INCLUDING EQUIPMENT Rationale: Appropriate, up to date and safe equipment and facilities are available to care for babies with neonatal care needs and their families.								
3.1	Neonatal facilities are commissioned based on population need, taking into account local differences.					Partially achieved (number of intensive and high dependency cots adequate in number for activity level).	Compliance and Development Plan being prepared to set out gap and confirm investment requirments - to be presented to ABHB Executive Group in January 2012	2012/13
3.2	Neonatal facilities are adjacent to labour suites.					Achieved at Royal Gwent Hospital and Nevill Hall Hospital		
3.3	All units within a MCN have in place an IT infrastructure that allows consistent information to be collected and collated across the network.					Achieved with the use of BadgerNet		
3.4	All neonatal units are able to transfer clinical details of a baby electronically when a baby is transferred.					Achieved with the use of BadgerNet		
3.5	Support services are readily available. These include: Pharmacy Dietetics Therapy Screening Genetics Physiotherapy Social Work Speech and Language Therapy These include staff with expertise in the care of neonates.					Achieved at Royal Gwent Hospital and Nevill Hall Hospital		

2.12	A Level III unit has SHO/SHO equivalent dedicated to the neonatal service.					Achieved (gaps in the rota are an ongoing problem though)		
2.13	Clerical and support staff are in place in all units to provide discharge support, e.g. specialist nurse, liaison health visitor. This is in addition to the clinical establishment.					Partially achieved for nursing but they are not in addition to the clinical establishment. The shortage of medical secretarial support for additional Transport consultants is resolved	Compliance and Development Plan being prepared to set out gap and confirm investment requirments - to be presented to ABHB Executive Group in January 2012	2012/13
2.14	Follow up support near the baby's home is provided by the local community children's nursing team in liaison with a specialist neonatal nurse.					Achieved		
2.15	Every level III unit should have a designated senior nurse manager who is supernumerary to the staff establishment. An element of this role will be to manage the Level III unit and its relationship with Level I and II units in its network.					Achieved		
LEVEL II Care in Level II Unit Neonatal High Dependency Care								
2.16	A nursing ratio of 1:2 is provided for babies requiring High Dependency care. The named nurse has training in neonatal care.					Partially achieved at Nevill Hall Hospital	Compliance and Development Plan being prepared to set out gap and confirm investment requirments - to be presented to ABHB Executive Group in January 2012	2012/13
2.17	The unit can provide evidence that the establishment is correct for the number of High Dependency cots commissioned.					Not achieved at Nevill Hall Hospital	Compliance and Development Plan being prepared to set out gap and confirm investment requirments - to be presented to ABHB Executive Group in January 2012	2012/13
2.18	A Level II unit has one consultant who is responsible for the direction and management of the unit including the monitoring of clinical policies, practice and standards.					Achieved. (neonatal consultants at the Royal Gwent Hospital take on that role for Nevill Hall Hospital)		
2.19	A Level II unit has 24-hour availability of a consultant or non consultant career grade doctor with neonatal training. This consultant can evidence up to date CME in neonatology and new developments.					Partially achieved (evidence of CME in neonatology may not be available in all)	Further discussions and plans regarding CME in Neonatology in NHH	2012/13
2.20	A Level II unit has trained and experienced middle grade staff readily available to resuscitate and stabilise babies unexpectedly requiring short term intensive care.					Achieved		

1.4	Effective communication mechanisms are in place for access to and discharge from level I, II and III services.					Achieved		
OBJECTIVE 2: STAFFING OF NEONATAL SERVICES **Rationale: Neonatal Services are staffed with appropriately trained, multi-disciplinary professional teams, according to the level of service they provide.**								
2.1	All units involved in the care of babies have established arrangements for the prompt, safe and effective resuscitation and stabilisation of babies.					Achieved in both sites		
2.2	Staff trained in neonatal resuscitation are available at every birth. When delivery of a baby at <30 weeks gestational age is anticipated, a consultant or career grade/training grade doctor with neonatal training and experience should also be present.					Achieved in both sites		
2.3	All staff involved in the delivery of high- risk pregnancies are trained to recognise and manage neonatal and obstetric emergencies.					Achieved at both sites		
2.4	When a delivery is planned at <28 completed weeks, arrangements are in place for the baby to be delivered at a level III centre.					Achieved		
2.5	All neonatal units have a designated neonatal nurse with protected time dedicated to providing teaching and education of the neonatal team.					Partially achieved (this nurse has other duties in addition)	Compliance and Development Plan being prepared to set out gap and confirm investment requirments - to be presented to ABHB Executive Group in January 2012	2012/13
2.6	All MCNs should have in place a MCN with a clinical Chair who has time dedicated to the role.					Achieved		
LEVEL I Care in Level III Unit **Neonatal Intensive Care**								
2.7	A nursing ratio of 1:1 is provided for babies requiring Neonatal Intensive Care. The named nurse has post registration qualification in Neonatal Intensive Care.					Not achieved	Compliance and Development Plan being prepared to set out gap and confirm investment requirments - to be presented to ABHB Executive Group in January 2012	2012/13
2.8	The unit can provide evidence that the establishment is correct for the number of Neonatal Intensive Care cots commissioned.					Not achieved	Compliance and Development Plan being prepared to set out gap and confirm investment requirments - to be presented to ABHB Executive Group in January 2012	2012/13
2.9	Level III unit consultants have their principal duties to the Neonatal Intensive Care Unit. There is a neonatal consultant on-call rota.					Achieved		
2.10	All consultants appointed to Trusts with Level III units have CCST in Paediatrics, Neonatal Medicine or equivalent training.					Achieved		
2.11	A Level III unit has a separate middle grade staff rota.					Achieved (gaps in the rota are an ongoing problem though)		

ATTACHMENT 1

Compliance with All Wales Neonatal Standards
Aneurin Bevan Health Board
December 2011

KEY:

- Fully compliant with standard
- Some areas of standard not yet achieved
- Compliance with standard not achieved
- Not applicable

		Compliance December 2010	Compliance March 2011	Compliance June 2011	Compliance December 2011	Compliance Statement at each unit at December 2011	Action Planned	Timescale for Action
Standard Number	**Standard Text**							
OBJECTIVE 1: ACCESS TO NEONATAL CARE **Rationale: All newborn babies who require over and above the normal birth pathway have equitable access to the appropriate level of care in a timely manner.**								
1.1	Neonatal care is commissioned to meet the local and national population need.					Partially achieved (the demand for intensive care and high dependency care outstrips current capacity)	Compliance and Development Plan being prepared to set out gap and confirm investment requirments - to be presented to ABHB Executive Group in January 2012	2012/13
1.2	Neonatal care is available at all levels as close to home as possible as part of a MCN. Each MCN has defined Level III unit(s).					Achieved (in principle)		
1.3	There is a clear referral pathway to and from all levels of care. These pathways include: feto-maternal assessment transfer of the mother antenatally (including from home to specialist centre for high risk management) neonatal transfer access for step up from level I to II and subsequent step down access for step up from level II to III and subsequent step down access to other specialist services i.e. surgery, cardiology, neurology and ECMO.					Partially achieved (informal agreements and arrangements are in place)	With the formation of the Neonatal Network, these will be formalised; this work is ongoing	Ongoing

WALES NEONATAL NETWORK **ATTACHMENT 2**

CAPACITY REVIEW 2012 – HEALTH COMMUNITY SUMMARY RECOMMENDATIONS AND ACTION POINTS

Aneurin Bevan Health Board (South East Network Health Community)
Action Plan updated: 13th March 2012

RECOMMENDATION REFERENCE	NETWORK UNDERSTANDING OF CURRENT POSITION	NETWORK COMMENT	ACTION PLANNED	LEAD	TIMESCALE
5.4.1 pt 4 & 5.4.6 AB is advised to urgently address the shortfall in nurse staffing numbers against the All Wales Standards.	AB has increased its nursing establishment by 10 WTE over the past 18 months reducing reliance on bank and agency. AB Executive team to consider report on implications of Capacity Review 2012 in March.	Confirmation needed that this has improved the number of hands-on nurses at unit level. AB have had a detailed Neonatal services compliance and development Plan in place since June 2011.	The ABHB Neonatal Services Compliance and Development Plan was updated in February 2012 and submitted to the ABHB Executive Team to consider the investment options. On the advice of the Executive Team, a paper will now be formally submitted to the Board in March 2012, seeking additional investment in 2012/13	Adam Southan, Divisional Director	March 2012
5.4.1 pt 1 AB should confirm dis-establishment of the IC cot in NHH Abergavenny	The AB has confirmed dis-establishment of the IC cot on 28.02.12		No further action required		
5.4.1 pt 2 The Network and AB need, in collaboration, to explore why critical care activity in the South East Community appears to be relatively high compared with the other Health Communities in South	:	Once Badgernet data is available, a retrospective analysis methodology is agreed with the Gwent clinical team to explore in comparison with the rest of the Network.	ABHB (in collaboration with the Network) to benchmark use of intensive care cots with other units (UK wide) with similar mortality outcomes to better understand the link between intensive care utilisation and mortality outcomes. ABHB units	Siddhartha Sen, Clinical Director	September 2012

Wales relative to population size.			are currently within the recommended mortality rate and compare well against other similar Welsh units. ABHB also to commission work to analyse local population factors that could create additional demand for intensive care input not explained simply by population numbers.		
5.4.1 pt 3 & 5.4.5 Scope to reduce low dependency activity should be explored. If no further improvements can be made an additional 4 to 5 SC cots will be required to meet 80% occupancy standard..		Action to be identified in line with Network Review of Low Dependency Care.	ABHB have considered the number of low dependency cots required to be complaint with the standards and meet 80% occupancy (current advice); this is reflected in the updated Compliance and Development Plan. The level of low dependency capacity will continue to be reviewed in line with the continued Network review of low dependency care.	Adam Southan, Divisional Director	Ongoing
5.4.1 pt 6 & 5.4.6 AB will need to consider the implications of the BAPM Service Standards for Hospitals Providing Neonatal Care 2010 as they			ABHB is reviewing arrangements for the unit situated at Nevill Hall Hospital in relation to the BAPM standards; this work is also tied into the ongoing work of the South Wales Programme	Adam Southan, Divisional Director	September 2012 (anticipated date of report from South Wales Programme Board)

relate to medical staffing of Local Neonatal Units and Abergavenny.			Board which is looking at medical staffing and neonatal and paediatric service configuration across the wider network community.		

