London Neonatal
Operational Delivery Network

Exploring New Ways of Working in the Neonatal Unit

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Executive summary

This project has been commissioned by the London School of Paediatrics / Health Education England to explore new ways of working within neonatal units across London with an aim to provide collaborative recommendations on ways to reduce the dependence of service delivery on the paediatric medical workforce by providing a more stable, mixed, neonatal workforce.

Workforce issues are not limited to medical rotas; review of national and local data has found that there is a considerable vacancy across the different professional groups nationally and within London. Neonatal units across London have a paucity of qualified in speciality (QIS) nurses and there is a wide variability in the availability of enhanced and advanced roles in neonatal nursing.

Common workforce and service delivery issues already acknowledged by professional bodies were identified during site visits and semi-structured interviews with over half of the London neonatal teams. Units spoke of developing different roles which may support the workforce and these have been explored further within the report.

It was clear to see that there is variance in how units have developed operationally to deliver care. Factors have been identified which have a direct impact on the workforce such as: medical and nursing vacancies, culture, transitional care, admission prevention, support for junior nursing staff and the development of the non-registered workforce.

The roles and service delivery models identified within this report are not new, but are variably used across London.

Increasing the support for lower dependency care can potentially relieve pressures upstream. Solutions for workforce transformation cannot be considered in isolation. It has become apparent that organisation and service delivery of care has to be considered in tandem for true workforce transformation.

It is recommended that the following are explored further:

- Development of Nursing Associates in Neonatal Care
- Role definition for Enhanced Neonatal Nurse Practitioners
- Development of Non-Medical Supporting Roles
- Development of Associate Specialist / MTIp roles
- Awareness of impact of culture and morale on the workforce
- Investment in clinical supervision, education and training for all staff
- Development of networked preceptorship nursing programmes
- Development of Transitional Care
- Implementation of ATAIN programme
- Implementation of Integrated Family Development Care

It was obvious during this project that Neonatal Care in London is provided by dedicated clinical and non-clinical teams working within difficult constraints.

However, despite all best intentions, these roles and service developments may not have a sustainable effect on vacancies in middle grade doctors or nurses achieving QIS. It is important to recognise this as a limitation of what can be accomplished.

Introduction and Background

1.1 Project background and drivers for change

This is a report of a project commissioned by the London School of Paediatrics to explore new ways of working within neonatal units across London. All London Postgraduate Medical and Dental Education Specialty Schools were offered the opportunity to bid for funding for 2 School Fellow posts; one of the successful bids was awarded to London School of Paediatrics. The project was supervised by Dr Camilla Kingdon and Dr Hilary Cass. The project was fully funded and supported by HEE who maintain the intellectual property rights of the report.

The initial driver was the recognised shortfall of paediatric middle grade doctors; however, the project encompasses looking at workforce as a whole. The problems in staffing of neonatal units have been thrown into increasingly sharp focus as the current dependence on middle grade paediatricians has become more fragile and difficult to sustain. However, workforce issues are not limited to medical rotas; neonatal units across London have a paucity of qualified in speciality (QIS) nurses and there is a wide variability in the availability of enhanced and advanced roles in neonatal nursing.

Considering both professional groups were being reviewed, it was seen as important to support the project from both a medical and nursing perspective, and therefore the project was carried out by a paediatric doctor and senior nurse working collaboratively with neonatal teams.

The aim of this project was to explore a more mixed workforce model with a view to developing safer, more sustainable ways of working in neonatal units across London.

There were 4 components to the work programme:

1. To identify the existing neonatal workforce models and structure
2. To identify real-time stakeholder issues, ideas and opportunities within the workforce
3. To recommend potential solutions for a safer and more sustainable workforce
4. To share ideas and learning from collaborative working

The logic model created for this project can be found in Appendix 1.

1.2 Project objectives

Main objectives for the project:

1. To co-produce recommendations on ways to reduce the dependence of service delivery on the paediatric medical workforce by providing a more stable, mixed, neonatal workforce.
2. To co-produce recommendations drawing on insights from national, international and local exemplars to address identified workforce issues
3. To highlight influencing factors on workforce as well as alternative workforce structures.

Secondary objectives are:

1. To showcase examples of and identify enhanced learning opportunities for paediatric trainees and neonatal nurses
2. To highlight ideas for improving training experience while on neonatal placement and increasing time for educational and learning activities, which will ultimately and positively influence quality of care and outcomes for patients and parents.

