North West London Perinatal Network NHS

ANNUAL REPORT

Year 2006

Key achievements 2006:

- **Production and launch of parent DVD 'Born too Soon'**
- **All units entering data onto SEND**
- **Reporting activity on babies born <27 weeks gestation**
- **Capacity and transfers monitored and reported using SEND**
- **Commissioning aligning with network developments and flows**
- **94% of booked women receiving all care in the network**
- **Benchmarking exercises**
- **Dissemination and sharing best practice**

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Jacquie Kemp - Perinatal Network Manager

Merran Thomson - Perinatal Network Deputy Clinical Lead

Lyn Ronnie - Perinatal Network Lead Nurse

Ian de Vega – Perinatal Network Data Manager

All neonatal unit activity data reports and analysis provided by Ian de Vega from the SEND and verified and validated by the DMAG and CP&G

1. Introduction

The North West London Perinatal Network continues to work for the benefit of mothers and babies booked into the seven maternity units which comprise our network. Despite the problems faced by the individual trusts the collective working of the network has been a great success with 94% of booked women continuing to be cared for within our network.

Just as the North West London Perinatal Network has evolved over the last 12 months so has the annual report. It is a reflection of the focus that the network has on robust and high quality data collection. All the network units were collecting data on SEND (Standardised Electronic Neonatal Database) or Badger by the end of 2005 therefore we are able to present calendar year data for 2006.

It is always dangerous to identify individual successes in an organisation which is dependent on the commitment and hard work of so many individuals however this year has seen the fruits of some of the early initiatives. The User Group DVD was launched and well received by all who saw it. Its strength is due to the foresight of those involved who clearly saw the benefits of including both parents and staff. It is therefore informative and yet sensitive to the emotions of parents who will be seeing it at a time of great stress when their baby is in the neonatal unit.

The appointment of a data manager has resulted in both the collection of high quality data and its use by the CP&G group to produce audits and benchmarking exercises across the network. There is no doubt that we lead the way in utilisation of our data to inform and improve clinical practice.

There are many challenges in the future some of which are general to neonatal networks throughout the country whereas others are specific to North West London. We may have to justify the need for managed neonatal networks however the progress which we have made in so short a time will speak for itself. We should be proud of the service which we are providing for the mothers and babies of North West London.

Michele Cruwys
Clinical Lead

2. Perinatal Network Board Membership 2006

2006	Name	Email Address
Chairman *	Ian Ayres	Ian.ayres@hillingdon.nhs.uk
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User representative *	See user group below	
PCT representative (s) *	David Kemsley	David.kemosley@hillingdon.nhs.uk
Academic rep *	David Edwards	david.edwards@imperial.ac.uk
TVU representative	Karissa Jowaheer	karissa.jowaheer@tvu.ac.uk
Paediatric Surgery rep	Nick Madden	n.madden@imperial.ac.uk
Public Health rep *	Jean Chapple	jean.chapple@westminster-pct.nhs.uk
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Trust Representatives * voting 1 per Trust)		
QCCH	Ann Maloy	amaloy@hhnt.org
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Subgroups	**Name of lead**	**Email Address**
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Deputies	Richard Nicholl Cecilia Lam	richard.nicholl@nwlh.nhs.uk cecilia.lam@nwlh.nhs.uk
Clinical Practice & Governance	Merran Thomson	merran.thomson@imperial.ac.uk
Deputy	Jide Menakaya	Jide.Menakaya@thh.nhs.uk
Research & Development	David Edwards	david.edwards@imperial.ac.uk
Deputy	Peter Chow	peter.chow@st-marys.nhs.uk
Data Information and Management	Neena Modi	n.modi@imperial.ac.uk
Deputy	Gary Hartnoll	gary.hartnoll@chelwest.nhs.uk
User Group	Heather Naylor	hnaylor@hhnt.nhs.uk

Terms of Reference of the Substantive Board

(Reviewed and Agreed at NWLPN Project Board meeting July 2006)

AIM OF THE PERINATAL NETWORK

Following the national and local review of neonatal services, it is recommended that Managed Clinical Networks are seen as a way of ensuring that all organisations within a locality can work together to improve the services provided to babies and their families. In particular, this means improvements in the quality of the service, access to the service and seamless care across the primary, secondary and tertiary interfaces.

The role of the Network Board will be, in the first instance, to develop the role, remit and structure of the proposed Managed Clinical Network for Perinatal Care.

Objectives

1. To steer the development of a managed clinical network in neonatal care whose primary objective is to provide all levels of neonatal care for 95% of mothers and babies within the network area in which they live.
2. To ensure that mothers and babies are treated in the right place, at the right time and by appropriately skilled staff.
3. To deliver this through the support and development of the two Perinatal Centres within the sector to develop seamless pathway of care for mothers and babies. (This means there will be a common strategy and consistency in the way in which services are provided. It does not mean a single unit of management)
4. To agree and implement plans that reflects the network configuration of services and needs of the network to achieve its objectives.
5. To act inclusively of the experiences and opinions of all stakeholders as represented in the board membership by, for example: user/parent representatives, clinicians from all involved professions, commissioners' etc.
6. To work collaboratively with specialist commissioning to agree capacity and configurations planning and quality monitoring. Ensuring that network and specialist commissioning plans are interlinked
7. To develop common care pathways and clinical protocols for managing the patient pathway within the network.
8. To be engaged in the London-wide development of shared comparable dataset and systems, to support the collection of relevant clinical and management information within the network for monitoring patient activity and outcomes.
9. To agree and implement plans for expenditure within the Perinatal Network.
10. To set and agree common standards across the network and support feedback on clinical governance issues to individual Trusts.
11. To work with the NWL Workforce Development Confederation to scope the network's current and future workforce needs, and support the development of an education and recruitment plan for all staff within the network.
12. To maintain on going link and share information with workforce lead at the SHA.
13. To foster teaching and research in the area of perinatal care.
14. To review in parallel maternity services and their relationship to neonatal intensive care and other inter dependent services.
15. To ensure that the network maintains links with other networks as appropriate.

NORTH WEST LONDON PERINATAL NETWORK BOARD MEMBERSHIP

Chair – A PCT Chief Executive
Strategic health Authority Representative
Lead Clinician
Lead Nurse
Network Manager
Trust Representatives (3 nominated representatives per Trust. Personnel to cover Neonatology, Obstetrics, General Management, Neonatal Nursing and Midwifery)
PCT Representatives (Public Health and Commissioning)
One to three users (three nominated to ensure at least one is always present)
Surgical Representation
Academic Representative from Imperial

27-30 members variable

Membership is to be nominated by the Chief Executive of each constituent organisation.

Representation on the Network Board may be delegated appropriately to a relevant deputy within each organisation. It is the responsibility of each member to communicate within their own organisations, so those deputies are kept up to date on the work of the Network Board. Sub group can be represented by their Chair as this person may already be on the Board. Sub Groups do not hold a voting right.

Other colleagues and specialist support will be co-opted as necessary to support the work programme of the network.

Reporting Arrangements

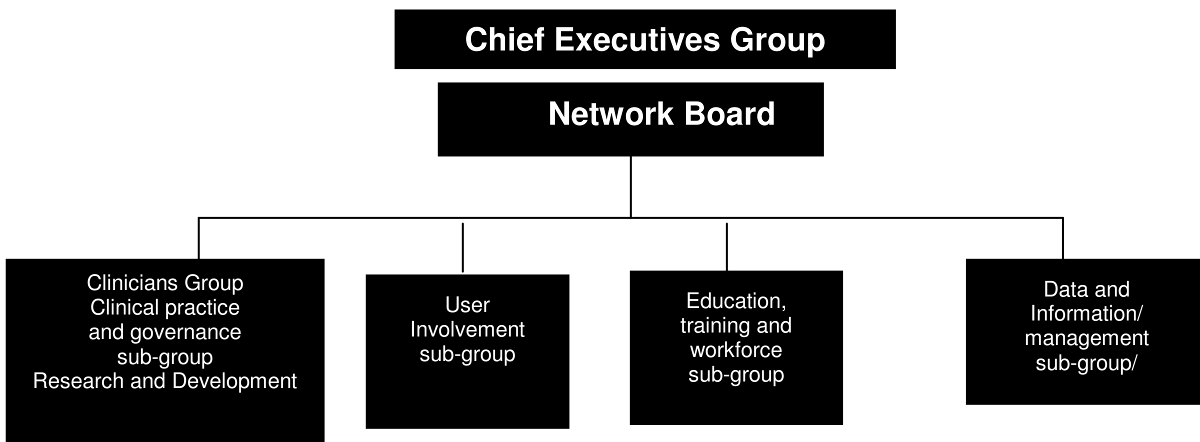
The Network Board will report to the Chief Executives Group, London SHA and to the London Perinatal Steering Group.

Review: These terms will be reviewed annually.
Last Review July 2006

Proposed Structure for Network Board

The Network Board recommends the structure shown in Fig. 1. The sub-groups cover the key functions that the Board believes the Network needs to focus on to deliver the network objectives

Fig. 1 recommended structure for the North West London Perinatal Network



Quorum and voting

Voting members of NWLPN Board

1. Chairman (casting vote)
2. Lead clinician
3. Deputy lead clinician
4. Lead nurse
5. Network Manager
6. User representative (one vote)
7. Specialist Commissioning (one vote)
8. Academic representative
9. Public health representative

10 -17. one vote per Trust

Quorum of Network Board

In the event of a decision requiring a vote by the network board, it has been agreed that a quorum will consist of 4 of the 7 Trusts with a minimum twelve of the voting members present at the meeting. It is has been agreed that issues likely to become voting issues will be notified on the agenda for Board meetings.

3. Network Activity data for 2006

The tables which follow show the work load in the individual neonatal units as well as the transfer of babies across the networks. It is important to highlight the fact that our network continues to offer care to large numbers of babies from across the south east of England. In 2006 the NW London perinatal centres provided care for 68 babies from other networks who were < 27 weeks gestation within first 7 days of life (36 *In utero* and 32 postnatal transfers), which represented 43% of the admissions in this gestational group. The reason that we continue to be able to provide intensive care cots for babies from other networks is because we expanded the special care provision with the funding in 2004. At that time it was clear that a shortage of special care cots was preventing babies being returned to their local units for continuing special care thereby blocking intensive care cots in the perinatal centres. Funding was used to open special care cots in Northwick Park and Ealing Hospitals.

These tables do not show the number of babies receiving specialist care in the perinatal centres. Babies of all gestations are transferred into QCCH for tertiary neurological and neuromuscular opinions. Chelsea and Westminster Hospital provides care for a wide variety of surgical problems and continues to admit babies from both within and without our network.

The NW London perinatal network remains the most effective in providing care for women booked in the 7 constituent hospitals however it is important to continue to scrutinise the data to ensure that the drive to provide care to babies < 27 weeks gestation in the perinatal centres does not result in higher gestation babies being transferred out of their hospital of booking.

Table 1
North West London Perinatal Network Neonatal Unit Activity by Unit
Activity presented is for 1 January 2006 – 31 December 2006

Year 2006	CWH	EH	HH	NPH*	QCCH	SMH	WMH	Total
Total mother's who delivered	4939	2660	3683	4623	4769	4456	3790	**28920**
Total births	5039	2694	3736	4715	4937	4551	3836	**29508**
Live births	5027	2669	3714	4672	4885	4524	3812	**29303**
Admissions to NNU	526	231	299	435	554	289	396	**2730**
Intensive care days (BAPM 1992)	3829	256	1151	1343	4552	2173	357	**13661**
Intensive care days (BAPM 2001)	2621	96	513	654	3270	943	215	**8312**
High dependency care days (BAPM 1992)	1141	24	158	229	851	294	18	**2715**
High dependency care days (BAPM 2001)	2636	331	863	1132	1877	1524	286	**8649**
Special care days (BAPM 1992)	5799	3033	3588	6338	3029	4296	3137	**29220**
Special care days (BAPM 2001)	5512	2886	3521	6124	3285	4296	3011	**28635**

* incl Brent Birth Centre at Central Middlesex Hospital maternity data

Table 2a
Total Babies* by Gestational Age at Birth (*completed weeks*) and Unit

Tables 1a and 1b below show the total number of babies admitted to the network units during calendar year 2006. Babies within these two tables are counted in their first neonatal unit of admission to avoid double counting.