ATTACHMENT 3

Annual Report 2010
David Ferguson Neonatal Unit
Royal Gwent Hospital
Newport

Compiled and written by

Anitha James
S Sen

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Annual Report 2010 - Summary

Section 1
Perinatal Statistics

There were a total of 3732 babies delivered in the Royal Gwent (including home deliveries) and there were 25 still births. The total births are 4.7% higher than that of the average of the region over the last 5 years, 2005- 2009 (3562 births).

The Perinatal Mortality Rate, Stillbirth Rate and the Neonatal Mortality Rates of the Royal Gwent Hospital (2010) are compared to that of Wales and England, (Table 6) and it is seen that the Royal Gwent Hospital figures, particularly Neonatal Mortality Rates (per 100 live births) compare very well with the national figures.

Section 2
Admissions and Activity
(Tables 9 to 26)

There were a total of 395 admissions in 2010, of which 24 were readmissions making a total of 371 infants admitted to the unit. A majority of the admissions (322, 86.8%) were inborn babies which included 25 *in-utero* transfers from other hospitals. Forty eight babies were *retrieved* or *transferred in* after birth from another hospital.

There were 24 readmissions (19 babies) which included babies that had been referred for specialist surgical or cardiac care. A total of 32 specialist referrals out were made and it involved 28 babies. Seventy-seven babies were transferred back to their parent units for follow up care (tables 6-11).

Activity and occupancy:

The British Association of Perinatal Medicine (BAPM) redefined the categories of care in 2001. These categories of care reflected the increasing complexity of care and resources required for babies in the three categories, Intensive care (IC), High Dependency Care (HD) and Special Care (SC). For historical comparisons, the sum of IC and HD care, under these new definitions approximates to the former BAPM definition of intensive care (Level 1 and Level 2). From table 21 it can be seen that the high level of IC and HD care activity have been increasing steadily and the current figure of 3786 days is 2.5 times the figure in 1994 when the cot allocations were made. The relative drop in SC activity from historical figures is explained by some changes in neonatal practices including earlier discharges and repatriation of many stable babies to level 2 units. Also, the Transitional Care, which has been in operation for the last 7 years, has prevented 116 admissions to the Unit and accounted for 236 fewer days of SC.

At the NICU at the Royal Gwent Hospital the funded capacity is based historically on the Stroud Report of 1993: 7 Intensive Care/High Dependency cots (this has never been separated out) and 13 Special Care cots. Since the Interim Business Case (2008) the funded cot capacity was notionally increased to: 7 Intensive care, 7 High Dependency care and 6 Special care cots. The cot occupancy rates have been increasing year on year and the ITU/HDU occupancy currently is currently 80% (unfunded spaces), with a total occupancy rate of 89% (unfunded spaces) against a recommendation of 70% (Table 30). Overall activity is continuing to rise with continuing improvement in survival in babies less than 28 weeks gestation. (Table 31, Fig 3) and increasing birth rates throughout Wales. With the functional de-designation of other neighbouring units as a Level III Unit within a South Wales Neonatal Network this increasing trend in intensive care activity will accelerate. This increase in activity can only be accommodated by an increase in resource allocation.

Section 3
Outcome (Tables 27-35, Figs. 3-4)

Survival:

The outcome for survival has been sustained and been improved across all gestations in 2010 (Table 27 and 32). The 6 year rolling commutative data over the past 20 years shows that survival has increased dramatically in babies of the youngest gestations. During 2004-2010, babies born between 25-30 weeks gestation had a 94% chance of survival to discharge (Table 32).

A comparison of gestation specific survival for all of Wales (including the Royal Gwent Hospital) in 2009 (All Wales Perinatal Survey, 2009) against the Royal Gwent Hospital (2006-2010) figures (Table 33) shows that the RGH compares very well to the all Wales figures across all gestations.

A comparison of birth weight specific survival shows a continued and sustained improvement in survival from historical figures in all weight bands but particularly in the lower weight bands (table 34).

Short term morbidity:

Sepsis:

Blood culture proven sepsis was seen in 9.2% of all admissions. This figure was 11% for 2009 and 12.1% in 2008. Our report from the Vermont Oxford database report (Table 37) however shows that our late onset infection rates among VLBW infants is very high and most are related to percutaneous long lines. We have introduced the long-line care bundle in 2011 and expect some improvement in these figures.

Chronic lung disease (CLD), Retinopathy of prematurity (ROP stage 3), Intraventricular haemorrhage (IVH grades 3 and 4) and Necrotising enterocolitis (NEC):

Short term morbidity in surviving babies born between 401-1500g is presented in table 35. Chronic lung disease (CLD) was seen in 18%, necrotising enterocolitis (NEC) in 9.6% and Grades 3 and 4 intraventricular haemorrhages (IVH) was seen in 8.1% in this group. Stage 3 retinopathy of prematurity (ROP) was seen in 9.6%. All these figures are comparable to previous years and published literature.

Long term morbidity:

For premature babies of 30 weeks gestation and less born in 2005, follow-up data at 2 years of age was analysed using the National Perinatal Epidemiology (NPEU) criteria. Neuromotor impairment was seen in 10%, hearing impairment 2%, visual disability 0% and growth failure 32%. These figures compare very well to published figures. These data were collected retrospectively, and from the next year, we would be able to present more accurate and comprehensive data from the ongoing 2 year neurodevelopmental clinic database.

Section 4

Benchmarking (Tables 36-38, Figs. 5-9)

The Vermont Oxford Network (VON) is a network collaboration of over 700 neonatal units, mainly in the USA and includes about 20 units from the UK. Since 2007, we have been submitting our data to the VON for benchmarking.

The detailed reports for 2007-2010 are presented in figures 5-11 and table 36. As was presented in the Annual Report 2009, most parameters, apart from late infection and coagulase negative staphylococcus infection is within the 1-3 quartiles seen within the network.

The 2010 raw data shows a very similar trend (table 37 and figure 12). These figures show that mortality was significantly lower in the RGH; death or morbidity, necrotising enterocolitis, severe ROP and severe IVH were comparable whereas chronic lung disease (CLD) and coagulase negative staphylococcal infection were higher at the RGH in 2010. The reasons for this are being looked at very carefully, and the high diagnosis of CLD is a reflection of the higher survival rates. The combined data for 2007 to 2010 is presented in a consolidated table (table 38) and in future years, this will be expanded.

New Developments

- Dr Anneli Allman has continued to provide a detailed neurodevelopment assessment service where all babies <32 weeks are assessed at 2 years corrected. These babies undergo a Baileys assessment and a detailed neurologic assessment. This service has extended to include all babies born at Nevill Hall Hospital.
- Dr Sunil Reddy has started a neonatal murmur clinic at Nevill Hall Hospital
- Dr Sue Papworth leads the liaison with maternity services and a fetal liaison is being developed.
- The BadgerNet neonatal data collecting system has been functional since December 2010 and is now the principle system of data collection.
- A total of 16 babies have been undergone therapeutic hypothermia till December 2010 and reported to the TOBY Encephalopathy Registry.
- The Royal Gwent Hospital has been a part of the Vermont Oxford Network and has been submitting data for the 4th successive year.
- Successful recruitment of 2 consultants (Dr Anitha James and Dr Maria Tsakmakis) has taken place as a part of all Wales transport service which became operational in January 2011.

Audit and Research

- A list of unit audits carried out during 2009-10 is shown in Table 39

Staffing
Medical Staff:

Senior Medical Staff:
Dr Siddhartha Sen, Consultant Neonatologist, Clinical Director Neonatal Services.
Secretary: Eireen Sakke
Dr Sue Papworth, Consultant Neonatologist
Secretary: Beverly Collins
Dr Anneli Allman, Consultant Neonatologist
Secretary: Wendy Underwood
Dr Tanoj Kollamparambil, Consultant Neonatologist
Secretary: Beverly Collins
Dr Sunil Reddy, Consultant Neonatologist
Secretary: Eireen Sakke
Dr Aftab Murtaza, Associate Specialist

Table 1: Middle Grade Staff:

March 10 - Sep 10	Sep 10 – March 2011
Dr Sarmistha Maity (Specialty Doctor) Dr Anitha James (SpR, Grid Trainee) Dr Ram Venkata (ST3) Dr Deepa Punjwani (Flexible Trainee, ST4) Dr Vaishali Patel (Flexible Trainee, ST4) Dr Ambika Shetty (Flexible Trainee, ST4) Dr Takin Omolukin (ST3) Dr Saurabh Patwardhan (ST3)	Dr Sarmistha Maity (Specialty Doctor) Dr Satish Billa (ST6) Dr Naomi Thomas (ST5) Dr Deepa Punjwani (Flexible Trainee, ST5) Dr Vaishali Patel (Flexible Trainee, ST5) Dr Ram Venkata (ST3) Dr Prasad Parvathamma (Clinical Fellow)

Table 2: Senior House Officers:

Feb 10 – Aug 10	Aug 10 – Feb 11
Dr Emily Payne (ST3) Dr Anne-Marie Proctor (Flexible Trainee, ST2)) Dr Swapa Abraham (Flexible Trainee FTSTA2) Dr Anu Sharma (ST2) Dr Ian Morris (ST1) Dr Ruth Hanks (ST1) Dr Nathalie MacDermott (ST2) Dr Ifaeyeni Kody Onunkwo (Locum)	Dr Mariangela Labruzzo (FTSTA1) Dr Bassam Al-Hussaini (FTSTA1) Dr Indraneel Adkar (ST2) Dr David Hanna (FTST2) Dr Juliette Oakley (ST1) Dr Sarika Goel (FTSTA2) Dr Naveena Jain (locum FTSTA1)