1.3 Target users

This document is aimed at neonatal clinical teams within London, organisations and government bodies involved in the planning, commissioning or provision of Neonatal Intensive Care.

1.4 Methodology

The scope and project plans were defined following meetings with the commissioners of this project. Service reconfiguration was deemed to be outside the scope of the project, with the clear focus being workforce models, and to some degree service models where these were impacted by specific workforce innovation.

The project was planned as a 4-phase programme.

Literature review and scene setting

- A desk-based literature review was conducted looking into national and international standards.
- Particular focus was given to non-medical roles which are better established outside London.
- The London School of Paediatrics Trainees Committee was contacted to provide data regarding the paediatric trainee experience in Neonatal units across London.

Semi-Structured Interviews with Trusts

Semi-structured interviews took place with Lead Consultants, Neonatal Consultants, Matrons and Neonatal nurses across 13 out of 26 neonatal units across London. It was felt that a semi-structured approach would allow for a greater, more organic discussion as each unit would have some specific and some more generic problems. The themes covered in each unit would include medical and nursing staffing levels, transitional care, the role of the Advanced Neonatal Nurse Practitioner (ANNP), data management and the postnatal ward. The discussion would evolve as the team spoke. There was an opportunity at the end to ask how they would like to restructure their workforce, and how they would develop their workforce if they were to start again from scratch. Discussions were held with the Lead Consultant and the Matron, and in some units, junior nurses, registrars and ANNPs joined the discussion which provided valuable insights. Invitations were sent to the majority of NICUs, LNUs and SCUs in each of the three sectors across London (NWL, NCEL, SL) and 13 units in total (a mix of NICUs, LNUs, and SCUs) were visited. Visits were carried out from October 2016 – March 2017.

Stakeholder engagement

Over 50 specialists shaped the outcome of this project. Throughout the year, a conscious effort was made to involve key stakeholders and meetings were held with the following professional groups:

- Neonatal Operational Delivery Networks (ODNs) across the UK
- Neonatal Unit Network Leads
- Capital Nurse Programme
- Bliss
- HEE
- London School of Paediatrics

HEE deliverables and the HEE mandate ensured a joined-up thinking approach. Teleconferences, webinars and face-to-face meetings were held with regional ODNs across the UK to compare clinical practice and learn the different ways national standards were implemented. Areas of best practice learned from this scoping have shaped the ideas shared in this report.

Report writing

The report was reviewed by a multi-professional reading panel before publishing. The reading panel consisted of representation from BAPM, London Neonatal ODN, London School of Paediatrics, Health Education England, NHS Improvement, Bliss and Neonatal Consultants and Nurses.

Challenges of project

Centralisation of care was deemed out of scope for this project. The engagement of neonatal teams across London was restricted by time and geography. The units visited were those that responded to invitation to speak with us. In addition, time constraints meant that visits to units outside London were not possible. This was overcome by teleconferences with ODNs across the country and neonatal teams internationally.

Confounding factors such as sickness rates and maternity leave were not explored.

It is important to note that the new junior doctor contract had not been implemented during the data collection phase. Therefore, the effects of this cannot be considered in this report.

There are many different working groups that are concurrently reviewing aspects of neonatal care nationally during the project timeframe. Releases regarding ATAIN, Better Births and ongoing work by NHS Improvement (NHSI), Maternity Transformation Programme all influence neonatal workforce, therefore another challenge was to bring together the different streams of published or soon to be published work.

1.5 Existing Standards and Workforce

1.5.1 The National Neonatal Medical Workforce

The medical workforce is traditionally arranged as a three tier model. The *BAPM Service Standards (2010)* outline their recommendations for medical staffing; seen in Table 1.