Gestational age at birth	CWH	EH	HH	NPH	QCCH	SMH	WMH	Total
23	2	0	1	1	9	2	0	**15**
24	15	0	2	3	21	3	4	**48**
25	10	1	2	0	29	18	1	**61**
26	20	0	6	2	21	6	2	**57**
27	13	4	6	5	18	9	2	**57**
28	12	1	4	12	26	8	7	**70**
29	17	4	9	8	19	9	5	**71**
30	11	5	18	11	27	17	3	**92**
31	15	9	11	17	18	17	6	**93**
32	18	16	23	18	32	18	10	**135**
33	43	15	17	21	33	25	19	**173**
34	41	17	35	44	33	15	41	**226**
35	32	12	8	28	18	11	26	**135**
36	24	10	19	33	27	17	21	**151**
37	21	16	17	18	27	17	14	**130**
38	44	17	17	37	34	22	32	**203**
39	33	16	17	38	28	23	55	**210**
40	22	19	25	54	38	24	44	**226**
41	34	15	21	35	21	19	35	**180**
42	7	3	9	7	3	2	32	**63**
43	0	0	0	0	0	0	1	**1**
Total	**434**	**180**	**267**	**392**	**482**	**282**	**360**	**2397**

Table 2b
Total Babies* by Birth Weight and Unit

Birth Weight	CWH	EH	HH	NPH	QCCH	SMH	WMH	Total
<500	1	0	0	0	1	2	0	**4**
500-749	19	0	6	5	55	16	3	**104**
750-999	33	1	10	7	42	17	8	**118**
1000-1249	29	11	20	21	47	19	9	**156**
1250-1499	24	10	21	25	44	23	11	**158**
1500-1749	32	18	18	27	36	25	21	**177**
1750-1999	40	26	28	45	42	25	29	**235**
2000-2249	50	13	34	35	27	14	33	**206**
2250-2499	25	21	21	36	27	21	28	**179**
2500-2999	56	29	27	54	53	36	60	**315**
3000-3499	66	33	36	69	57	46	71	**378**
3500-3999	42	13	26	45	38	21	66	**251**
≥4000	17	5	20	23	13	17	21	**116**
Total	**434**	**180**	**267**	**392**	**482**	**282**	**360**	**2397**

* Babies are assigned to hospital of first admission within Network to avoid counting the baby more than once.

Table 3a
Total Admissions by Source of Admission and Unit**

North West London Perinatal Network accepted 493 (18%) non-Network referrals for the calendar year 2006.

Type of referral	CWH	EH	HH	NPH	QCCH	SMH	WMH	Total
Inborn – Booked	286	161	240	353	284	227	325	**1876**
Inborn – Network *In utero* transfers in	8	1	10	8	48	1	1	**77**
Inborn – non-Network *In utero* transfers in	42	5	8	9	78	25	2	**169**
Inborn – Unbooked	5	3	1	5	5	5	1	**25**
Postnatal transfers in – Network	79	43	21	38	46	8	24	**259**
Postnatal transfers in – non-Network	106	18	19	22	93	23	43	**324**
Total	**526**	**231**	**299**	**435**	**554**	**289**	**396**	**2730**

Table 3b
Total Admissions by Perinatal Network and Unit**

Perinatal Network	CWH	EH	HH	NPH	QCCH	SMH	WMH	Total
London - North West	422	213	280	414	461	266	353	**2409**
London - North Central	5	10	0	6	12	3	3	**39**
London - North East	13	0	1	1	16	5	0	**36**
London - South East	9	1	0	1	4	6	1	**22**
London - South West	14	1	0	1	2	2	0	**20**
Bedfordshire & Hertfordshire	11	0	0	0	4	0	0	**15**
Central South Coast	0	0	0	0	2	0	0	**2**
Essex	6	0	0	0	9	2	0	**17**
Kent	8	2	0	2	0	0	2	**14**
Norfolk, Suffolk & Cambridgeshire	2	0	0	2	0	0	0	**4**
Surrey & Sussex	17	0	0	0	6	1	0	**24**
Thames Valley	6	0	4	0	7	0	2	**19**
Trent - North	0	0	0	0	0	1	0	**1**
Wales - South	1	0	0	0	0	0	0	**1**
Western	0	0	0	0	1	0	0	**1**
Grand Total	**514**	**227**	**285**	**427**	**524**	**286**	**361**	**2624**

Other	CWH	EH	HH	NPH	QCCH	SMH	WMH	Total
Home	6	2	9	1	25	2	33	**78**
Other	3	0	0	0	0	1	0	**4**
Great Ormond Street	0	2	5	4	4	0	2	**17**
Royal Brompton	3	0	0	3	1	0	0	**7**
Grand Total	**12**	**4**	**14**	**8**	**30**	**3**	**35**	**106**

** Includes all admissions to the unit (excludes readmissions to the same unit). Baby may be counted more than once across the network.

Table 3c
Total Discharges/Transfers/Deaths by Perinatal Network and Unit

Perinatal Network	CWH	EH	HH	NPH	QCCH	SMH	WMH	Total
London - North West	46	18	22	17	103	9	25	**240**
London - North Central	6	0	2	0	16	1	0	**25**
London - North East	14	2	4	2	17	7	0	**46**
London - South East	15	0	1	2	13	7	1	**39**
London - South West	12	0	0	1	8	4	0	**25**
Bedfordshire & Hertfordshire	9	0	1	0	13	1	0	**24**
Central South Coast	0	0	0	0	2	2	0	**4**
Essex	7	0	0	0	13	2	1	**23**
Kent	7	0	1	3	5	1	1	**18**
Midlands - Central	0	0	1	0	0	0	0	**1**
Midlands - North	0	0	0	0	1	0	0	**1**
Norfolk, Suffolk & Cambridgeshire	1	0	0	2	2	0	0	**5**
Surrey & Sussex	19	4	0	0	13	1	0	**37**
Thames Valley	7	0	3	0	13	0	1	**24**
Yorkshire	0	0	1	0	0	0	0	**1**
Total transfers out to other NNU	**143**	**24**	**36**	**27**	**219**	**35**	**29**	**513**

Other	CWH	EH	HH	NPH	QCCH	SMH	WMH	Total
Died on Unit	24	3	3	10	42	16	2	**100**
Great Ormond Street	0	4	10	7	13	8	5	**47**
Home	207	138	171	280	166	122	208	**1291**
Royal Brompton	16	0	3	6	12	3	2	**42**
Ward	136	62	77	105	103	105	150	**737**
Total	**383**	**207**	**264**	**408**	**336**	**254**	**367**	**2217**

In total 602 babies were transferred to other hospitals, 513 to other neonatal units of which 240 (40%) within NWLPN, 135 (22%) to other London NNUs and 138 (23%) to NNUs outside London. A further 89 (15%) babies were transferred to GOSH or Royal Brompton for specialist care.

North West London Perinatal network continues to be an importer of babies from other networks. Tables 4a and 4b show which networks continue to transfer women into NW London by both birth weight and gestational age. The *In utero* transfers into NWLPN from non-Network units accounted for 17% of all babies with a birth weight <1500g.

Table 4a
Total *In utero* Transfers in by Non-NWL Network and Birth Weight

	Birth Weight (*grams*)												
Perinatal Network	500-749	750-999	1000-1249	1250-1499	1500-1749	1750-1999	2000-2249	2250-2499	2500-2999	3000-3499	3500-3999	≥4000	Total
London - North Central	1	3	3	1	1	1			2		1		**13**
London - North East	7	1	4	5		3	2	1			2		**25**
London - South East	7	6	3	1	5	2			2				**26**
London - South West	1	2		1			4		1	1	1	1	**12**
Bedfordshire & Hertfordshire	1	4	2	1	4	1	1			3			**17**
Cheshire & Merseyside											1		**1**
Essex	1	1		3	1	1	1			1			**9**
Kent		2	3	1	1	2				1		1	**11**
Midlands - Central							1						**1**
Norfolk, Suffolk & Cambridgeshire			1	1									**2**
Other*		1	4	1	1	3	1	4	2			1	**18**
Surrey & Sussex	1	3	4	7	1	2	3		1	4	1		**27**
Thames Valley			3		1	1		1					**6**
Trent - North	1												**1**
Grand Total	**20**	**23**	**27**	**22**	**15**	**16**	**13**	**6**	**8**	**10**	**6**	**3**	**169**

* Booking hospitals are Portland, Hospital of St John and St Elizabeth, Harley Street and Abroad

Table 4b
Total *In utero* Transfers in by Non-NWL Network and Gestational Age at Birth

Perinatal Network	Gestational age at birth (*completed weeks*)																		Total
	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
London - North Central		3	1	1	1	1	1	1	1		1			1	1				**13**
London - North East	2	3	3	2	2	1	1	1	1	6	1			1				1	**25**
London - South East	4	4	3	4	3		1			5		1		1					**26**
London - South West		1	1	1						3	1	2			1	1		1	**12**
Bedfordshire & Hertfordshire	1	1				4	2	1		2	2	1	1		1		1		**17**
Cheshire & Merseyside																	1		**1**
Essex		1	1				3			1		1		1	1				**9**
Kent			2		2		2		2			1			2				**11**
Midlands - Central															1				**1**
Norfolk, Suffolk & Cambridgeshire							2												**2**
Other*				4	2	1		2	1	6		1		1					**18**
Surrey & Sussex		2	1	2	2		3	3	3	3	2				3	2		1	**27**
Thames Valley			1		1	1				2		1							**6**
Trent - North		1																	**1**
Grand Total	**7**	**16**	**13**	**14**	**13**	**8**	**15**	**8**	**8**	**28**	**7**	**8**	**1**	**5**	**10**	**3**	**2**	**3**	**169**

* Booking hospitals are Portland, Hospital of St John and St Elizabeth, Harley Street and Abroad

North West London Perinatal Network also continues to see a large number of post natal transfers of babies. Tables 5a and 5b show which networks are transferring into the neonatal units within NW.

Table 5a
Total Postnatal Transfers in by Non-NWL Network and Birth Weight

	Birth Weight (*grams*)													
Perinatal Network	<500	500-749	750-999	1000-1249	1250-1499	1500-1749	1750-1999	2000-2249	2250-2499	2500-2999	3000-3499	3500-3999	≥4000	Total
London - North Central		5	9	1	4	2	2		3	5	2	5	1	**39**
London - North East	2	10	12	3	1	1			1	3	1	3		**37**
London - South East	1	6	3	2	1		2				3	3	2	**23**
London - South West		1	4	3		2		1	3	3	1	2		**20**
Bedfordshire & Hertfordshire	1	3	2	3		1			1	2		1	1	**15**
Central South Coast		2												**2**
Essex		2	9			1	1		1		1	2		**17**
Great Ormond Street			3	3		1	2		2		2	4		**17**
Kent			1	5	3	1	2	1				1		**14**
Norfolk, Suffolk & Cambridgeshire		1		2	1									**4**
Other		1						1				1	1	**4**
Royal Brompton		4	1				1				1			**7**
Surrey & Sussex		2	4	3	3	1	3	2	1	1	2	2		**24**
Thames Valley		3	5	3	2	2	1	1	1		1			**19**
Trent - North						1								**1**
Wales - South					1									**1**
Western						1								**1**
Grand Total	**4**	**40**	**53**	**28**	**16**	**14**	**14**	**6**	**13**	**14**	**14**	**24**	**5**	**245**

Table 5b
Total Postnatal Transfers in by Non-NWL Network and Gestational Age at Birth

Perinatal Network	Gestational age at birth (*completed weeks*)																				Total
	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	
London - North Central	1	3	6	2		1	2	1	1	4	1	2		1	1	5	2	5	1		**39**
London - North East	6	2	6	8	2	1	1		2			2		1	1	2	1		2		**37**
London - South East	2		4	4		1		2				1	1					2	3	3	**23**
London - South West		1		3	2	1		1	2		1	3		2		2			2		**20**
Bedfordshire & Hertfordshire	1	2	1	1	2	1			1			1			1			2	1	1	**15**
Central South Coast		1	1																		**2**
Essex		3	1	1	6					1	2							2	1		**17**
Great Ormond Street		2			2	1			1	1			1	2	1		1	1	4		**17**
Kent				1	2	3		4	1	1	1								1		**14**
Norfolk, Suffolk & Cambridgeshire		1				2	1														**4**
Other		1									1					1			1		**4**
Royal Brompton	1	1		2	1								1		1						**7**
Surrey & Sussex		2	1	2	3	3	2		1	1	2		1			2	2		2		**24**
Thames Valley	1	3		5	1	1		2		1	2	2							1		**19**
Trent - North								1													**1**
Wales - South								1													**1**
Western						1															**1**
Grand Total	**12**	**22**	**20**	**29**	**21**	**16**	**6**	**12**	**9**	**9**	**10**	**11**	**4**	**6**	**5**	**12**	**6**	**12**	**19**	**4**	**245**

4. Investment plan Consortia and Commissioning

The Perinatal network continues to work with the NW London PCTs to support the development of the NW London neonatal Units and has invested funding to support capacity, training and development within the network. Due to financial pressures funding requested from the PCTs was for those revenue costs that had been previously agreed.