Nurse Staffing and Activities

Table 3: Nurse Staffing

	WTE	Neonatal Modules	NLS Certified	Additional Qualifications/Roles
Band 8A				
Joan Foy	1.0	1+ 2	Yes	Senior Nurse Manager, Neonatal Services Diploma in Professional Practice, Diploma in Research, Diploma in Infection Control, Diploma in Clinical Effectiveness, RCN Clinical Leadership Programme, LEO Programme, Health and Safety Competent Person BSc Clinical Governance Vital Signs 2 Management Programme
Band 7				
Francis Harries	1.0	1+ 2	Yes	Lead for Community Liaison Service Research Diploma, Teaching and Assessing Diploma, LEO Programme, Venepuncture and cannulation, BSc Clinical Practice, Vital Signs
Nichola Maggs	0.80	1+ 2	Yes	Certificate in Education, Research Diploma, Clinical Effectiveness Diploma, Teaching and Assessing Diploma, Diploma in Professional Practice R23 Module – Enhanced Neonatal Nursing Practice (London), BSc Nursing Studies, Venepuncture and cannulation NLS Instructor. FFP mentorship Vital Signs
Debra Broom	0.64	1+ 2	Yes	Clinical Effectiveness Diploma, Teaching and Assessing Diploma, Diploma in Community Health Studies R23 Module- Enhanced Neonatal Nursing Practice (London), BSc (Hons) Nursing Studies Venepuncture and cannulation FFP mentorship, Vital Signs
Clare Payne	0.64	1+2	Yes	Teaching and Assessing Diploma Research Diploma LEO Programme BSc Nursing Studies FFP mentorship, Vital Signs
Kym Pyne	1.00	1+2 (405)	Yes	State Registered Midwife Teaching and Assessing Diploma Respiratory Module FFP mentorship, Vital Signs
Belinda Cook	0.64	1+2	Yes	Diploma in Professional Practice, Clinical Effectiveness Diploma, Research Diploma, Teaching and Assessing Diploma Venepuncture and cannulation FFP mentorship, Vital Signs, Practice Development Facilitator
Leanne Cridland	0.64	1+2	Yes	BSc (Hons) in Neonatal Nursing LEO Programme FFP mentorship, Vital Signs
Jane Stacey	1.00	1+2 (405)	Yes	State Registered Midwife Teaching and Assessing Diploma R23 Module – Enhanced Neonatal Nursing Practice Seconded to ANNP
Claire Richards	0.64	1+2	Yes	Evidence Based Practice Module Teaching and Assessing Module BSc Clinical Practice, FFP mentorship, Vital Signs, Seconded to WHISC
Band 6				

Pamela Boyd	1.00	1+2	Yes	State Registered Midwife. Teaching and Assessing Diploma LEO Programme Health and Safety Competent Person. FFP mentorship Clinical Teacher
Miriam Sheppard	0.64	1+ 2	Yes	
Susan Watkins	0.96	1+ 2	Yes	Teaching and Assessing Diploma Research Diploma Diploma in Professional Practice Venepuncture and cannulation
Alison Davies	0.48	1+ 2	Yes	Teaching and Assessing Diploma FFP mentorship
Rachel Mackie	0.64	1+ 2	Yes	Degree Nurse Project 2000, Teaching and Assessing Diploma NLS Instructor Enhanced Neonatal Nurse Practitioner -R23 Module (London) FFP mentorship
Susan Woods	0.80	1+ 2	Yes	Venepuncture and cannulation
Niki Harris	1.00	1+ 2	Yes	Teaching and Assessing Diploma, Research Diploma BSc in Clinical Practice Venepuncture and cannulation FFP mentorship
Becky Graves	0.64	1+ 2	Yes	Community Liaison Sister Teaching and Assessing Diploma Higher Education Diploma in Healthcare Evidence Based Practice Module
Jane Lewis	0.80	1+2	Yes	Teaching and Assessing Diploma FFP mentorship
Amanda Bartlett	1.00	1	Yes	Care Pathway Co-ordinator Teaching and Assessing Diploma FFP mentorship
Emma Prytherch-Roberts	0.64	1+2	Yes	Diploma in Nursing (Child) FFP mentorship
Lisa Bickerstaff	0.96	1+2	Yes	Teaching and Assessing Diploma. Evidence Based Research Diploma. BSc In Children's Critical Care FFP mentorship
Paula Wallace	0.64	1+2	Yes	Teaching and Assessing Diploma FFP mentorship
Adele Parfitt	0.80	1+2	Yes	Teaching and Assessing Diploma FFP mentorship
Hannah McIntyre	0.96	1+2	Yes	Evidence Based Practice Module Enhanced Neonatal Nurse Practitioner -R23 Module (London)
Clare Avery	0.96	1+2	Yes	Teaching and Assessing Diploma FFP mentorship
Claire Smallbone	1.00	1+2	Yes	Evidence Based Practice Module Degree pathway
Anna Edwards	0.80	1+2	Yes	FFP mentorship Degree pathway
Ceri Halborg	0.96	1+2	Yes	FFP mentorship Degree pathway
Claire Payne (Goode)	0.64	1+2	Yes	
Dean Pask	1.00	1+2	Yes	FFP mentorship
Band 5				
Julie Seldon	1.00	1+ 2	Yes	Research Diploma Teaching and Assessing Diploma FFP mentorship
Louise James	0.64	1	Yes	Community Liaison Service Teaching and Assessing Diploma
Becki Pembridge	0.64	1+2	Yes	

Tracey Williams	1.00	ENB 402	Yes	Registered General Nurse ENB 998-Teaching and Assessing Research Diploma Essentials in Nursing the Critical Care Patient Diploma, FFP mentorship
Ros Price	0.96	1+2	Yes	Research Diploma Evidence Based Practice Module FFP mentorship
Lyn Franklin	0.64	1+ 2	Yes	Community Liaison Service Teaching and Assessing Diploma
Sue Elliot	0.80	1		FFP mentorship
Rachel Penny	0.64	1+2	Yes	Degree Nurse Project 2000 FFP mentorship
Teresa Kiraly	0.96	1+2	Yes	Degree nurse Teaching and Assessing Degree module FFP mentorship
Emma Rich	0.64			FFP mentorship
Sarah Norris	1.00	1+2	Yes	Degree nurse
Sarah McGee	0.96	1+2	Yes	
Caroline English	0.64	1		
Sarah Porter	1.00	1+2	Yes	Degree nurse
Kayleigh Williams	0.96	1		Degree nurse
Joanne Milton	1.00	1		Degree nurse
Meleri Edwards	1.00	1		Degree nurse
Vanessa Dos Santos	1.00	1		Degree nurse
Ayelet Levi-Brown	0.96			Degree nurse
Lauren Owen	1.00			Degree nurse
Kathryn Price	1.00			Degree nurse
Rachel Roberts	1.00			Degree nurse
Rachel Walker	1.00			Degree nurse
Judith Johnson	1.00	1+2	Yes	
Sian Dobie	1.00	1		Degree nurse
Kay Parker	0.48	1		
Jancy Varghese	1.00			
Rhianne Periam	1.00			Degree nurse
Melanie Davies	1.00			Degree nurse
Maricel Arcenal	0.96			
Kaye Seaward	0.96	1+2		
Rebecca Davies	1.00			Degree nurse
Band 4				
Jane Powell	0.96			NNEB
Chris Kelly	0.96			NNEB
Gill Smith	0.96			NNEB First Aid at Work
Hilary Jones	0.64			NNEB First Aid at Work
Emma Burns	0.96			NNEB First Aid at Work
Lisa Marshall	0.64			NNEB First Aid at Work
Administration Lead for the Service and P.A. to Senior Nurse Manager				
Gill Adams	1.0			
Neonatal Secretaries				
Beverley Collins	1.0			Secretary to S Papworth, T Kollamparambil
Eireen Sakke	1.0			Secretary to S Sen and S Reddy
Wendy Underwood	0.5			Secretary to A Allman
Ward Clerks				
Eireen Sakke	0.53			
Sofia Begum	0.18			
HSW Band 3				
Jayne Josling	1.00			
HCW Band 2				
Tina Conlon	1.00			

Table 4: Nursing Staffing Levels and vacancies

Band	Funded	In post	Vacancies	Full Time	Part Time	Total Heads
Band 8A	1	1	0	1	0	1
Band 7	8.00	7.00	1.00 (PDF)	3	6	9
Band 6	19.45	17.32	2.13	4	16	20
Band 5	34.78	21.56	13.22	17	15	32
Band 4	5.12	5.12	0	0	6	6
Total	**68.35**	**52.0**	**16.35**	**25**	**43**	**68**

QUALIFIED (nursing) heads 44 (46.88WTE)
UNQUALIFIED (nursing) heads 6 (5.12 WTE)

Neonatal Modules and NLS Qualifications
Total and percentage of staff with both Module 1 + 2 = 41heads = 60% of all qualified staff
Total and percentage of staff with Module 1 only = 8heads = 11% of all qualified staff
Total and percentage of qualified staff with a neonatal module = 49heads = 72% of all qualified staff
Total and percentage of staff with NLS certificate = 43heads = 63 % of all qualified staff

Other activities
Currently 4 staff are on a Degree Pathway.
Nichola Maggs, Rachel Mackie and Dean Pask are qualified NLS Instructors.
Nichola Maggs is also seconded part time to the Health Boards Resuscitation Service to deliver basic neonatal life support throughout the Trust.

Staff are managed via a teams system. Within the teams, all staff have annual IPR/ KSF via eKSF. There are Neonatal Service Mandatory Study days annually for each team to cover all statutory and mandatory training and updates.

The Practice Development Facilitator is a member of the education sub group for the All-Wales Network.
Staff members are also active in the Outreach sub group for the Network.

Nursing Care Pathways are in place for Discharge, Transport, Bereavement, Neonatal Abstinence Syndrome, Ventilation and Education.

There are many Link nurses and Working Groups in place throughout the Service e.g. Infection Control and Developmental care.

Pamela Boyd remains Secretary of the Neonatal Nurses Association.

The David Ferguson Annual Neonatal Award.

This is a joint Nursing and Medical Award for outstanding contribution to neonatal services. The nursing component was won jointly by Senior Sisters Clare Payne and Nichola Maggs for their exceptional work and the development of the Ventilation Pathway.
The medical recipient of the award was given collectively to the registrars for their commitment and dedication to the service.

Presentation at Conferences.

Senior Sisters Clare Payne and Nichola Maggs presented the Ventilation Pathway at the Inaugural ABHB Nursing Conference, Newport.

Vermont Oxford Network Annual Meeting and Hot Topics Conference Washington DC

Nursing attendance: Senior Nurse Joan Foy & Senior Sister Claire Richards

Development of service in 2010

Role of Lead Nurse for Welsh Neonatal Network by Joan Foy
A new teaching pathway was developed to teach and assess various aspects of ventilation.
Secondment into Lead for Transport Service by Senior Sister Claire Richards.
In-house transport training began in preparation for the introduction of the All Wales Transport Service.
The Gentamicin care bundle was introduced in-line with the NPSA recommendations.
Preparation for BadgerNet began.
Introduction of service weeks for Band 7's.
Development of the Annual Memorial Service.
Introduction of weekly physio assessments on unit.
Development of the ROP clinic with the Retcam.
Appointment of clinical teacher.
Nurse-led discharge planning meeting reintroduced

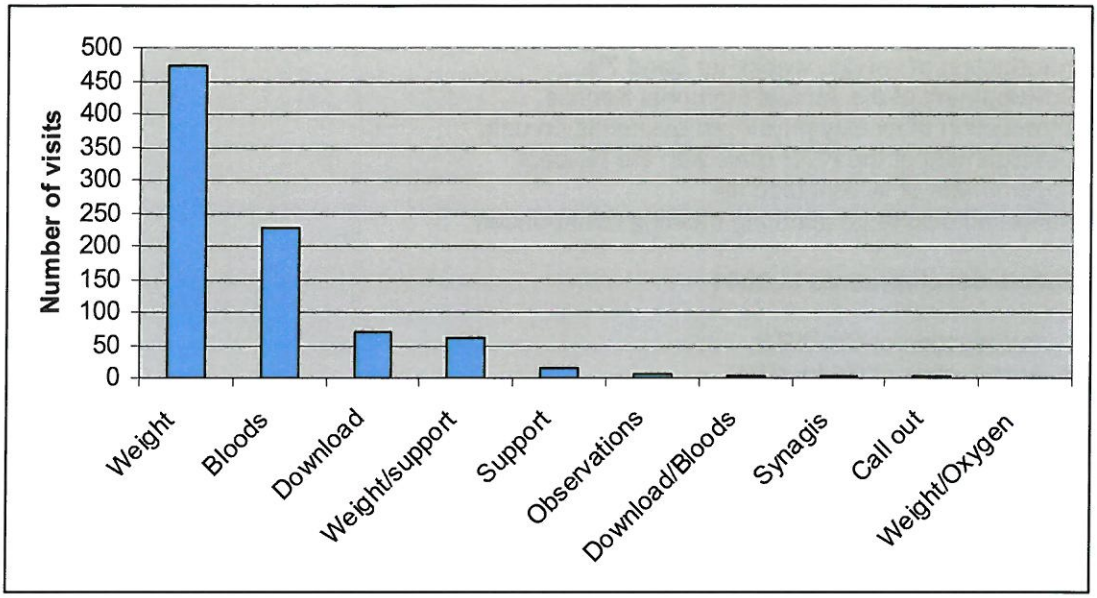
Future developments in 2011

1. Introduction of CHANTS
2. Introduction of BadgerNet
3. Introduction of weekly hand hygiene audits in-line with SPI & 1000 lives
4. Introduction of central line care bundle
5. Appointment of clinical teacher
6. Development of ITU education pathway

All Gwent Neonatal Liaison Services

The Neonatal Liaison Teams of the Royal Gwent and the Nevill Hall Hospitals have merged into one team and provide cover over both sites.
Total number of babies seen 244
Total number of visits: 844

Figure 6: Liaison service visits



Development of service in 2010
A new care pathway for home oxygen is has been implemented.

Nurse led discharge planning meetings have started and have become a routine.

Future developments in 2010

1. Audit the home oxygen pathway.
2. Review documentation and audit current practice and device new format if required.

Section 1

Perinatal Statistics 2010

Table 5: Birth and Mortality Statistics RGH 2010 *(includes deaths after transfer/discharge)*

Total no. of mothers delivered	3613
Twins	40
Triplets	1
Number of babies born in hospital	3656
Number of home deliveries	76
Total number of babies born	**3732**
Total still births	25
Total number of live births	**3707**
Deaths in the delivery suite	0
Early neonatal deaths	4
Late neonatal deaths (168-671 hours)	2
Live births < 500g	1
Still births with congenital abnormalities	0
Uncorrected Rates	
Perinatal Mortality Rate	7.9
Still Birth Rate	6.8
Neonatal Mortality Rate	1.6
Corrected rates (excluding babies < 500g and deaths in delivery room)	
Perinatal Mortality Rate	7.9
Still Birth rate	6.8
Neonatal Mortality Rate	1.3

Table 6: Perinatal statistics compared

	RGH 2005-2009*	RGH 2010	Wales 2009*	England, Wales, NI and Crown Dependencies 2009**
Perinatal Mortality Rate	7.7	7.8	7.6	7.6
Stillbirths Rate	5.3	6.7	5.2	5.2
Neonatal Mortality Rate	3.3	1.3	3.1	3.2

*Source: All Wales Perinatal Survey, Annual Report 2009
** Source: Centre for Maternal and Child Enquiries (CMACE) Perinatal Mortality Report 2009
Adjusted rates excluding <500g, <22 weeks and lethal congenital abnormalities

Table 7: Details of deaths in NICU

Place of birth	Gestation (wks)	Weight (g)	Diagnosis	Days of stay	PM done
RGH	24	840	Prematurity, respiratory distress syndrome, grade IV intraventricular haemorrhage, hypotension	2	No
RGH	24	706	Prematurity, chronic lung disease grade IV intraventricular haemorrhage, abnormal neurology	140	No
RGH	25	770	Prematurity, respiratory distress syndrome, intraventricular haemorrhage, sepsis, disseminated intravascular coagulation	5	No
RGH	39	2930	Perinatal asphyxia, hypoxic ischemic encephalopathy grade 3, renal failure, disseminated intravascular coagulation	3	No
RGH	41	2760	Term, small for gestation, meconium aspiration syndrome, persistent pulmonary hypertension	1	No

Table 8: Deaths after discharge or transfer

Place of birth	Gestation (wks)	Weight (g)	Diagnosis	Transfer to	PM done
RGH	24	450	Prematurity, sepsis, necrotising enterocolitis with perforation	74	No

Section 2

Admissions and Activity

Table 9: Unit Admissions

	2007	2008	2009	2010
Total Number of admissions:	412	405	374	395
Total Number of readmissions:	16	32	13	24
Total Number of *infants* admitted:	396	373	361	371

Table 10: Sources of admissions of inborn deliveries

Inborn (at RGH)	
Total deliveries	3656
Total live births	3631
No. of Inborn admissions:	323
Total number of inborn babies admitted	
Admitted from delivery suite	268
Admitted from post-natal ward	54
Admitted from CDU	
Readmissions from outside hospital:	48
No of babies admitted to Transitional Care	

Table 11: Booking status of *inborn* babies

Hospital	2007	2008	2009	2010
Royal Gwent Hospital	317	292	291	297
University Hospital of Wales, Cardiff	4	2	11	5
Others	13	6	7	4
Singleton Hospital, Swnasea	1	0	5	2
Caerphilly District Miners Hospital	0	3	4	8
Nevill Hall Hospital	7	4	3	2
Royal Glamorgan Hospital	0	1	3	1
Princess of Wales, Bridgend	0	0	2	2
St Michael's Hospital, Bristol	0	0	2	0
Unbooked	1	5	2	1
Prince Charles Hospital, Merthyr	0	0	1	0
Southmead Hospital, Bristol	1	0	0	0

Table 12: Outborn sources of admission (*excluding readmissions*)

Outborn (sources of admission outside maternity Unit)	2007	2008	2009	2010
Total number of infants:	49	56	43	48
Booked at Royal Gwent Hospital	17	14	9	10
Booked elsewhere or un-booked	32	42	34	38
Delivered at				
Nevill Hall Hospital	23	14	13	18
University Hospital of Wales	8	12	5	6
Royal Glamorgan Hospital	0	7	1	1
Southmead Hospital, Bristol	3	6	0	0
Other	3	6	2	2
Caerphilly District Miner's Hospital	4	5	6	7
St Michael's Hospital, Bristol	2	3	4	1
Home	6	2	4	4
Brecon Birth Centre	0	1	0	0
Gloucester	0	0	3	
Prince Charles Hospital, Merthyr	0	0	3	2

Table 13: Reasons for admission

Reason for admission	No. of admissions	% Admissions
Prematurity	148	4.4
Respiratory problem	71	19.4
Sepsis or suspected sepsis	25	6.8
Hypoglycaemia	22	6.0
Feeding difficulty	14	3.8
Hypoxic ischemic encephalopathy	13	3.6
For follow up care	11	3.0
Intra-uterine growth retardation	10	2.7
Narcotic abstinence syndrome	9	2.5
Other	9	2.5
For Observation	9	2.5
Neurological problem	8	2.2
Social reasons	5	1.4
Cardiac problem	4	1.1
Apnoeic/choking episode	4	1.1
Congenital abnormality	3	0.8
Haematological problem	1	0.3

Table 14: Readmissions (in 2010)