Investment plan 2006/07

NWL Finance 2005/06	2005/06	2006-07 including uplift
Commitments from 2005/06		**Full year costs**
Contribution to NTS	346,840	346,840
Project Manager	28,000	28,000
Clinical Lead sessions	55,000	58,000
Data Manager	46,000	46,000
SEND	12600	12600
Nurse Educators	94500	94500
User group travel and child care	5,000	5,000
Milk bank Lab technician (PT)	20,000	20,000
Milk bank clerical (PT)	5,000	5,000
Pan London Web site	5,000	5,000
Admin Support	6,000	6,000
Total spend		**626,940**
Plus generic uplift		**657,867**
Total allocated (incl. uplift)	**981,000**	**1,059,480**
Balance		**401,613**
Service costs		
Ealing (4x SCBU cots)	149,856	155,850
Northwick Park (4x SCBU cots)	149,856	155,850
Chelsea (1x HD cot)	80,410	83,626
Total	**380,122**	**395,326**
Balance		**6,287**

Additional projects funded by the network

1. Transfer project: Funding for a one year project was agreed from slippage monies from 2005/06. The purpose of this was to identify the dominant challenges and facilitating factors experienced by parents and staff in relation to transfers across each unit within the network. The information gathered will be used to develop best practice guidelines for transfer including appropriate information for parents and staff. The post holder will work collaboratively with each unit to disseminate the findings and support any training needs.

2. Developmental outcomes project: This project aims to address one of the perceived key failings in the UK system of care of high risk newborns which is the lack of systematic longitudinal data from the perinatal to post-discharge period of their life. The recent SEND database inception is beginning to address some of the issues of standardised Perinatal and neonatal data collation longitudinally. The ideal will be to link the early life data to outcomes obtained from a standardised infant follow-up program.

The follow up program would focus on an integrated multi-disciplinary team that assesses health status, identify potential problems, plan initial management or interventions required and inform long-term health and educational needs in continuum with appropriate educational and health care teams or authorities. This will avoid lack of co-ordination with community programs such as the recently launched multi-million pound government initiative for high-risk families, SURESTART, which did not consult the neonatal fraternity with access to important information on one the major groups of high-risk mother and infant pairs most likely to develop significant health and developmental needs

5. Consortia and Commissioning Activity

In 2006/07 (financial year) NW London Perinatal Network saw decreased activity against the planned consortia intensive care cot days with **-714** days being delivered against the planned number. In high dependency NW London saw increased activity with **+482** days being delivered.

There were a total of **11,780** IC days completed in NW London units and **2,662** HD days giving a total of **14,442** IC/HD days in the five neonatal units involved. For NW London babies the IC days delivered were **7,788** and high dependency days **2,140**.

Of the total NW IC/HD activity, 69% was NW London own activity with 31% being other networks activity.

NW London Intensive care activity within NWLPN

ICU Actual 06/07	Chelsea & Westminster Hospital	Queen Charlotte's & Chelsea Hospital	Hillingdon Hospital	Northwick Park Hospital	St Mary's Hospital	**Grand Total**
Brent PCT	59	278	0	806	528	**1,671**
Ealing PCT	154	676	131	60	28	**1,049**
Hammersmith & Fulham PCT	388	629	0	0	0	**1,017**
Harrow PCT	48	145	17	333	64	**607**
Hillingdon PCT	28	310	871	0	10	**1,219**
Hounslow PCT	195	348	19	7	0	**569**
Kensington & Chelsea PCT	411	224	1	0	222	**858**
Westminster PCT	268	84	0	2	444	**798**
Total ICU Actual 06/07	1,551	2,694	1,039	1,208	1,296	7,788

ICU Planned 06/07	Chelsea & Westminster Hospital	Queen Charlotte's & Chelsea Hospital	Hillingdon Hospital	Northwick Park Hospital	St Mary's Hospital	**Grand Total**
Brent PCT	78	241	0	842	372	**1,533**
Ealing PCT	162	862	55	17	51	**1,147**
Hammersmith & Fulham PCT	276	559	0	2	1	**838**
Harrow PCT	97	43	6	793	87	**1,026**
Hillingdon PCT	33	88	1,140	38	140	**1,439**
Hounslow PCT	112	240	25	0	0	**377**
Kensington & Chelsea PCT	642	205	2	0	129	**978**
Westminster PCT	390	98	0	18	658	**1,164**
Total ICU Planned 06/07	1,790	2,336	1,228	1,710	1,438	8,502

ICU Variance 06/07	Chelsea & Westminster Hospital	Queen Charlotte's & Chelsea Hospital	Hillingdon Hospital	Northwick Park Hospital	St Mary's Hospital	**Grand Total**
Brent PCT	-19	37	0	-36	156	**138**
Ealing PCT	-8	-186	76	43	-23	**-98**
Hammersmith & Fulham PCT	112	70	0	-2	-1	**179**
Harrow PCT	-49	102	11	-460	-23	**-419**
Hillingdon PCT	-5	222	-269	-38	-130	**-220**
Hounslow PCT	83	108	-6	7	0	**192**
Kensington & Chelsea PCT	-231	19	-1	0	93	**-120**
Westminster PCT	-122	-14	0	-16	-214	**-366**
Total ICU Variance 06/07	-239	358	-189	-502	-142	-714

NW London High Dependency Care activity within NWLPN

HDU Actual 06/07	Chelsea & Westminster Hospital	Queen Charlotte's & Chelsea Hospital	Hillingdon Hospital	Northwick Park Hospital	St Mary's Hospital	Grand Total
Brent PCT	63	91	0	172	151	**477**
Ealing PCT	94	184	5	14	2	**299**
Hammersmith & Fulham PCT	192	256	0	0	0	**448**
Harrow PCT	32	14	0	178	2	**226**
Hillingdon PCT	26	26	107	0	0	**159**
Hounslow PCT	134	143	0	0	0	**277**
Kensington & Chelsea PCT	90	23	0	0	24	**137**
Westminster PCT	45	30	0	0	42	**117**
Total HDU Actual 06/07	676	767	112	364	221	2,140

HDU Planned 06/07	Chelsea & Westminster Hospital	Queen Charlotte's & Chelsea Hospital	Hillingdon Hospital	Northwick Park Hospital	St Mary's Hospital	Grand Total
Brent PCT	34	90	0	145	26	**295**
Ealing PCT	40	220	20	13	1	**294**
Hammersmith & Fulham PCT	65	247	0	0	0	**312**
Harrow PCT	32	19	0	147	4	**202**
Hillingdon PCT	2	10	31	15	0	**58**
Hounslow PCT	3	69	0	0	0	**72**
Kensington & Chelsea PCT	87	50	0	0	32	**169**
Westminster PCT	110	18	0	11	117	**256**
Total HDU Planned 06/07	373	723	51	331	180	1,658

HDU Variance 06/07	Chelsea & Westminster Hospital	Queen Charlotte's & Chelsea Hospital	Hillingdon Hospital	Northwick Park Hospital	St Mary's Hospital	Grand Total
Brent PCT	29	1	0	27	125	**182**
Ealing PCT	54	-36	-15	1	1	**5**
Hammersmith & Fulham PCT	127	9	0	0	0	**136**
Harrow PCT	0	-5	0	31	-2	**24**
Hillingdon PCT	24	16	76	-15	0	**101**
Hounslow PCT	131	74	0	0	0	**205**
Kensington & Chelsea PCT	3	-27	0	0	-8	**-32**
Westminster PCT	-65	12	0	-11	-75	**-139**
Total HDU Variance 06/07	303	44	61	33	41	482

NW London network used a total **10,939** IC/HD days in the consortia throughout London units, with **9,928** of these days (91%) being completed in one of the five NW London Neonatal Units. **1,011** (9% of total NW London IC/HD) days were carried out in another collaborative network unit. This out of network activity is influenced by Westminster PCT and Ealing PCT who have maternity SLAs at University College Hospital.

6. Sub Groups progress reports 2006

6a Clinical Practice and Governance Sub Group

The aim of this subgroup is to promote and develop high quality care pathways for mothers and babies. The basis of our governance practice is that care for the mother and baby should be provided in the unit most suitable to their clinical needs with transfer to a unit nearer home at the earliest appropriate opportunity. This will be achieved though the development of clinical practice guidelines and governance structure for the network with local implementation.

The group meets on a bi monthly basis; there is generally good representation from all network units. SEND has proved an invaluable tool allowing regular audit of approved network guidelines.

- The initial aim of the subgroup has been to ensure the NWLPN can meet the DoH stated goal of centralising intensive care for all babies below 27 weeks gestation by April 2006. Guidelines for the *In utero* transfer of babies below 27 weeks were implemented in 2005 and audited for the 2006. A total of 154 babies received some or all of their care within the NWLPN during their first 7 days of life, 45% were born to mothers resident outside the network. Only 7 babies (5%) were not born or transferred to level 3 units suggesting the guidelines were being followed and the NWLPN was indeed achieving this initial aim.

- An audit was completed to identify the reasons why babies were transferred out of network units to receive specialist medical, cardiac or surgical care during October 05 – September 06. 139 babies were transferred, 91 (65%) within sector. Of the 48 babies (35%) transferred out of NWLPN, 19 (14%) were transferred out of network because of the lack of an available cot within the NWLPN specialist centre, most commonly at RBH. Lack of a cot at RBH was the reason for transfer out of NWLPN for 11 (31%) of babies with a cardiac problem. No surgical cot was available at C&W for 6 babies, which is 9% of babies who required postnatal transfer for a surgical problem.

- Repatriation of babies born outside the network (October 05 – September 06) was also audited. 24 babies were repatriated of whom 17 were born unintentionally outside the network. The commonest reason for birth outside the NWLPN was *In utero* transfer because the unit of booking was either full or closed. These 11 mothers gave birth to 15 babies.

Progress has been made in several areas:

- Initial bench marking audits were undertaken for admission temperature and corrected age at discharge home for babies born 30-34^{+6} weeks, these showed variation across networks. Units wished to address these locally. Bench marking will be repeated in 2007.

- The clinical governance framework, notification system and SUI process was implemented in 2006 and highlight the need to improve the process of back transfer in particular. The reporting and investigation process will be evaluated during 2007.

- The previous work to improving the process of transfer back to local units for staff, babies and parents was continued; its success will be monitored though the clinical governance framework.

- Infection Control Practices for transferring babies between neonatal units were approved and have greatly eased the movement of babies between network units.

- 11 recommendations to improve the provision of Language Support within network neonatal units were approved by the board in mid 2006. This work was lead by Jide Menakaya who will review the progress made in 2007.

- Template Guidelines for Home Oxygen Therapy – Discharge Planning and Continuing Care received approval late in the year. Heather Naylor led this work.

- The CP&G is anxious to engage and work with the obstetricians of the network, they have developed a Fibronectin Guideline. Implementation will depend on funding being available within each trust. Nicky Jackson led this work.

Much work continues to be via email, meetings are usually well attended by medical, (paediatric and obstetric) and nursing staff. They provide a very useful forum for debate and development of guidelines. Allied health care professions within the network have developed links with each other and feed back to the CP&G.

Work in 2007 will include benchmarking of the breastfeeding support available to mothers, elective back transfers and visiting practices. Audit and clinical governance will be continued and should provide useful information to inform and improve clinical practice.

We are grateful to Ian de Vega, Network Data Manager for his invaluable help.

The Clinical Practice and Governance Sub Group would like to encourage all to participate. Ideas for new areas of work are welcomed. If you are interested please email MLoizia@hhnt.nhs.uk

Merran Thomson
Chair of Clinical Practice and Governance Sub Group

6b User Group

Introduction
The group has met four times in 2006 rotating the meetings on different hospital sites and alternating afternoon and evening meetings to facilitate attendance. Afternoon meetings have been supported where possible with childcare facilities.