Gestation	BW (g)	Source	Reason for readmission
23	615	Bristol	Following ductal ligation
23	720	UHW	Following laser treatment for retinopathy of prematurity
24	706	UHW	Following ophthalmology review for retinopathy of prematurity
24*	706	UHW	Following laprotomy and ileostomy for sealed perforation
24*	706	UHW	Following stoma reversal
24*	450	UHW	Following surgical review for abdominal distension
24*	450	UHW	Following removal of Hickman's line
25	805	Bristol	Following ductal ligation
25	820	UHW	Following laser therapy for retinopathy of prematurity
25*	855	UHW	Following conservative management for suspected perforation
25*	855	UHW	Following ENT review for stridor
26	550	UHW	Following inguinal herniotomy and orchidopexy
27*	1035	Bristol	Following surgery for meconeum ileus perforation
27*	1035	UHW	Following reversal of stoma
28	1280	UHW	Following conservative management of NEC in UHW
29*	1210	UHW	Following GI contrast study and rectal biopsy
29*	1210	Bristol	Following laprotomy for midgut volvulus and B/L inguinal hernia repair
29	1110	NHH	For intensive care
32	1685	NHH	For intensive care
32	1630	UHW	Following ventriculo-peritoneal shunt insertion
38	2635	NHH	For intensive care
38	3740	Bristol	Following repair of tracheo-oesophageal fistula
39	3250	UHW	Following surgical review for bile stained vomiting
40	5750	UHW	Following drainage of testicular haematoma

Numbers with symbols indicate the same baby
UHW: University Hospital of Wales, Cardiff

Transfer out of Unit

Table 15: Destinations of babies transferred out

Destination	Number
Nevill Hall Hospital for FU care	61
UHW for surgical care/assessment	18
UHW for ROP treatment/assessment	2
UHW for neuro assessment	3
UHW for ENT review	1
UHW for FU care	1
St Michael's Bristol, for cardiac care	4
St Michael's Bristol for surgical care	4
Birmingham Children Hospital for liver care	1
Birmingham Women's Hospital for FU care	1
Royal Glamorgan Hospital for FU care	4
Prince Charles Hospital, Merthyr, for FU care	4
Singleton Hospital Swansea, for FU Care	1
Princess of Wales Hospital, Bridgend for follow-up care	2
Other local hospital for FU care	3
Total	**110**

Table 16: Specialist Referrals out

Gestation	Weight	Hospital	Diagnosis
23	720	UHW for Ophthalmology review	Retinopathy of prematurity for Laser treatment
24	706	UHW for Ophthalmology review	Retinopathy of prematurity for Laser treatment
24*	706	UHW for Surgical care	Perforated bowel (not NEC) with ileostomy
24*	706	UHW for Surgical care	For Hickman line and surgical review of stoma
24*	450	UHW for Surgical care	For abdominal distension with ascitis
24*	450	UHW for Surgical care	For removal of Hickman line following sepsis
24*	450	UHW for Surgical care	Necrotising enterocolitis with obstructed hernia
25	855	UHW for ENT review	ENT review for stridor
25	820	UHW for Ophthalmology review	Retinopathy of prematurity for Laser treatment
25	855	UHW for Surgical care	Small bowel perforation, conservative management
25	855	UHW for ENT review	Stridor : Ulcer in the subglottic area
25*	805	Bristol for cardiac care	Ligation of PDA
25*	805	Bristol for cardiac failure	Repair of ventricular septal defect
27	1075	UHW for surgical care	Meconium ileus with perforation Stoma reversal
28	1280	UHW for Surgical care	Necrotising enterocolitis
29	1210	Bristol for Surgical care	Laprotomy for midgut volvulus
29	1210	UHW for Surgical care	For abdominal distension –for lower GI contrast and rectal biopsy (normal)
29	1600	UHW for Surgical care	Meconeum ileus perforation (antenatally), cystic fibrosis positive
32	1.63	UHW for Neurosurgical review	Ventriculo-peritoneal shunt insertion following post haemorrhagic ventricular dilatation
33	1.5	Bristol for Surgical care	
33	2475	UHW for Surgical care	Congenital diaphragmatic hernia
37	1.935	Bristol for Cardiac care	VECTERL association with complex congenital heart disease
37	2.17	Bristol for Surgical care	
38	3.74	Bristol for Surgical care	Oesophageal atresia with suspected tracheo-oesophageal fistula
38	2.755	Birmingham Children Hospital for hepatic care	Choledochal Cyst
38	2.63	UHW for neurology review	Tuberous sclerosis
38	4.45	UHW for Neurology review	Crisponi syndrome
39	3850	UHW for Surgical care	Suspected upper GI obstruction, contrast normal
39	4535	UHW for Surgical care	Subcutaneous fat necrosis
40	4.57	Bristol for Cardiac care	Transposition of great arteries
40	2980	UHW for Surgical care	Inguinal hernia
40	5750	UHW for Surgical care	Testicular haematoma

NICU Activity

Table 17: Level of care

Level of care	Number (%) of admissions needing this level of care		Number (%) of babies needing this level of care	
	2009	**2010**	2009	**2010**
Intensive Care	222 (59.8)	238 (60%)	216 (59.8)	226 (61%)
High Dependency Care	237 (63.8)	248 (63%)	231 (63.9)	233 (63%)
Special Care	286 (77.1)	291 (73%)	276 (76.5)	273 (74%)
Normal Care	9	44 (11.5)	9	44 (11.8)
Transitional Care	101	111	111	

Table 18: Level of care and cot occupancy rates

Level of Care	No of days	% Occupancy of cots*	% Occupancy of cots**
Intensive Care	1573		62%
High Dependency Care	2213	148%	87%
Special Care	2661	56%	122%
Normal Care	44		
Transitional Care			
Intensive care + High Dependency Care	3786	148%	74%
Total days of care (IC + HD + SC + NC)	6491	89%	89%

* Based on 7 IC + HDU cots and 13 SC cots that is historically funded
** Based on 7 IC cots + 7 HDU cots + 6 SC cots notionally available

Table 19: Break-up of Intensive Care activity (BAPM 2001 categories)

Type of Intensive Care activity	Number of days
1. ET tube respiratory support and 24 hours after its withdrawal	**691**
2. NCPAP for any part of the day and less than 5 days old	**353**
3. Less than 1000 g and receiving nCPAP and 24 hours after withdrawal	**377**
4. Less than 29 weeks gestation and less than 48 hours old	**4**
5. Requiring major emergency surgery, pre-operative and post operative 24 hours	**5**
6a. Requiring full exchange transfusion	**2**
6b. Requiring peritoneal dialysis	**1**
6c. Infusion of inotropes, pulmonary vasodilator or prostaglandin and 24 hrs after withdrawal	**6**
7. Any other unstable baby needing 1:1 nursing care	**134**
8. On the day of the death of the baby	**0**
Total	**1573**

Table 20: Monthly activity

Month	No of A/D	No of D/S	IC	HD	IC+HDU	SC	Total (IC+HD+SC)
January	31	32	141	227	368	212	580
February	28	28	150	122	272	225	497
March	32	36	106	147	253	320	573
April	32	33	122	127	249	193	442
May	27	30	149	175	324	191	515
June	35	33	173	139	312	213	525
July	27	25	128	182	310	189	499
August	30	28	115	239	354	199	553
September	37	37	147	198	345	207	552
October	33	34	108	244	352	198	550
November	46	45	94	209	303	265	568
December	38	33	140	204	344	293	637
Totals	**396**	**394**	**1573**	**2213**	**3786**	**2705**	**6491**
Mean	33	33	131	184	316	225	541
Max	46	45	173	244	368	320	637
Min	27	25	94	122	249	189	442

Figure 1. Monthly activity of level of care

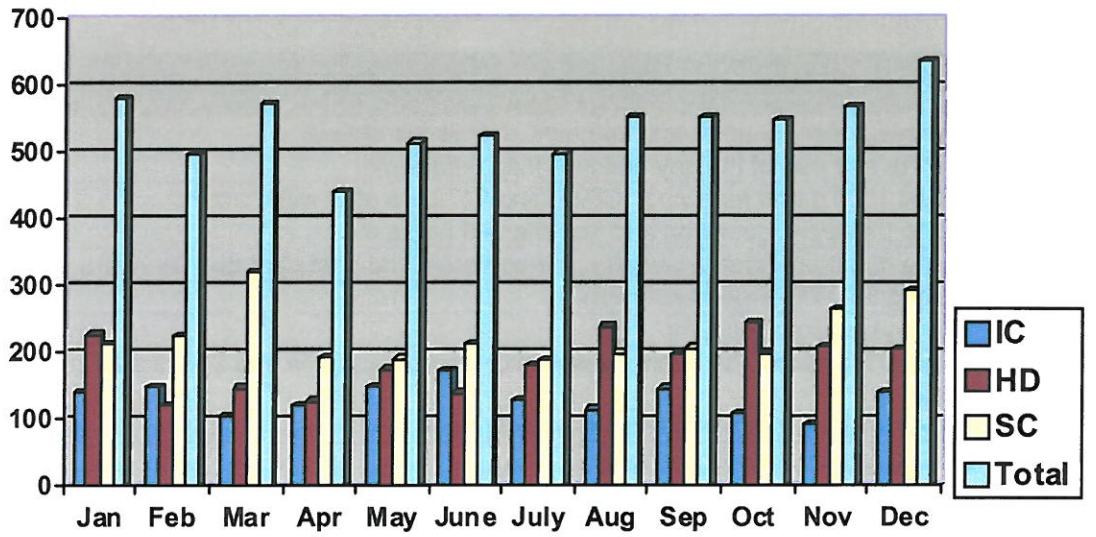


Table 21: 18 years comparison of activity (2010)

Year	IC	HD	IC+ HD	IC + HD Occupancy		SC Days	SC occupancy	Total (IT+HD+SC)	% Occupancy
				‡	Φ				
1994	588	788	1376	53		3711	78‡	5057	69
1995	593	390	983	38		3480	73‡	4463	61
1996	714	936	1650	65		3460	73‡	5110	70
1997	809	859	1668	65		3595	76‡	5263	72
1998	981	518	1499	59		3630	77‡	5129	70
1999	1030	951	1981	78		4143	87‡	6124	84
2000	1059	750	1806	71		4092	86‡	5898	81
2001	1090	465	1555	61		3562	75‡	5117	70
2002	1011	1463	2474	97		3252	69‡	5726	79
2003	1080	1906	2986	117		2860	60‡	5846	80
2004	1573	1710	3283	128		2526	53‡	5819	80
2005	1364	1796	3160	123		2778	59‡	5938	81
2006	1522	2064	3585	140		2394	50‡	5991	82
2007	1240	1995	3235	127		2739	58‡	5981	82
2008	1352	2097	3449		73	2517	115Φ	5977	82
2009	1566	1773	3339		70	2559	117Φ	5898	80
2010	**1573**	**2213**	**3786**		**80**	**2705**	**124Φ**	**6491**	**89**

‡ Based on historically funded cots (7 IC and HD cots and 13 SC cots)
Φ Based on available but unfunded cot spaces (6+1 IC, 7 HD and 6 SC cots)
(IC= intensive care, HDU= high dependency care, SC= special care)

Fig 2. Levels of activity 1994-2010

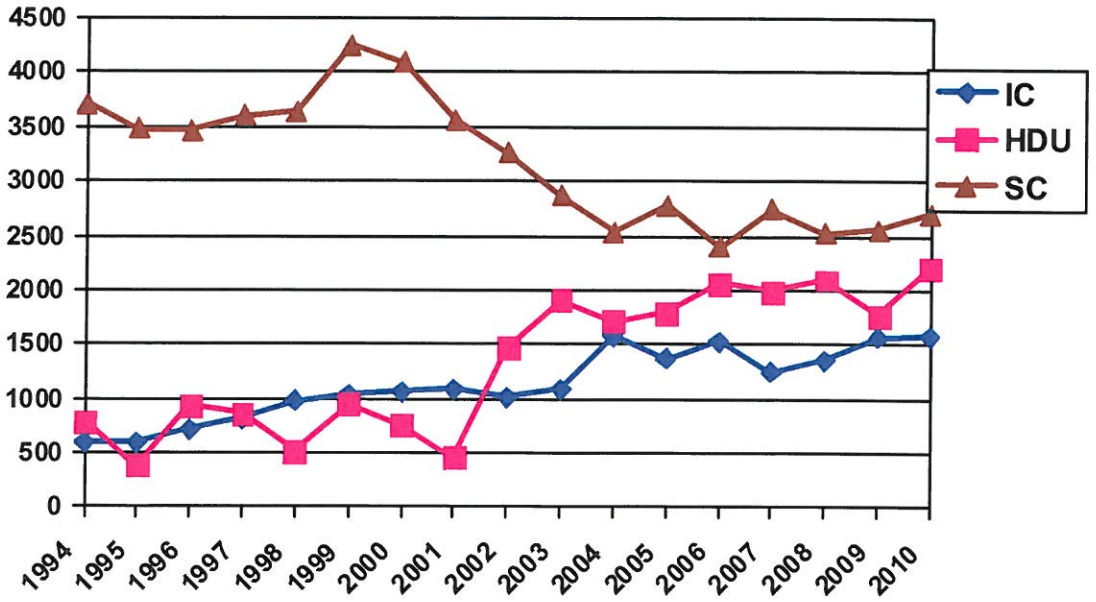


Table 22: Respiratory Therapy given

	No of babies		No of days		Percentage of admissions	
	2009	**2010**	**2009**	**2010**	**2009**	**2010**
IPPV	100	76	727		26.9	19.2
CPAP	171	163	1676		46.1	41.2
Only CPAP	103	107	502		27.7	27
HFOV	17	12	71		4.5	3
Nitric Oxide	10	6	38		2.6	1.5
Inborn babies						
	2009	% of inborn admissions	**2010**	% of inborn admissions		
No. of inborn babies intubated at birth	75	23.5	63	15.9%		
No of babies given surfactant at birth	50	15.7	51	12.8%		

Table 23: A/N Steroid exposure in inborn babies

Gestation	Complete	Partial	Nil	Unknown
23-25	50%	21%	29%	
26-28	42%	32%	21%	5%
29-31	82%	12%		6%
32-33	71%	18%	11%	
Total <34	67%	19%	12%	2%
Total Percentage				

Table 24: Practical procedures/investigations done

Procedure	Successful	Failed	% babies needing this
UAC insertion	48	7	14.9
UVC insertion	67		18.2
UAC and UVC	45		12.2
Long line	58		15.7
Lumber puncture	37	4	10

	No of Babies	No of procedures	% babies needing this procedure
Cranial Ultrasound	131	432	33.2
EEG	13		3.3
Cardiac Echo	72	146	18.2
Renal Ultrasound	14	14	3.5
X ray		628	
CT/MR Scan	9	9	2.3
Blood cultures	300	512	76

Table 25: Treatments given

Treatment	No of babies	% of babies	
Antibiotics			
1st line antibiotics	288	78.2	
2nd line antibiotics	86	23.4	
3rd line antibiotics	41	11.1	
Transfusions			
RBC transfusions	43		122 (total)
Platelets	14		37 (total)
Immunoglobulin	4		
Reduction transfusions	0		
Exchange transfusions	4		
Indomethacin			
Prophylactic only Indomethacin	0		
Prophylactic + treatment Indomethacin	1		
Treatment only Indomethacin	8	2.2% of all babies 11.9% of <32 wks	
Inotropes			
1st line inotropes only	9	2.4	
1st and 2nd line inotropes	1		
1st, 2nd and 3rd line inotropes	7	1.9	
Other			
Phototherapy	121	32.8	
Dexamethasone	11	3	
Under 28 wks	11/25	44	

Table 26: Significant organisms isolated

Organism	No
Group B streptococcus	1
Other streptococci	1
Coagulase negative staphylococcus	21 (26 isolates)
Staphylococcus aureus	2
E coli	2
Klebsiella sp	0
Serritia sp	0
Enterococci sp	3
H influenzae	0
Candida albicans	1
Candida parapsilosis	1
Enterobacter	0
MRSA	1
Culture proven sepsis	**34/368 (9.2%) of babies**

ATTACHMENT 4

GIG CYMRU NHS WALES
Bwrdd Iechyd Aneurin Bevan Health Board

Annual Report 2010
Neonatal Unit
Nevill Hall Hospital, Abergavenny

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Summary

Annual activity and statistics

2010 has seen an increase in activity at NHH. As before, as a level 2 neonatal unit, it aims to provide high quality high dependency and special neonatal care, and only short term intensive care. In 2009 there was a drop in high dependency and special care days. In 2010 the level of intensive and high dependency care has remained constant, while there has been an increase in special care activity. The occupancy of 12 cots has increased from 61% in 2009 to 66% in 2010. The reasons for this are probably multifactorial, and include an increase in number of infants transferred from RGH for continuing care in NHH.

In 2010 there were 2207 live births, 37 homebirths and 13 stillbirths. There were no early neonatal deaths in 2010. This gives a neonatal mortality rate of 0/1000 live births. The stillbirth rate was 5.8/1000 births in 2010 with a perinatal mortality rate of 5.8/1000 births. These figures are small so must not be over interpreted.

NHH neonatal unit is run by consultant neonatologist ward rounds 3 times per week with consultant paediatrician led ward rounds twice a week and at weekends. There is neonatal advice available 24 hours a day every day. Both RGH and NHH continue to use shared guidelines and drug information formularies which are updated regularly. Clinics for neonatal follow up are held by neonatologists in NHH twice weekly.

RGH continues to provide a 24 hour retrieval service for NHH for sick or preterm infants. This remains unfunded.

Business meetings run monthly and feed into the perinatal meetings, also monthly. All clinical incidents are reviewed at the business meetings, which are multidisciplinary. There is weekly dedicated neonatal teaching for NHH junior and middle grade staff, overseen by the attending neonatologist.

New Developments

Following some new developments in 2009, including senior staff changes and the introduction of neurodevelomental assessment clinics, NHH neonatal unit was in status quo for 2010. However preparations began during the latter half of the year in readiness for some major changes in 2011, such as the South Wales transport system and a new data collection system known as "Badgernet".

Dr Christopher Bidder was appointed a sixth consultant general paediatrician at NHH. Dr Bidder's area of interest is endocrinology.

The gentamicin care bundle was introduced as a tool for auditing gentamicin prescription and administration.

"High flow", a system to complement and in some cases replace CPAP was successfully introduced.

Staffing
Medical Staff:

Senior Medical Staff:
Dr Siddhartha Sen, Consultant Neonatologist, Clinical Director, Neonatal Services
Dr Sue Papworth, Consultant Neonatologist
Dr Anneli Allman, Consultant Neonatologist
Dr Tanoj Kollamparambil, Consultant Neonatologist
Dr Sunil Reddy, Consultant Neonatologist
Dr Aftab Murtaza, Associate Specialist

Consultant Paediatricians:

Out of hours and weekends are covered by the on general paediatric on call team consisting of consultant, middle grade and SHO or PRHO.

Dr T Williams, Lead Clinician, Nevill Hall Hospital
Dr M J Pierrepoint
Dr M Northey
Dr Y Cloete
Dr S Ashtekar
Dr C Bidder

There is a consultant neonatologist lead ward round every Monday, Wednesday and Friday. According to the on call rota, a local consultant covers Tuesday and Thursday ward rounds. Consultant input is available at all times. FP1, SHO equivalent and middle grade staff are rostered to SCBU 9-5 weekdays to provide a service to the neonatal unit, postnatal ward and delivery suite.