The group welcomes parents and carers who have had babies in a Neonatal Unit in the NWLPN to share their experiences and views about the care and services provided and help to shape future service for babies and families.

Representation
The group has parental and professional representation from all 7 neonatal units. There is an attendance of 17 to 25 at meetings with about a third parental representation. A parent from the host hospital has co-chaired the meetings and there has been a parent user representation at board level. There is a core of parents who have been active in the group since its conception, those who have become involved more recently and some who have attended maybe only one or two meetings but continue to support it with electronic contact. Some parents have also attended meeting at the host hospital when their baby is still in the Neonatal Unit. Many parents attending have had experiences in more than one Neonatal Unit within the Network. Professional representation is a mix of Medical, Nursing and Allied Health Professionals.

ACHIEVEMENTS OF THE GROUP – 2006

Production of film 'Born Too Soon: Life on a neonatal unit'
This is the major achievement of the group in 2006 thanks to Charlotte Fisher and her team who produced the film '**Born Too Soon': life on a neonatal unit.**' This film was made by parents for parents with a baby on a neonatal unit, to give them an idea of what they may experience and how other parents have coped. The idea came from a father at Ealing, who found it difficult to visit his baby and felt that a film explaining about life on a Neonatal Unit would be helpful. It features interviews with parents whose children spent time on a Neonatal Unit as well as Nurses, Doctors and other specialists from the Network Hospitals.

Enormous gratitude is extended to Charlotte and all the families and staff who kindly participated and made this film possible. The film was launched on 19th September 2006 at the Moving Picture Company. Families and staff who featured in the film were invited.

The film is being used across the Network not only to support the families of premature and sick babies but for training purposes and as part of induction for new staff.

Collaboration Contact a Family
Rosie Noble presented how the organisation supports families with children with additional needs, providing up to date information and ensuring parents have opportunities to participate in the decision making process, which influences services

Collaboration and support from BLISS
Laura Burt, Branch and User Involvement Coordinator, presented BLISS' work with Neonatal Networks in the development of User Groups and training provided to both parents and professionals. [BLISS also presented findings to the Network Board].

Funding for transport project
Pressure from the User Group, with regards to the difficulties and stresses faced by families during the transfer process has helped to secure funding from the Network for a Transfer Project. The project will seek the views of parents and staff about transfer and will make recommendations for best practice.

Language support in the Network
Dr Jide Menakaya presented his finding to the group on the language support available to families in the Network. This was found to be variable. Feedback from the group on how families may be best supported helped formulate recommendations for best practice.

Survey of therapies for high risk infants
This piece of work was undertaken by Inga Warren, Developmental Care Consultant on behalf of the User Group following concerns raised about accessibility and availability of services for babies and young children after discharge from the neonatal unit.

The report illustrated a variable distribution of services with some families having more comprehensive, flexible and easily accessible services than others. It also highlighted a wealth of expertise available discuss the Network and work is underway within the Therapists' Network Group to explore models of best practice, sharing of professional knowledge and skills and the provision of training.

NWLPN Follow Up Programme
Following discussions by the group about services and follow up for babies and families after discharge it came to light the programme of Neonatal Follow up of high risk babies was variable across the Network both in relation to when babies were seen, by whom and whether the follow up included formal developmental assessment. This then had an impact on when any new problems were identified, appropriate referral pathways and prompt access to specialist services.

The Network has funded a project co-ordinated by Dr Enitan Ogundipe to develop a follow up programme for babies who have received Neonatal Intensive Care in the NWLPN. Its aim is to develop recommendations for follow up based on agreed minimum requirements and an ideal gold standard model.

Recruitment to the Group
Encouraging new and recent parents to join the group continues to be a challenge. The process relies on local staff representatives to promote the group within their own hospitals and using existing forums such as parent groups and out patients. There are posters and information leaflets about the group to help with advertising and for information. Parents are encouraged to share information about the group with other families they may still be in touch with.

Plans for 2007
- To improve recruitment to the group
- Feedback on Transfer and Follow Up projects to the User Group and working with project coordinators in agreeing recommendations for best practice.
- Provision of written information for parents that can be used Network wide.
- Development of initiatives with the Network Therapist Group to improve care and services provided.
- Network Newsletter

Acknowledgements
The collaboration between parents and professionals is giving the opportunity for genuine parent involvement and greater transparency and openness in decision making.

It is the commitment, energy and enthusiasm of our parent users that has enabled the group to grow and develop over the last two years and begin to really influence the provision of care and services provided within the NWLPN.

The ongoing support from the hospital representatives, Allied Health Professionals, Voluntary Agencies, Network Clinical Lead Nurse, Network Manager and the Network Board has been invaluable to the User Group in attaining it's achievements to date.

Heather Naylor
User Group Lead

6c Data Management and Analysis Sub Group

The principle activities undertaken by the NWLPN DMAG in 2006/7 have been:

1. to oversee the implementation of the SEND (Standardised Electronic Neonatal Data) system.
    - Ian de Vega, NWLPN has been instrumental in this process throughout; the seventh unit going on-line in the summer of 2007; data completeness is excellent for core data though poor for some areas such as two-year outcomes

2. to advise on the production of the Network Annual Report
    - the format for the Network Annual Report has been discussed at meetings of the DMAG through 2007; the final report, prepared by Ian de Vega follows wide consultation, feedback and revision

3. to facilitate the use of NWLPN data to support wider aims
    - a process for requesting approval for access to NWLPN data has been drawn up and was agreed in December 2006
    - projects aiming to enable neonatal infection surveillance and improved monitoring of neonatal necrotizing enterocolitis have been presented to the Board and have received approval
    - an excellent survey of lactation outcomes in NWLPN neonatal units was undertaken by Imperial College BSc student Ryan O'Leary and provides information that should lead to clinical improvements

4. to maintain and develop links with local and national agencies involved in perinatal data capture and utilization
    - members of NWLPN DMAG serve on a number of national and regional Boards and Working Parties involved with newborn data collection and related issues

Conclusions and recommendations
NWLPN has and continues to lead the way in neonatal data collection, data management and data analysis, regionally and nationally; the major credit for this achievement is due to the efforts of Ian de Vega, Network Data Manager.

A key area for development over the next financial year must be upon implementation of processes for improved data quality assurance and data completeness.

The DMAG encourages the use of NWLPN data to improve service delivery and outcomes for newborns and their families.

Neena Modi
Chair of DMAG

Gary Hartnoll
Deputy Chair of DMAG

6d Education and Training Sub Group

Network Training
The group has focused on opportunities to extend both existing opportunities and to create new initiatives that all the Units would have the opportunity to access.

Feeding and Nutrition Workshop
Following a Network Needs Analysis, a scoping exercise by the Allied Health Professional group identified that some units offer nurse teaching and training.

Key themes within the training currently offered include; development of preterm feeding including breastfeeding, prevention and management of feeding difficulties and ensuring sufficient growth and nutrition. There was a great variability in the resources available in each unit to support this training and therefore currently not all nurses are able to access this expertise within the network. Funding was secured which entailed practical teaching/ training sessions for multidisciplinary staff to look at optimising feeding practices to facilitate transition to full oral feeding and optimise growth.

While this programme is still work in progress, early feedback has been very good.

Hopefully we will be able to establish and deliver an annual Network Study Day to share best practice in the future

Scenario Training
Following a successful bid from the Bliss Innovations Scheme, Dr. Lidia Tyszczuk and her team have been able to offer the Network Units the opportunity to participate in a Neonatal Simulation Course.

The course aims to improve technical skills, decision making, communication and team work in response to a crisis. Clinical simulation allows for unlimited practice in managing difficult situations that might otherwise be only rarely encountered clinically.

Benchmarking
The Practice Education Nurses in the network continue to work alongside the Clinical Practice Governance Group to deliver on the benchmarking tool.

Workforce Planning
This will form the focus for next year's programme of work.

Tom Lissauer
Chair of DMAG

Ann Maloy
Deputy Chair of DMAG

6e Research and Development Sub Group

This subgroup was initially led by Professor Edwards and Dr Chow. The aim had been to not only focus on local issues but also to have a remit in some exciting national initiatives. This proved to be very difficult and following discussions the decision was made to try and refocus the subgroup with the emphasis on local research and working with the CP&G subgroup to assess published research which might then be translated into network guidelines.

Dr Sabita Uthaya became the chair in late 2006.

Dr Sabita Uthaya
Chair of Research and Development Sub Group

6f Therapists Group

Over the last year this group have met on 4 occasions, the venue rotating through member sites of the NWLPN.

The group has continued to be a point of contact for therapists working in the NWLPN. A role of sharing good practice is developing through the organisation of presentations by members at its meetings.

Caroline King
Clinical Lead Paediatric Dietetics Hammersmith Hospitals NHS Trust

7. Nursing Report

The senior nurse managers group met quarterly throughout 2006.

This groups functions to facilitate strategic and operational communication between units at a nursing level.

Nursing representation on the sub groups has been good. Notably high for Clinical practice ND Governance, Education and Workforce and User groups

A focus throughout the year has been to ensure operational support of the clinical initiatives from network sub groups e.g.

- Facilitating smooth transfer of babies between hospitals by promoting use of information forms developed by the CP&G group.
- Supporting the development of neonatal community nursing posts at West Middlesex and Ealing Hospitals.
- Informal sharing of practice solutions in direct response to network temperature and age on discharge benchmarks.

The group identified the 'top ten' training requirements for nursing throughout the network. This was reported to the education group for further work and development of action plan.

Senior nurses identified shortage of specialist trained nurses throughout the network and lobbied individual trust via the NWL SHA to commit to establishing a 30%/70% ratio of UQIS to QIS. Positive responses from trusts with lowest ratios were reported.

Lynn Ronnie
Lead Nurse NWLPN

8. The Future

There is no doubt that the development of the perinatal network has benefited women and babies in NW London. The collaborative work done by the sub groups, the involvement of users, the inclusion of all the units in the monthly clinical meetings and the development of network guidelines are all indications of the will to provide better care. The challenge will be to maintain this impetus in the coming years.

Challenges will be both local and national. The merger of QCCH and SMH will undoubtedly result in restructuring of the services provided by both trusts and may have an impact on the network.

Staffing, both medical and nursing will continue to be an issue. The European Working Time Directive will further shorten the time that doctors can work necessitating the employment of more doctors or finding alternative staffing arrangements to cover the shortfall. Although BAPM, BLISS and nursing organisations have long called for 1:1 nursing of babies receiving intensive care it is likely that we will need to review this given the shortage of senior nurses in London.

Although paediatricians and neonatologists have prioritised the importance of the network there continues to be difficulty in engaging with the obstetric and midwifery staff. They are dealing with far larger numbers of patients/clients, the majority of whom do not need to receive any care out of the hospital of booking. This is not unique to NW London and remains a significant issue across London.

9. Appendices

Appendix A

Admission temperature of inborn babies admitted to NWLPN units within the first 24 hours of life.

Benchmark time period 1st October 2005 to 30th September 2006

Method
Admission temperature is known to predict neonatal morbidity and outcome. In August 2006 the CP&G subgroup decided to benchmark admission temperature within the network and defined normal admission temperature to be 36.5 – 37.5C. The seven neonatal units in the NWLPN have used the SEND database to record a standard basis data set since 1st October 2005. The SEND was searched to identify all inborn babies admitted to NWLPN units within the first 24 hours of life, admission temperature, gestational age, and units were recorded. In one unit admission temperature was not recorded for 23% of inborn admissions, this unit was therefore excluded from the benchmarking process. Data was available for 1686 babies.

Results
The data presented below summaries the admission temperatures for babies admitted to 6 units within the NWLPN.

The admission temperature of babies <24hrs of life has a standard deviation of 0.666 over a mean of 36.41 giving a coefficient of variation of 1.83%, thus indicating that there is very low variability in the data. The negative difference between the mean (36.41°C) and the median (36.50°C) suggests that the data are slightly skewed in nature with a tail of the distribution to the left. The very small positive value of the skewness confirms the tail to the left in the graph of the distribution. The interquartile range (IQR, the range between the 25th and 75th percentiles) is 0.8°C.

The graph of the distribution of the admission temperature (figure 1) shows that the data peaks at 36.0 to 37.5 indicating that the majority of babies are admitted with this admission temperature. There is then a gradual tail to the left of the distribution where there is a steady decrease in the number of babies with an admission temperature below 36°C.

Descriptive statistics, admission temperature	
Number of records	1686
Mean	36.41
Median	36.50
Standard deviation	0.666
Skewness	0.000
Kurtosis	0.000
Min-max	33.0 – 39.6
25th percentile	36.0
75th percentile	36.8

800 (47.5%) babies meet the agreed standard admission temperature 36.5 – 37.5C.

320 (19%) babies were admitted with temperatures below 36C and therefore experienced hypothermia.

32 (1.9%) babies were admitted with temperatures below 35C and therefore experienced significant hypothermia.

56 (3%) babies were admitted with temperatures above 37.5C

Figure 2 shows the percentage of all babies with an admission temperature above 36.4C (red-yellow) and broken down by gestational age groups <30 weeks, 30-35.6 weeks and 36 weeks onwards. Although more babies born below 30 weeks (58%) have admission temperatures below the agreed standard (blue), hypothermia is prominent across all gestational age groups. Figures 3a-c provides a more detailed illustration based on gestational age groups.

Figure 4 (page 4) compares the mean admission temperature for each unit (coloured squares) with the agreed standard admission temperature 36.5 – 37.5C (red lines). The NWLPN mean admission temperature is 36.4C (blue line) which lies outside the standard. Individually 4 of the 6 units have mean admission temperature below the standard.

Each participating unit has received their own individualised report comparing their unit to the NWLPN as a whole.

Conclusion

Bench marking of admission temperature for inborn babies admitted to 6 units in the NWLPN shows that the agreed standard was met in only 47.4% of babies. The adoption of a quality improvement program which concentrates on individual unit needs may provide a way to improve admission temperature. The Clinical Practice and Governance subgroup plans to work to establish such a program.

Ian de Vega, NWLPN Data Manager.
Merran Thomson, Chair of Clinical Practice and Governance Subgroup, NWLPN.

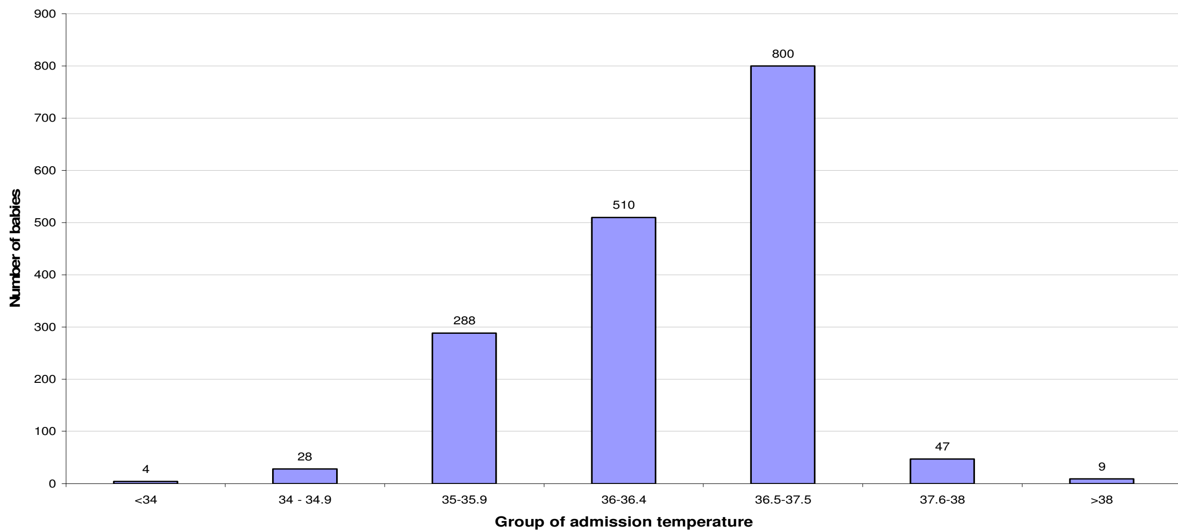


Figure 1 Distribution of admission temperature

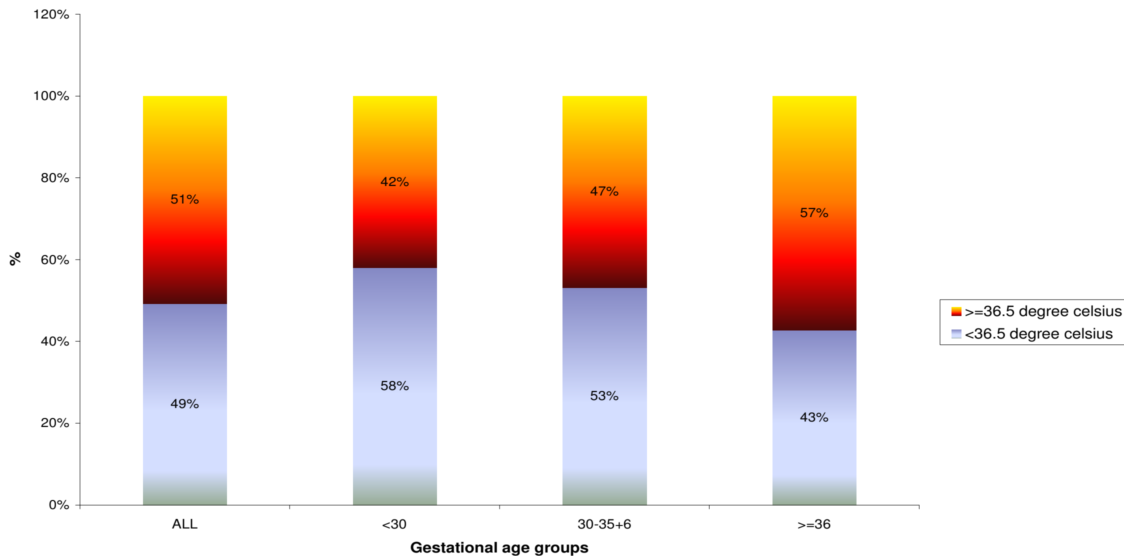


Figure 2 Admission Temperature by gestational age groups

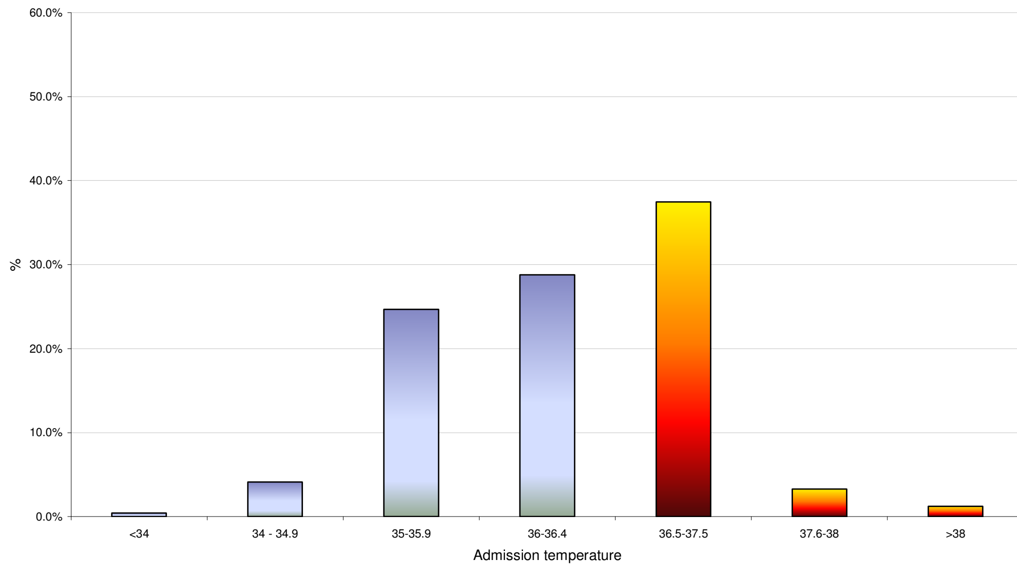


Figure 3a Distribution of admission temperature by gestational age at birth <30 weeks

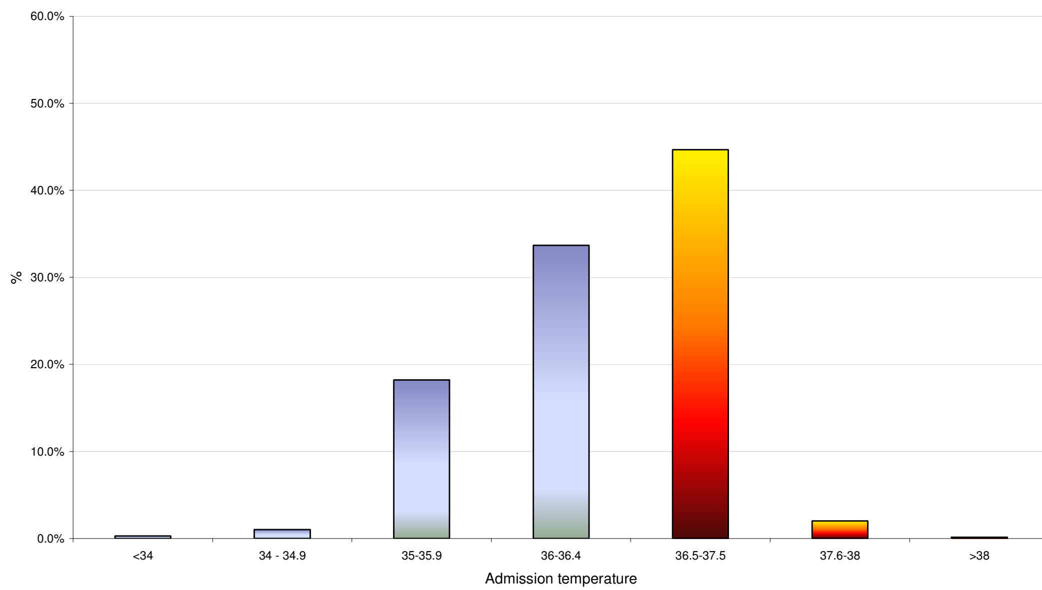


Figure 3b Distribution of admission temperature by gestational age at birth 30 - 35^{+6} weeks