Middle Grade Staff:

March 2010 -September 2010:

Dr Bodla (ST4)
Dr Morgan (ST4)
Dr HalpinEvans (ST3)
Dr Varghese (ST4)
Dr Ozieh (ST3)
Dr Arun (clin fellow- less than full time)
Dr Dienst (clin fellow – less than full time)
Dr Poh (Clinical Fellow)

September 2010-March 2011

Dr Syed (SpR)
Dr Glenn (ST4)
Dr Joy (ST5)
Dr Patankar (ST3)
Dr Murch (ST3)
Dr Arun (clin fellow- less than full time)
Dr Jaganathan (clin fellow)
Dr Dienst (clin fellow – less than full time)

Junior Grade Staff:

March 2010 – September 2010

Dr Groves (GP ST)
Dr Davies (GP ST)
Dr Salek (ST1 paeds)
Dr MacKensie (ST1)
Dr Quinney (GP ST)
Dr Jones (GP ST)
Dr Arnott (F1)
Dr Beckett (F1)

September 2010 – March 2011

Dr Cousins (ST1)
Dr Saif (GP ST)
Dr Minhas (GP ST)
Dr Boggaram (FTSTA1)
Dr Watson (GP ST)
Dr Beer (GP ST)
Dr Gillingham (F1)
Dr Nathwani (F1)

Nurse Staffing and Activities

Table 1. Nursing Staffing and Activities

	WTE	Neonatal Modules	NLS Certified	Additional Qualifications/Roles
Band 7				
Sally PyrahBarnes	1.00	1+2	Yes	Diploma in Child Health RGN RSCN Teaching and Assessing module FFP Mentor
Band 6				
Dawn Edwards	0.80	1+ 2	Yes	Research Diploma Teaching and Assessing Diploma LEO Programme FFP mentorship Infection Control Champion
Chris Jones	0.80	1+ 2	Yes	Research Diploma Teaching and Assessing Diploma Clinical Effectiveness Diploma Examination and assessment of the Newborn – Degree Module Breast Feeding Link Nurse FFP mentorship
Angela Francis	0.80	Module 2	Yes	Research Diploma Teaching and assessing Diploma Certificate in Health Education
Dawn Flower	1.00	1+ 2	Yes	Teaching and Assessing Diploma Bereavement Care Link Nurse FFP mentorship
Joanne Bartlett	1.00	1+ 2	Yes	Teaching and Assessing Diploma Evidence Based Practice Degree Module Leadership and Management Degree Module Developmental Care Link Nurse Intravenous Group Link Nurse FFP mentorship
Merenna Williams	0.8	1+ 2	Yes	Teaching and Assessing Diploma Infection Control Link Nurse
Jayne Cleaves	1.0	1+ 2	Yes	Research diploma
Dean Pask	1.0	1+ 2	Yes	Teaching and Assessing Diploma Manual Handling Link Nurse
Jan Lewis	0.8	1+ 2	Yes	Conversion Course Teaching and Assessing Certificate Common Core Certificate
Jo Jones	1.0	1+ 2	Yes	Evidence based practice module
Band 5				
Lyn Mugridge	1.0	Module 1+2	Yes	Registered Midwife Breast Feeding Link Nurse
Kath Goodenough	0.64	Module 1+2	Yes	
Laura Shepherd	1.0	1+2	Yes	
Lara Roberts	1.0	1+2	Yes	
Rhiannon Thomas	1.00			Degree nurse
Band 4				

Ann Vincent	1.0			NNEB Open University Child Care Certificate PPA Teaching Certificate Breast Feeding Support Certificate First Aid in the Workplace Certificate Bereavement Care Link Nurse
Marjorie Donnelly	0.8			NNEB Breast Feeding Support Certificate First Aid in the Workplace Certificate
Deb Law	0.8			NVQ – nursery nurse Breast Feeding Support Certificate First Aid in the Workplace Certificate
Liaison Service Band 6				
Lisa Jones	0.64	1+2	Yes	Health Visiting degree Teaching and Assessing certificate
Health Care worker				
Deborah McCann	1.0			
Administration Lead for the Service and P.A. to Senior Nurse Manager				
Gill Adams	1.0			
Neonatal Secretaries				
Sian Webster	1.0			

Table 2. Nursing Staffing Levels and vacancies Nevill Hall

Band	Funded	In post	Vacancies	Full Time	Part Time	Total Heads
Band 8A					0	
Band 7	1.0	1.00	0	1		1
Band 6	9.2	9.0	0.2	5	5	10
Band 5	4.64	4.64	0	4	1	5
Band 4	2.60	2.60	0	1	2	3
Total	**17.2**	**17.44**	**0.2**	**12**	**7**	**19**

QUALIFIED (nursing) heads 16
UNQUALIFIED (nursing) heads 3

Neonatal Modules and NLS Qualifications

Total % of staff with both Module 1 + 2 = 15heads = 79% of all qualified staff
Total % of staff with Module 1 only = 0heads
Total % of staff with Module 2 only = 1 head = 5% of all qualified staff
Total of Qualified staff with a neonatal module = 16 heads = 84%
Total % of staff with NLS certificate = 16 heads = 84%

Other activities

Currently 3 staff are on a Degree Pathway.
Staff are managed via a teams system. Within the teams, all staff have annual IPR/ KSF via eKSF. There are Neonatal Service Mandatory Study days annually for each team to cover all statutory and mandatory training and updates.

Nursing Care Pathways are in place for Discharge, Transport, Bereavement, Neonatal Abstinence Syndrome, Ventilation and Education.

There are many Link nurses and working Groups in place throughout the Service e.g. Infection Control and Developmental care.

Neonatal Unit Statistics

Total Number of admissions:	254
Total Number of readmissions:	12
Total Number of *infants* admitted:	242

Table 1. Sources of admissions of inborn deliveries (based on babies discharged in 2010)

Inborn (at NHH)	
Total deliveries	2220
Total live births	2207
Total still births	13
Total number of inborn admissions	197
Admitted from delivery suite	143
Admitted from post-natal ward	41
Admitted from home	01
Readmissions from outside hospital:	12

Table 2. Outborn sources of admission

Outborn (sources of admission outside maternity Unit)	Number
Total number of infants:	54
Delivered at	
Royal Gwent Hospital	43
University Hospital of Wales	06
Royal Glamorgan	02
Prince Charles Hospital	01
Home	01
Birmingham Children's Hospital	01

Table 3. Readmissions

Gestation	Birth wt	Source	Reason
26	840	UHW	Following Hernia repair at UHW
27	785	RGH	Following intensive care at RGH
31	1720	RGH	Following intensive care at RGH
31	1305	RGH	Following intensive care at RGH
32	1685	RGH	Following intensive care at RGH
32	1685	RGH	Following intensive care at RGH
33	2340	RGH	Following intensive care at RGH
38	2635	RGH	Following intensive care at RGH
39	3135	RGH	Following intensive care at RGH
40	1950	RGH	Following intensive care at RGH
40	3300	UHW	UHW for Neuro assessment
40	4400	RGH	Following intensive care at RGH
Total number of infants readmitted:	*12*		

Table 4. Destinations of babies transferred out

Destination	Number
Royal Gwent Hospital for intensive care	21
Royal Glam for FU Care	02
Merthyr for FU care	01
Poole Hospital for FU Care	01
NHH Usk Ward [Peds]	01
UHW for Surgical Care	06
UHW for Neuro assessment	01
Bristol for cardiac care	01
Total transfers out	34

Table 5. Survival of babies by gestational age (2010 admissions)

Gestation	Inborn		Outborn		All admissions		
	Total	Deaths	Total	Deaths	Total	Deaths	% Survival
23	0	0	1	0	1	0	100
24	0	0	0	0	0	0	-
25	0	0	0	0	0	0	-
26	0	0	2	0	2	0	100
27	2	0	2	0	4	0	100
28	0	0	2	0	2	0	100
29	0	0	2	0	2	0	100
30	1	0	10	0	11	0	100
31	12	0	4	0	16	0	100
32	17	0	2	0*	19	0	100
33-36	64	0	22	0	86	0	100
37-42	101	0	10	0	111	0	100
43	0	0	0	0	0	0	
Totals	197	0	57	0	254	0	100

Note – Outborn babies transferred to NHH for continuing care

Table 6. SCBU Admissions and Deaths by gestation bands (excluding readmissions)

Gestation	Inborn		Outborn		All admissions		
	Total	Deaths	Total	Deaths	Total	Deaths	% Survival
23-25	0	0	1	0	1	0	-
26-28	1	0	5	0	6	0	100
29-31	11	0	16	0	27	0	100
32	15	0	2	0	17	0	100
33-36	63	0	22	0	85	0	100
=/>37	96	0	10	0	106	0	100

Table 7. SCBU Admissions and Deaths below defined gestations (excluding readmissions)

Gestation	Inborn		Outborn		All Admissions		
	Total	Deaths	Total	Deaths	Total	Deaths	% Survival
<24	0	0	1	0	1	0	100
<26	0	0	1	0	1	0	100
<28	1	0	4	0	5	0	100
<30	2	0	9	0	11	0	100
<32	15	0	23	0	38	0	100
<37	96	0	47	0	142	0	100

Table 8. SCBU Admissions and Deaths in various weight bands (excluding readmissions)

Weight	Inborn		Outborn		All Admissions		
	Total	Deaths	Total	Deaths	Total	Deaths	% Survival
401-500	0	0	0	0	0	0	-
501-750	0	0	1	0	1	0	-
751-1000	1	0	8	0	9	0	100
1001-1250	1	0	4	0	5	0	100
1251-1500	5	0	5	0	10	0	100
1501-2500	79	0	28	0	107	0	100
2501-4500	94	0	9	0	103	0	100
>4500	7	0	0	0	7	0	100
Total	186	0	54	0	242	0	100

Table 9. SCBU Admissions and Deaths below specified weight categories

Weight range	Inborn		Outborn		All Admissions		
	Total	Deaths	Total	Deaths	Total	Deaths	% Survival
=/< 750	1	0	0	0	1	0	100
=/<1000	2	0	11	0	13	0	100
=/<1250	3	0	14	0	17	0	100
=/<1500	9	0	19	0	28	0	100
=/<2500	93	0	48	0	142	0	100

Table 10. Level of care and cot occupancy rates*

Level of Care	No of days	% Occupancy of cots*
Intensive Care	136	
High Dependency Care	746	
Special Care	1991	
Intensive care + High Dependency Care	882	
Total days of care (IC + HD + SC + NC)	2873	66% average

* Based on 12 cots (4380)

Table 11. Monthly Activity

Month	No of A/D	No of D/S	IC	HD	IC+HDU	SC	Total (IC+HD+SC)
January	27	26	9	58	67	188	255
February	18	14	17	63	80	125	205
March	28	30	15	91	106	220	326
April	21	19	7	26	33	149	182
May	25	19	11	74	85	173	258
June	19	23	9	47	56	176	232
July	23	17	16	52	68	136	204
August	17	22	11	90	101	177	278
September	21	20	9	50	59	178	237
October	14	17	8	77	85	182	267
November	17	14	10	37	47	142	189
December	24	25	14	81	95	145	240
Totals	**254**	**246**	**136**	**746**	**882**	**1991**	**2873**
Mean	21.2	20.3	11.3	62.2	73.5	165.9	239.4
Max	28	30	17	91	106	220	326
Min	14	14	7	26	33	125	182