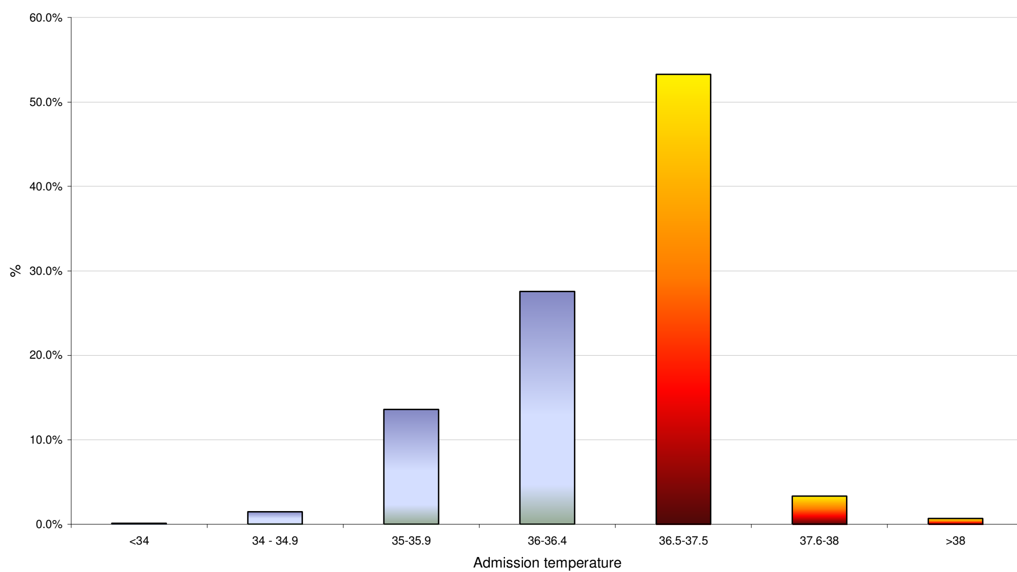
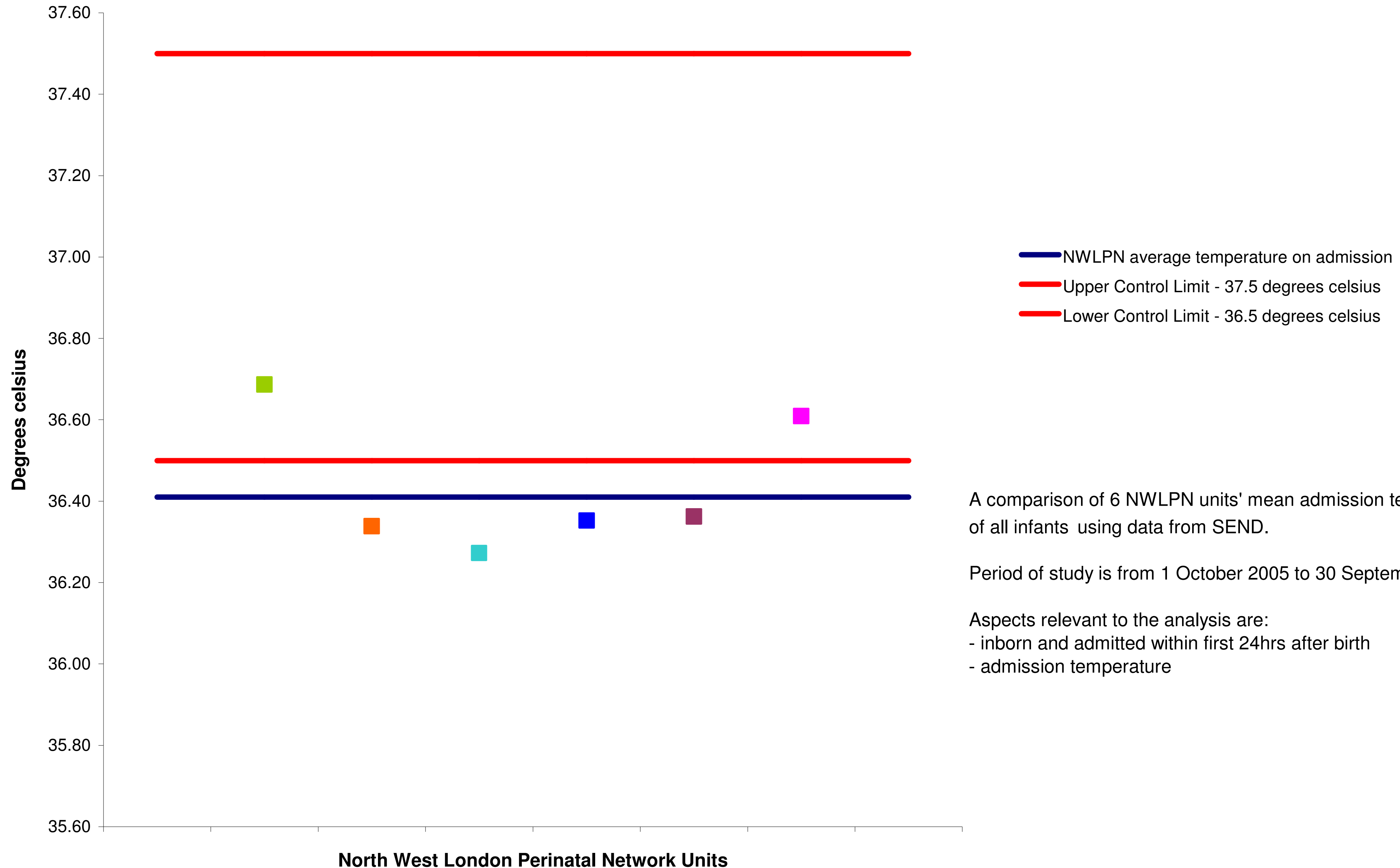


Figure 3c Distribution of admission temperature by gestational age at birth $>35^{+6}$ weeks

Figure 4

North West London Perinatal Network
Average admission temperature for inborn babies admitted within first 24 hours of life
Comparisons of 6 units



A comparison of 6 NWLPN units' mean admission temperature of all infants using data from SEND.

Period of study is from 1 October 2005 to 30 September 2006.

Aspects relevant to the analysis are:
- inborn and admitted within first 24hrs after birth
- admission temperature

Appendix B

Corrected gestational age at discharge home for inborn babies 30^{+0} – 34^{+6} weeks

Benchmark time period 1st October 2005 to 30th September 2006

Background
Previous capacity planning exercises have suggested a deficiency of special care cots within the NWLPN. Network monies have been used to fund special care cots, a transitional care area and improved community neonatal nursing support in some parts of the network. In August 2006 the CP&G subgroup discussed possible topics for benchmarking within the network. Some simple criteria need to be met before an item can be judged suitable for benchmarking across the network; primarily the data must be freely available from SEND and the benchmarking item must be applicable to all units.

As all units within the network routinely provide care for babies between 30^{+0} – 34^{+6} weeks an audit and benchmarking exercise based on the corrected gestational age at discharge home for inborn babies 30^{+0} – 34^{+6} weeks could identify differences between the units and lead to possible quality improvement initiatives. The network has no agreed standard for corrected gestational age at discharge home, neither is there a national standard; therefore at the August 2006 meeting of the CP&G subgroup a decision was made to use the mean corrected gestational age at discharge home reported by Profit J et al*. This paper reports the mean corrected gestational age at discharge home from a national study in the UK (1998-1999) to be 36.3 weeks and that for Californian units in (2001-2003) to be 35.9 weeks.

Method
The seven neonatal units in the NWLPN have used the SEND data base to record a standard basic data set since 1st October 2005. SEND was searched to identify all inborn babies between 30^{+0} – 34^{+6} weeks admitted to NWLPN units who had received all their care in that unit and who were discharged home directly from the neonatal unit. Babies were excluded if they had undergone IUT or postnatal transfer, major surgery or been transferred back to the postnatal ward or another hospital before discharge. The following data was collected for all seven units, gestational age, birth weight, discharge weight, date of birth, date of discharge, season of birth, and unit. All data points were complete for all babies in all units except for discharge weight were data was missing in one unit. Weight at discharge could therefore not be included in the data used for this audit and benchmarking exercise.

Data was available for 439 babies.

Results
The data presented below summarises the mean corrected gestational age at discharge home for all inborn babies 30^{+0} – 34^{+6} weeks admitted to neonatal units within the NWLPN.

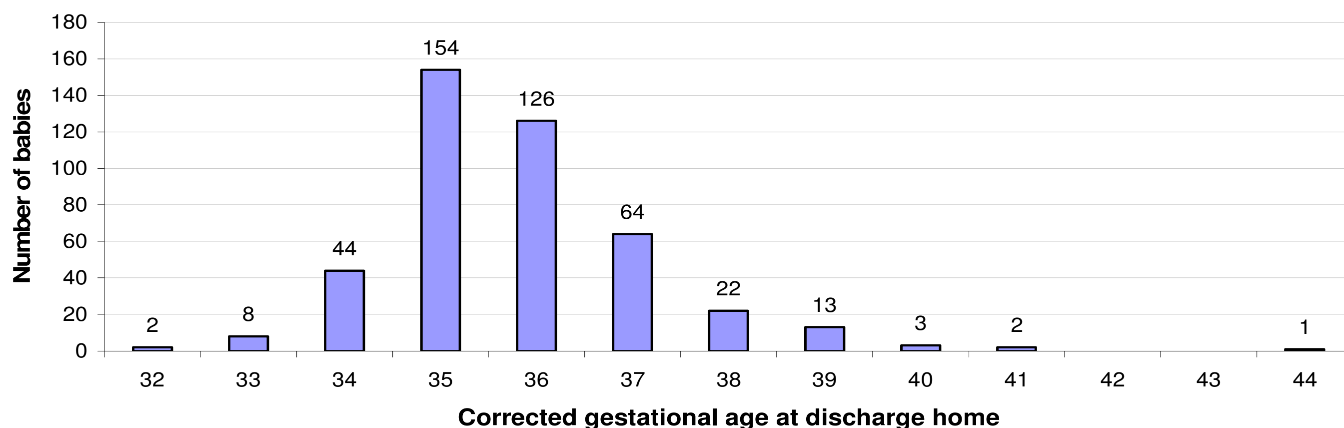
The baby's average age at discharge home has a standard deviation of 1.322 over a mean of 36.285 giving a coefficient of variation of 3.64%, thus indicating that there is very low variability in the data. The positive difference between the mean (36.285 weeks)and the median (35.072 weeks) corrected gestation age suggests that the data are slightly skewed in nature with a tail of the distribution to the right. The very small positive value of the skewness confirms the tail to the right in the graph of the distribution. The interquartile range (IQR, the range between the 25th and 75th percentiles) is 1.467 weeks.

Figure 1, the distribution of the corrected gestational age at discharge home shows that the data peaks at 35^{+0} to 36^{+6} indicating that the majority of babies are discharged home from NWLPN units at this corrected gestational age. There is then a gradual tail to the right of the distribution where there is a steady decrease in the number of babies who are discharged home from NWLPN units after longer stays.

Descriptive statistics, corrected gestational age at discharge home

Number of records	439
Mean	36.285
Median	35.072
Standard deviation	1.322
Skewness	0.000
Kurtosis	0.000
Min-max	32.374 – 44.397
25th percentile	35.449
75th percentile	36.916

Figure 1



Distribution of corrected gestational age at discharge home

The spread of babies across the gestational age range 30^{+0} – 34^{+6} weeks for the network is shown in Figure 2

Figure 2

Distribution of 30 - 34^{+6} inborn admissions

The mean corrected gestational age at discharge home for all babies in the NWLPN broken down by gestational age at birth is shown in table 1

Table 1

Gest age at birth	CGA at discharge home
30^{+0} – 30^{+6}	36.712
31^{+0} – 31^{+6}	36.275
32^{+0} – 32^{+6}	36.742
33^{+0} – 33^{+6}	36.411
34^{+0} – 34^{+6}	36.455

Figure 3 (page 4) compares the mean corrected gestational age at discharge home for each unit (coloured squares) within the NWLPN with the 2 agreed standards; the UK average 36.3 weeks (green line) and the Californian average 35.9 weeks (red line). The NWLPN average 36.3 weeks (blue line) is identical to the UK average derived using data from 54 neonatal units between March 1998 and April 1999. Within the NWLPN 4 units lie below the UK average indicating an earlier corrected gestational age at discharge home and 3 above. One unit lies below both the UK and Californian averages with a corrected gestational age at discharge home of 35.5 weeks; a further 3 units are clustered around the Californian average.

The population of the NWLPN lies within a small geographical area with broadly similar population characteristics. To assess factors which may influence corrected gestational age at discharge it is important to know if the populations cared for by each unit are indeed similar and do factors such as gestation age at birth, birth weight, season of birth and weight at discharge have a role. Further statistical analysis was therefore undertaken using principle component analysis and ANOVA.

Firstly the whole data set (all babies in the NWLPN) was analysed independent of unit.
Gestational age at birth does not influence corrected gestational age at discharge home (p=0.103).
However birth weight does influence corrected gestational age at discharge home (p<<0.01) with babies who's birth weight was less than 1250g remaining in hospital longer.
Season of birth does not influence corrected gestational age at discharge home. The effect of discharge weight could not be assessed for all 7 units as data is only complete for 6 out of 7 units.

Having identified that for the population as a whole, birth weight but not gestational age nor season of birth influence corrected gestational age at discharge home we then need to know if the populations of babies cared for in each unit have similar characteristics. Data analysis of these variables (gestational age and birth weight) between units shows no differences (F.stat <<1 p=0.87).

Therefore the population of babies cared in this gestational age range are similar with regard to gestational age, birth weight, and season of birth in each of the seven units within the NWLPN.

Each participating unit has received there own individualised report comparing there unit to the NWLPN as a whole.

Conclusion
Audit and benchmarking of corrected gestational age at discharge home for inborn infants 30^{+0} – 34^{+6} weeks admitted to NWLPN units who had received all their care in that unit and who were discharged home directly from the neonatal unit have shown variation across units.

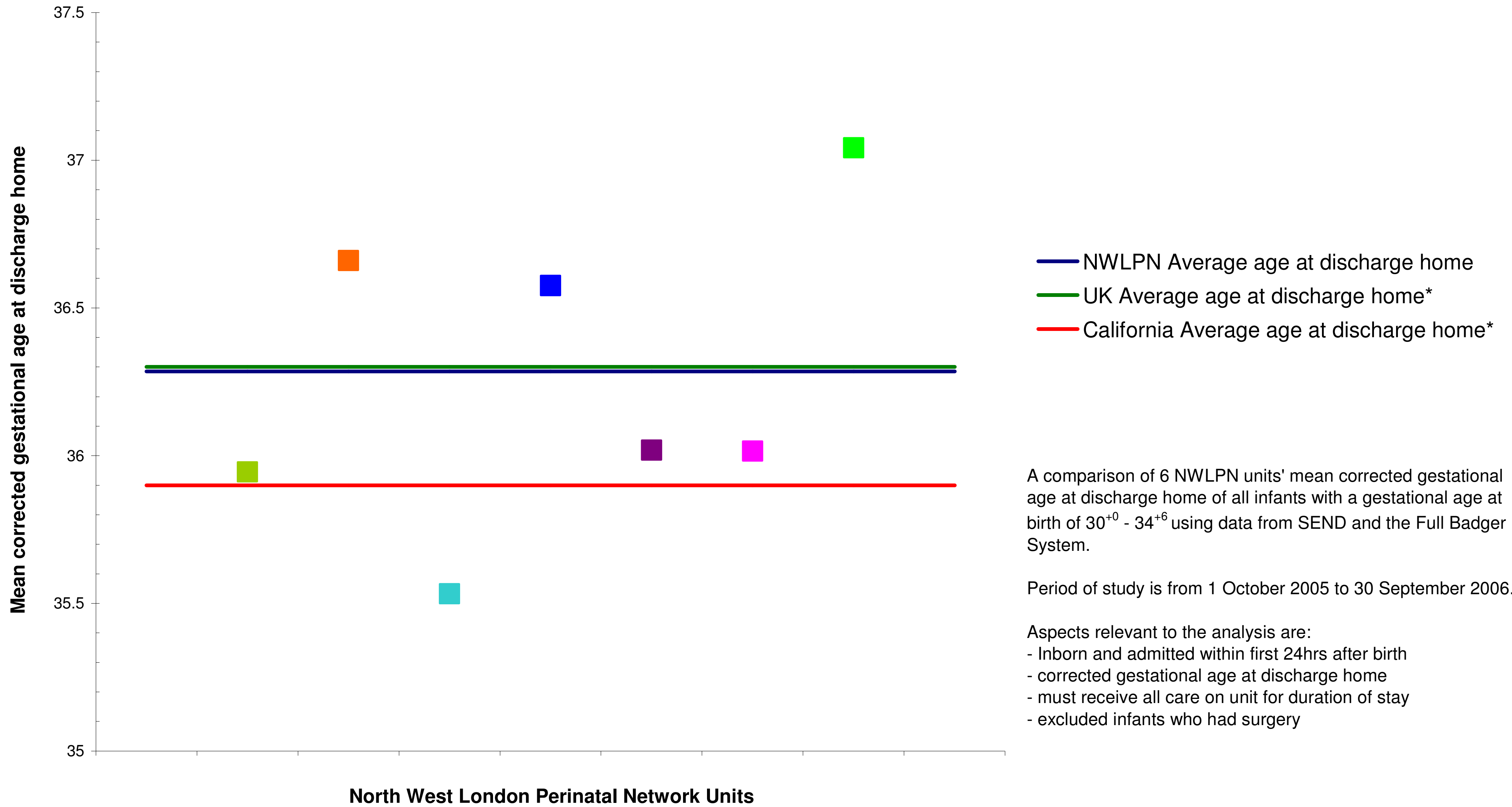
The mean corrected gestational age at discharge varies from 35.5 to 37 weeks with the network mean of 36.3 weeks similar to that identified in an earlier UK study.

Gestational age at birth does not influence corrected gestational age at discharge home however babies with a birth weight less than 1250g were found to remain in hospital for longer. Simple differences between the populations of units; gestational age at birth, birth weight and season of birth could not be identified. Discharge weight could not be fully assessed due to missing data in one unit, however analysis not present here suggests it was not factor in the other 6 units. Babies with other confounding factors; IUT or postnatal transfer, major surgery, transfer back to the postnatal ward or another hospital before discharge were excluded from this audit and benchmarking exercise. Investigation of effects such as socio-economic status, ethnicity, latest age of maternal education etc. are beyond the scope of this benchmarking project.

The wide variation in corrected gestational age at discharge home for inborn infants 30^{+0} – 34^{+6} weeks admitted to NWLPN units suggests that a quality improvement program could have beneficial effects at shortening lengths of stay and thereby generating extra capacity for special care within the network.

Ian de Vega, NWLPN Data Manager.
Merran Thomson, Chair of Clinical Practice and Governance Subgroup, NWLPN.

Figure 3



* Profit J, *et al*. Moderately premature infants at Kaiser Permanente Medical Care Program in California are discharged home earlier than their peers in Massachusetts and the United Kingdom. *Arch Dis Child Fetal Neonatal Ed* 2006;91:F245-F250

Appendix C

Audit of babies born below 27 weeks gestational age receiving care in the NWLPN units during the first 7 days of life.

Audit time period 1 January 2006 to 31 December 2006

Background
Guidelines for the transfer of mothers and babies below 27 weeks gestational age were agreed by the NWPLN Board in 2005. All units within the network have been entering data into SEND since 1st October 2005, therefore it is now possible to audit activity for a 12 month period (1st January – 31st December 2006).

The attached table (Appendix 1) details the activity by hospital and should be reviewed in conjunction with the *In utero* (IU) and acute postnatal transfer guidelines for each hospital within the network. The guidelines advise babies born below 27 weeks should be cared for in a perinatal centre with IU transfer where ever possible. If this was not possible then a discussion should take place between the level 1 or 2 unit and the perinatal centre about further care.

This audit includes only babies transferred within the 1st seven days of life and aims to identify if the guidelines are being followed. Where this appears not to be the case; the Clinical Governance system which operates within the network may well have identified the reason.

Results

1. The total number of babies <27 weeks born in units within the NWPLN = 121
   Of these 36 babies were delivered following IU transfer from a unit outside the NWLPN
   A further 32 babies were post natal transfers from units outside the NWLPN
   2 babies were transferred out of the NWLPN soon after birth

   Therefore a total of 154 babies <27 weeks received care in this 12 month period of which 68 (44%) came from outside the NWLPN as either an IU or PN transfer.

2. For babies who's mothers booked within the NWLPN (83) plus 2 local unbooked mothers (85)
   48 (57%) were booked and delivered in a level 3 unit
   17 (20%) were delivered following IUT
   13 (15%) were delivered in a level 2 unit
   7 (8%) were delivered in a level 1 unit

3. The total number of babies born following IUT into NWLPN units was 53
   The majority of IUTs taking place between NWLPN units were to QCCH
   More babies were delivered following IUT from hospitals outside the network 36 (68%).

   - IUTs below 27 weeks from outside the network (36) were accepted by both level 3 and level 2 units; 34 by level 3 units and 2 by level 2 units.
     Both babies care for in level 2 units were notified through the Clinical Governance systems of the network.

4. A total of 15 babies below 27 weeks were born in a level 2 units within the NWLPN; 13 to local mothers; 9 (60%) were transferred postnatally to a perinatal centre (8 to NWLPN units and one appropriately back to the baby's local network perinatal centre). The remainder were cared for locally. Individual tracking of these 6 babies has not taken place so at the time of this report it can not confirm whether the guidelines for acute postnatal transfer were followed.

5. 7 babies below 27 weeks were delivered in level 1 units in the network; 6 were transferred out postnatally to NWLPN level 3 units.

6. Only one baby (24 weeks) was transferred out from a level 3 unit in the network postnatally within the first 7 days of life. This baby went to another level 3 unit within the network (C&W). This transfer could have been for surgical care or capacity; this needs to be confirmed.

7. 2 babies were transferred postnatally outside the network; these were appropriate back transfers to the local level 3 hospital.

8. Postnatal transfers into NWLPN units from outside the network = 32 and represent 21% of the total activity and 22% of activity in level 3 units.

9. The total activity (admissions) for each level 3 unit expressed a booked, IUT, PN transfer and in and out of network is tabled below.

	QCCH		C&W		SMH		Total	
	number	%	number	%	number	%	number	%
Booked & born	18	*21*	12(+2)	*43*	16	*55*	48	*33*
Network IUT	16	*19*	1	*3*	0	*0*	17	*14*
Outside IUT	25	*29*	5	*15*	4	*14*	34	*25*
Network PNT	10	*12*	6	*18*	0	*0*	16	*6*
Outside PNT	16	*19*	7	*21*	9	*31*	32	*22*
Total	85	*100*	33	*100*	29	*100*	147	*100*

NOTE: 2 babies were transferred to another level 3 centre soon after birth therefore the total number of babies for who the level 3 centres provided continuing care was 145.

10. The number of babies born below 27 weeks receiving continued cared in the first 7 days of life in each NWLPN unit is tabled below

	Total babies born <27wks		With mother booked in NWLPN		With mother booked outside NWLPN	
	number	%	number	%	number	%
QCCH	85	*56*	44	*52*	41	*62*
C&W	33	*22*	21	*24*	12	*18*
SMH	27	*18*	14	*16*	13	*20*
NPH	2	*1.1*	2	*0.2*	0	*0*
HH	4	*2.3*	4	*0.5*	0	*0*
WMH	1	*0.6*	1	*0.1*	0	*0*
EH	0	*0*	0	*0*	0	*0*
Total	152	*100*	86	*100*	66	*100*

7 (5%) babies born below 27 weeks received all their care in the first 7 days of life outside a level 3 unit.

Conclusions

- The hospitals of the NWLPN have been successful in achieving one of their initial goals – to centralise care for babies <27 weeks.
- One baby was transferred out of the network after birth because of a probable shortage of cots. (to be confirmed)
- More NWLPN babies are delivered in level 1 or 2 units (20) than were born following IUT (17) to a NWLPN level 3 unit. A change to that noted in the audit 1st October 2005 – 30th September 2006 when more babies are delivered in level 3 units following IUT (20) than are delivered in level 1 or 2 units (16). The reasons for this should be investigated.
- 5% of babies born below 27 weeks received all their care in the first 7 days of life outside a level 3 unit. Data is not yet available to assess if the NWLPN guidelines were followed in each case.
- The NWLPN continues to provide a substantial amount of care for babies from outside the network (68 babies or 44% of total activity). As other networks increase their capacity locally there will inevitably be more free capacity in the NWLPN.
- Continued data collection and feedback though Clinical Risk Indicator Forms in 2007 should inform this audit further. It will be interesting to note whether, as units become more familiar with the NWLPN *In utero* and acute postnatal transfer guidelines, the proportion of babies transferred *In utero* to perinatal centres increases.

Thank you to Ian de Vega, NWLPN Data Manager for extracting and correlating the data.