Figure 1. Monthly activity of level of care

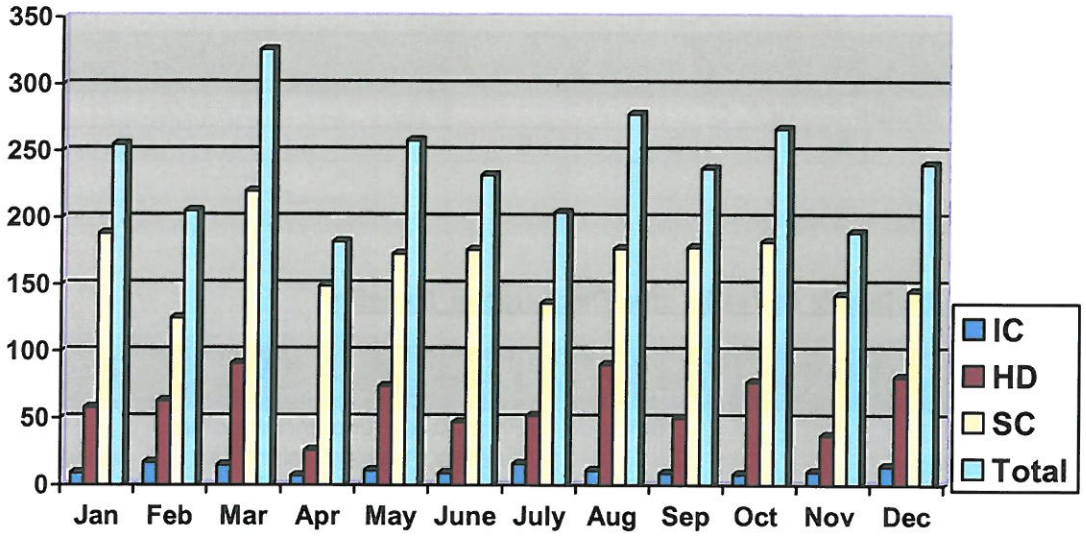


Table 11. Reasons for admission

Reason for admission	No. of admissions	% Admissions
Prematurity	61	24
For continuing care	65	25
Respiratory problem	35	14
Hypoglycaemia	26	10
Sepsis or suspected sepsis	15	6
Seizures	1	0.4
Feeding difficulty	12	4.7
Jaundice	6	2.3
Social reasons	2	0.8
Congenital anomaly	2	0.8
IUGR	5	1.9
Dusky episode	6	2.3
Suspected surgical problem	4	1.6
NAS	5	1.9
Apnoeic episode	2	0.8
HIE/birth problem	9	3.5
Suspected Cardiac problem	1	0.4

Table 12. Details of deaths in SCBU

Booking	Gestation (Wks)	Weight (g)	Diagnosis	Days of stay	PM done
Inborn deaths					
0	0	0	0	0	0

Table 13. Details of deaths after Discharge or Transfer

Booking	Gestation (Wks)	Weight (g)	Diagnosis	Days of stay	PM done
NHH	32	1550	Prematurity, unplanned home delivery, hypoxic ischaemic encephalopathy, Dandy Walker malformation, aortic stenosis	2 (first admission) Died 24/3/2011	yes

Table 14. 12 years comparison of activity

Year	IC	HDU	IC+HDU		SC days		Total days	% Occupancy (12 cots)
1998			162				2504	57
1999			121				2298	52
2000			133				2718	62
2001			117				2058	47
2002	76	282	358		2470		2828	65
2003	65	447	512		2565		3077	70
2004	75	399	474		2637		3111	71
2005	84	458	542		2415		2957	68
2006	104	709	813		2143		2956	67
2007	147	746	893		2028		2921	67
2008	140	907	1047		2162		3329	73
2009	145	712	857		1821		2680	61
2010	**136**	**746**	**882**		**1991**		**2873**	**66**

Figure 2. Levels of activity 2003-2010

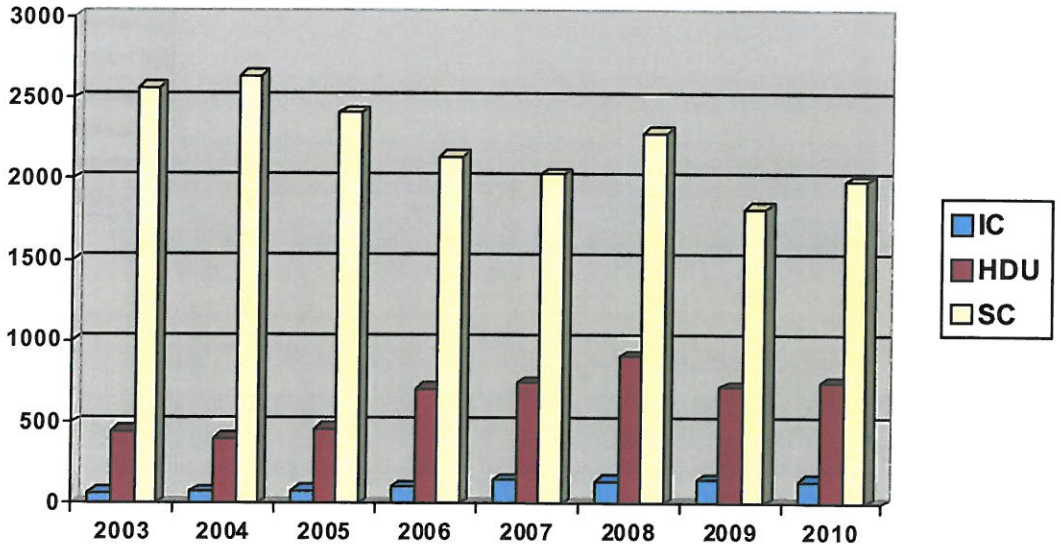
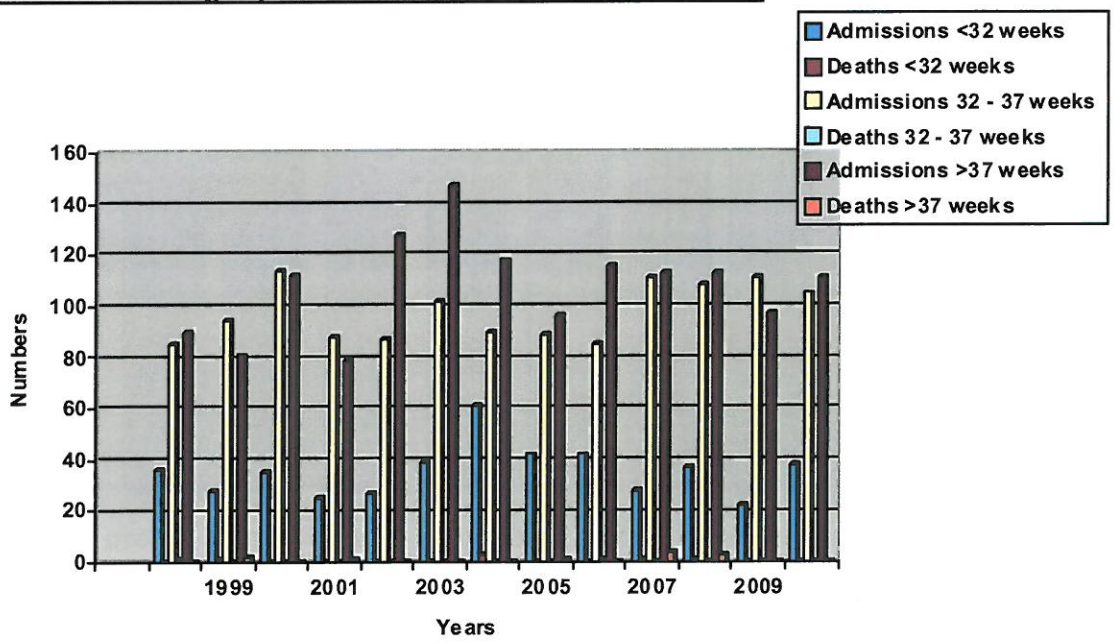


Table 15. Gestational Age Specific Admissions and Deaths 1998 – 2010 (excluding readmissions, based on admissions in 2010)

	Admissions <32 weeks	Deaths <32 weeks	Admissions 32–37 weeks	Deaths 32-37 weeks	Admissions >37 weeks	Deaths >37 weeks
1998	36	0	85	1	90	0
1999	28	1	94	0	81	2
2000	35	0	114	0	112	0
2001	25	0	88	0	79	1
2002	27	0	87	0	128	0
2003	39	0	102	0	147	0
2004	61	3	90	0	118	0
2005	42	0	89	0	96	1
2006	42	0	85	1	116	0
2007	28	1	111	0	113	4
2008	37	1	108	0	113	3
2009	22	0	111	0	97	0
2010	**38**	**0**	**105**	**0**	**111**	**0**

Figure 3. Gestational age specific admissions & deaths 1998 - 2010



North Gwent Neonatal Liaison Team

Gwent now operates an outreach liaison service which covers all Gwent both North and South via a centrally based allocation system. The statistics for North Gwent are therefore included in the Royal Gwent Hospital Annual Report.

Table 16. Summary of Audits (2010)

Title	Done by/Date	Period	Standard	Findings	Recommendation	Comment
Audit of the Gentamicin Guideline Are we seeing an excess of high trough levels?	Dr Chris Poh	Sept 2009 to May 2010 Presented 16/07/2010	Gwent neonatal unit guidelines	Apparent high number of trough values above recommended level.	Drop dosage by 0.5mg	Reaudit after the change
Audit of Perinatal and Postnatal GBS guideline	Dr Richard Davies	Presented 16/07/2010	Gwent neonatal unit guidelines	Cases where infant should have received postnatal antibiotics, but did not. Antenatal information not always known perinatally	Develop care pathway for use by midwives, obstetricians and paediatricians	Re-audit following introduction of care pathway
Audit of neonates admitted with weight loss	Dr Hari Bodla	Presented 31/08/2010	Infants should not lose more than 10% of birth weight	Higher than expected number of infants admitted with >10% weight loss	Weigh babies in community earlier than 10 days	Re-audit 12 months