Merran Thomson
Chair of Clinical Practice and Governance Subgroup

NWLPN <27wks inborn admissions (and postnatal transfers in <7 days old)

Appendix 1

1 January 2006 – 31 December 2006

UNIT	Gest age at birth	Booked & Born admissions	Network *In utero* transfer admissions	Out of Network *In utero* transfer admissions	Unbooked admissions	TOTAL INBORN ADMISSIONS	Network postnatal transfers in*	Out of Network postnatal transfers in*	TOTAL POSTNATAL TRANSFERS IN*	Transfer to Network Tertiary centre	Transfer to Out of Network Tertiary centre	Not transferred ◊
QCCH	23	2				**2**	1	7	**8**			**10**
	24	6	1	6		**13**	5	6	**11**			**24**
	25	4	8	12		**24**	1	3	**4**			**28**
	26	6	7	7		**20**	3		**3**			**23**
	Total	**18**	**16**	**25**	**0**	**59**	**10**	**16**	**26**	**0**	**0**	**85**
CWH	23											
	24	5	1	1	1	**8**	5	2	**7**			**15**
	25	5		1		**6**	1	2	**3**			**9**
	26	2		3	1	**6**		3	**3**			**9**
	Total	**12**	**1**	**5**	**2**	**20**	**6**	**7**	**13**	**0**	**0**	**33**
SMH	23	2				**2**						**2**
	24	2				**2**		1	**1**	1		**2**
	25	9		2		**11**		7	**7**		1	**17**
	26	3		2		**5**		1	**1**			**6**
	Total	**16**	**0**	**4**	**0**	**20**	**0**	**9**	**9**	**1**	**1**	**27**
NPH	23	1				**1**						**1**
	24	3				**3**				3		
	25											
	26	1				**1**						**1**
	Total	**5**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**3**	**0**	**2**
HH	23	1				**1**				1		
	24	2				**2**				2		
	25	1		1		**2**				1	1	
	26	4		1		**5**				1		**4**
	Total	**8**	**0**	**2**	**0**	**10**	**0**	**0**	**0**	**5**	**1**	**4**
WMH	23											
	24	4				**4**				3		**1**
	25											
	26	2				**2**				2		
	Total	**6**	**0**	**0**	**0**	**6**	**0**	**0**	**0**	**5**	**0**	**1**
EH	23											
	24											
	25	1				**1**				1		
	26											
	Total	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**

* all postnatal transfers in <7 days old

◊ not transferred out less than 7 days of life

Transfers, both *In utero* and postnatal, into North West London Perinatal Network by Gestational Age at Birth (*completed weeks*) and Perinatal Networks:

North West London Perinatal Network <27wks inborn admissions (and postnatal transfers <7 days old)

1 January 2006 – 31 December 2006

	Out of Network *In Utero* transfers into NWLPN												Out of Network Postnatal transfers into NWLPN											
	QCCH			CWH			SMH			HH			QCCH				CWH			SMH				Grand
Perinatal Networks	**24**	**25**	**26**	**24**	**25**	**26**	**24**	**25**	**26**	**25**	**26**	**Total**	**23**	**24**	**25**	**26**	**24**	**25**	**26**	**24**	**25**	**26**	**Total**	**Total**
Bedfordshire & Hertfordshire	1	1										**2**		1			1	1					**3**	**5**
Essex		1							1			**2**		3							1		**4**	**6**
Kent									1		1	**2**											**0**	**2**
London - North East	2	3	2			1						**8**	5	1	2					1	2	1	**12**	**20**
London - North Central		2	1							1		**4**									1		**1**	**5**
London - South East	3	3	3	1	1							**11**	1					1	2		3		**7**	**18**
London - South West		1				1						**2**											**0**	**2**
Norfolk, Suffolk & Cambridge												**0**					1						**1**	**1**
Surrey & Sussex						1		2				**3**			1				1				**2**	**5**
Thames Valley			1									**1**	1	1									**2**	**3**
Trent - North		1										**1**											**0**	**1**
Grand Total	**6**	**12**	**7**	**1**	**1**	**3**	**0**	**2**	**2**	**1**	**1**	**36**	**7**	**6**	**3**	**0**	**2**	**2**	**3**	**1**	**7**	**1**	**32**	**68**

Summary

Criteria for inclusion in the above tables are:

- Gestational age at birth <27 weeks
- Less than 7 days old at time of admission, both inborn and postnatal transfers
- Admitted to a unit within North West London Perinatal Network
- Date of admission between 1 January 2006 to 31 December 2006

1. Total number of babies born in units within NWLPN were as follows:
   - Inborn – Network = 83 babies (includes booked and *in utero* transfers)
   - Inborn – Out of Network = 36 babies (*in utero* transfers)
   - Inborn – Unbooked = 2 babies

   } (TOTAL BIRTHS = 121 babies)

2. Postnatal transfers in from units outside NWLPN = 32 babies.

3. Postnatal transfer in from home (booked at QCCH) = 1 baby

4. Transfers of babies <7 days old to tertiary centres outside NWLPN = 2 babies.
   Both babies were transferred back to the local network hospitals appropriately.

5. A total of 152 babies were cared for in NWLPN units.

6. A high proportion of babies were transferred, either *In utero* or postnatal, from units outside NWLPN.
   These babies account for 45% of all admissions who meet the above criteria.

Appendix D

Survey of outcomes for babies born below 27 weeks gestational age receiving care in the NWLPN units during the first 7 days of life.

Audit time period 1 January 2006 to 31 December 2006

Background
Guidelines for the transfer of mothers and babies below 27 weeks gestational age were agreed by the NWPLN Board in 2005. All units within the network have been entering data into SEND since 1st October 2005, therefore it is now possible to survey the outcome for these babies over a 12 month period (1st January – 31st December 2006).

The NWLPN routinely audits babies transferred within the first seven days of life and aims to identify if the guidelines are being followed. The results are reported in "Audit of babies born below 27 weeks gestational age receiving care in the NWLPN units during the first 7 days of life during 2006". Readers should refer to this audit for information about babies born within the network and those transferred into NWLPN etc.

The purpose of this survey was to collect data on death, discharge home on oxygen, breast feeding at discharge and corrected age at discharge and if possible to identify the last day in oxygen for those discharge home in air. As this is the first attempt to survey these data for these outcomes it was not know if data would be found for all babies, particularly for those transferred back to hospitals outside the NWLPN

Methods
The data was collected using SEND for all babies born below 27 weeks gestational age who received care in NWLPN units during the first 7 days of life between 1st January – 31st December 2006. This period was chosen as it corresponded to that to be included in the NWLPN annual report for 2006 and therefore the NWLPN Data Manager had already gone to considerable effort to ensure the data set was complete for GA, place of birth, transfer date etc. As with all audits involving SEND each unit is responsible for the reliability, consistency and completeness of the data. Any problems identified in the data set are noted in the report and if possible the Data Manager contacted the NWLPN unit concerned. No additional data quality checks were carried out.

Results
A total of 154 babies below 27 weeks gestational age received some or all of their care within the NWLPN during the first 7 days of life. Included are 2 babies born in NWLPN units from outside the network who were transferred back to their local level 3 unit within the first 7 days. Data were available for all babies except for breast feeding at discharge and last day in oxygen. It was however possible to identify the oxygen status at 36 weeks for all survivors from either SEND data or by contacting the neonatal unit directly.

Only 7 babies (5%) received their care outside level 3 units so the results will be presented as a whole with no separation out of level 3 units etc.

<u>Survived to discharge home</u>
Ninety two (60%) survived to discharge home. Survival across the gestational age range (23^{+0} to 26^{+6} weeks) is shown below.

Gestational age (weeks)	Total babies	Death	Survival (%)
23 weeks	13	10	3 (23%)
24 weeks	42	22	20 (48%)
25 weeks	56	26	30 (54%)
26 weeks	43	4	39 (91%)
Total	154	62	92 (60%)

There were no admissions of babies below 23^{+0} gestational age at birth.

Sixty two babies died before discharge home, table 1 shows the distribution of deaths. Two babies died after 36 weeks corrected gestational age, a 23 week baby at 49.6 weeks and a 24 week baby at 36.6 weeks.

Table 1	Number
Early Neonatal (0-7 days)	30
Late Neonatal (8-28days)	22
After 28 days	10
Total	62

The overall length of stay for all gestational ages in days is shown in below.

Table 2

	Length of stay (days)			
	Mean	SD	Median	Range
Total length of stay before discharged home or death	69	52	75	1 – 239
Total length of stay for survivors to discharge home	104	32	101	56 – 239
Total length of stay in babies who died	17	28	10	1 – 184

The corrected gestational age (CGA) at discharge home for survivors in weeks is shown below.

Table 3

	Number of babies	Mean (weeks)	SD	Median (weeks)	Range (weeks)
23 weeks	3	41.0	2.2	39.9	39.7 – 43.6
24 weeks	20	42.2	4.1	41.7	35.4 – 53.1
25 weeks	30	40.0	3.8	39.1	35.1 – 53.1
26 weeks	39	39.7	4.7	38.1	34.7 – 60.7
Total	92	40.4	4.3	39.6	34.7 – 60.7

Oxygen Dependency at 36 weeks corrected gestational age

Data were available for the all 94 surviving babies on the requirement for oxygen at 36 weeks CGA. Sixty one babies (65%) were receiving oxygen at 36 weeks. Table 4 shows the distribution across the gestational age range. When born at 23 weeks all survivors were in oxygen at 36 weeks, 81% at 24 weeks, 63% at 25 weeks, reducing to 54% at 26 weeks.

The morbidity and mortality in this population is high. The overall rate of death or oxygen dependency at 36 weeks CGA is 79%, this decreases with increasing gestational age at birth; 100% at 23 weeks, 90% at 24 weeks, 80% at 25 weeks, reducing to 60% at 26 weeks.

Table 4

	Oxygen at 36 wks	In air at 36 wks	Survivors at 36 wks	Death at 36 wks	Death or oxygen at 36 wks
23 weeks	4	0	4	9	13
24 weeks	17	4	21	21	38
25 weeks	19	11	30	26	45
26 weeks	21	18	39	4	25
Total	61	33	94	60	121

2 babies died after 36weeks CGA

Discharge Home on oxygen

Ten babies (11% of survivors) were discharge home on oxygen, 3 from NWLPN units and 7 from units outside the network. The table below illustrates the spread across gestational age range.

Table 5

	Gestational age at birth			
	23 wks	24 wks	25 wks	26 wks
Number discharge home in oxygen	0	4	2	4
Survivors to discharge home	3	20	30	39
Percent of survivors discharge home in oxygen	0%	20%	7%	10%

Length of stay, corrected gestational age at discharge home and oxygen dependency

This survey was not designed to undertake complex statistical analysis of the relationships between length of stay (LOS), CGA at discharge home and oxygen dependency. However the data does confirm babies in oxygen at 36 weeks CGA have longer LOS and CGA at discharge home than those in air. (Table 6 and 7).

Table 6

	Mean	SD	Median	Range
Total LOS for all survivors to discharge home (days)	104	32	101	56 – 239
Total LOS for survivors in oxygen at 36 weeks (days)	118	30	115	78 - 239
Total LOS for survivors in air at 36 weeks (days)	79	16	74	56 -131
Total LOS for survivors before discharged home in oxygen (days)	134	29.5	135	94 - 204
Total LOS for survivors in oxygen at 36 weeks but discharged home in air (days)	115	29.4	114	78 - 239

Table 7

	Mean	SD	Median	Range
CGA at discharge home for all survivors (weeks)	40.4	4.3	39.9	34.7 – 60.7
CGA at discharge for survivors in oxygen at 36 weeks (weeks)	42.2	4.1	41.6	37.3 – 60.7
CGA at discharge for survivors in air at 36 weeks (weeks)	37.1	2.0	36.9	34.7 – 44.0
CGA at discharge for survivors before discharged home in oxygen (weeks)	44.4	3.8	44.0	39.6 – 53.1
CGA at discharge for survivors in oxygen at 36 weeks but discharged home in air (weeks)	41.8	4.1	41.1	37.3 – 60.7

Tube feed at discharge home

Only 3 babies where discharged home on tube feeds (3.3% of survivors), 2 of these babies were also discharged home on oxygen.

Survival and postnatal transfer

The survival for postnatal transfers within the first 7 days was looked at in more detail, 48 (31%) babies were transferred postnatally into network units and 2 transferred out of network units as appropriated back transfers to their local level 3 unit.

	Survived to discharge home (%)	Death (%)	total
Postnatal transfers (PNT)	23 (48%)	25 (52%)	48
Not transferred within the first 7 days of life	69 (65%)	37 (35%)	106
Total	92 (60%)	62 (40%)	154

	23 weeks		24 weeks		25 weeks		26 weeks		Total	
	PNT	No transfer	PNT	No transfer	PNT	No transfer	PNT	No transfer	PNT	No transfer
Survived to discharge home	2	1	7	13	7	23	7	32	23	69
Death	6	4	12	10	7	19	0	4	25	37
Total	8	5	19	23	14	42	7	36	48	106

Conclusions

This first attempt to survey outcome data for babies born below 27 weeks gestational age who received some or all of their care within the NWLPN during the first 7 days of life has demonstrated that basic data for survival, length of stay, CGA at discharge home, and oxygen dependency at 36 weeks CGA can be obtained. As one would expect survival increases with gestational age, and oxygen dependency decreases. The overall rate of survival is 60% and rate of oxygen dependency at 36 weeks CGA is 65%. It is reassuring to note that only 10 babies (11% of survivors) were discharged home on oxygen. Survival and oxygen dependency are very crude markers of long term outcome. The population of babies surveyed here are the same gestational age cohort as those being followed nationally during 2006 in the EPICURE 2 Study. It will be interesting to see how our babies compare. Very early feedback from the EPICURE 2 Study Group suggests our findings are very similar to those nationally. If we are to obtain any meaningful long term outcome data for this cohort of babies we will be reliant on individual clinicians submitting data to the “Thames Regional Perinatal Group Two Year Outcomes Project” and local PCTs funding developmental assessments at two years and beyond. Without such data it will be impossible to understand if this initial care has resulted in quality outcome for this extremely vulnerable group of babies.

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