Table 1: BAPM 2010 Service Standards

NICU STANDARD (BAPM 2010)
Tier 1: Staffing can be from paediatric ST1-3, ENNPs or ANNPs, specialty doctors. Separate neonatal rotas with a minimum of 8 staff.
Tier 2: Staffing from paediatric ST4-8, specialty doctors, other non -training grade doctors, ANNPs (with appropriate additional skills and training), resident neonatal consultants. Separate neonatal rotas with a minimum of 8 staff.
Tier 3: Consultant neonatologists. A minimum of 7 consultants on the on-call rota. There will be 24/7 availability of a consultant neonatologist for Tier 3. All tier 3 consultants should be identified neonatal specialists [i.e medical consultants with a CCT in paediatrics (neonatal medicine) or CESR (via article 14) in neonatal medicine, or an equivalent overseas neonatal qualification.]
All staffing roles should be limited to neonatal care at all levels, i.e. no cross cover with general paediatrics.
For larger Neonatal Intensive Care Units, special consideration should be given to the number of staff required at each tier throughout the 24 hours and giving due consideration to the time required at each handover. With increasing size, at some point, essentially the whole of the staffing structure described in 5.4.2 should be doubled. Individual units should be assessed on a patient safety basis
NICU STANDARD (DH Toolkit 2009)
24-hour cover for provision of direct care with sole responsibility to the neonatal service (ST1–3 or ANNP).
24-hour cover of resident experienced support for sole cover of the neonatal service and associated emergencies (ST4 and above or ANNP)
24-hour availability of a consultant neonatologist whose principal duties, including out-of-hours cover, are to the neonatal unit

BAPM 2014 Optimal Arrangements for NICUs
Consultant staff in NICUs should be on the General Medical Council specialist register for neonatal medicine or equivalent and have primary duties on the neonatal unit alone
NICUs with more than 2500 intensive care days per annum should double tier 2 cover at night by adding a second experienced junior doctor ST4-8 or appropriately trained specialty doctor or ANNP. A consultant present and immediately available on NICU in addition to tier 2 staff would be an alternative.
NICUs co-located with a maternity service delivering more than 7000 deliveries per year should augment their tier 1 cover at night by adding a second junior doctor, an ANNP and/or by extending nurse practice.
NICUs undertaking more than 4000 intensive care days per annum should consider the presence of three consultant led teams during normal daytime hours.
Neonatal consultant staff should be available on site in all NICUs for at least 12 hours a day and for units undertaking more than 4000 intensive care days per annum, consideration should be given to 24 hour consultant presence
NICUs undertaking more than 4000 intensive care days per annum with onerous on-call duties should consider having a consultant present and immediately available 24 hours per day.
NICUs undertaking more than 2500 intensive care days per annum should consider the presence of at least 2 consultant-led teams during normal daytime hours.
NICUs undertaking more than 4000 intensive care days per annum should consider the presence of three consultant-led teams during normal daytime hours

There is now a widely acknowledged problem in recruiting doctors to train and work in Paediatrics. Royal College of Paediatrics and Child Health (RCPCH) data in 2016 states that there is currently, 14-18% vacancy gap on Tier 2 Neonatal and General Paediatric/Neonatal rotas and 46-54% of vacancies are filled by locums (Paediatric Rota Gaps and Vacancies 2016, RCPCH).

The State of Child Health: The Paediatric Workforce report published in April 2017 by RCPCH states that 465 trainees are required in every year of level 1 training (ST1-3) to maintain the current proportion of trainees.

The RCPCH report found that the overall proportion of rota gaps was almost 1 in 5 (18.6%). This is an increase from 14.9% from January 2016. Vacancies for middle grade doctors were higher with a 23.4% gap. Of the vacant post 41% were filled by locums - this had decreased from 47% from 2016. 83% of trusts reported that the government-imposed cap on locum rates had negatively affected staffing.

An extra 752 whole time equivalent consultant paediatricians are required above the 3757 WTE consultants there currently are (2015 data).

In 2017, overall applications to Paediatrics fell to an all-time low. Recruitment to Specialist Trainee 1 (ST1) was patchy and incomplete and this necessitated the RCPCH running a second recruitment round in an attempt to improve the fill rate.

These figures provide evidence of the national shortage of paediatric doctors, however it is not known what the gaps are like across the London neonatal network specifically.

1.5.2 The London Paediatric Trainee Experience

London School of Paediatrics trainee committee shared their data regarding trainee experience. The Trainees' Survey is completed annually; the 2016 survey covered the placement from September 2015 –March 2016. The response rate was good with 865 trainees completing the survey - over 90% response rate.

Looking at neonatal placements specifically, overall satisfaction rates varied. Satisfaction rates were measured as a response of "good/excellent" or "poor/below average" for overall experience in each neonatal placement. 7 out of 24 units received over 90% trainee feedback as "good/excellent". Less than 50% of trainees had "good/excellent" experience in 8 out of 24 units, while the remaining units had 50-90% feedback as "good/excellent".

The top 3 positive aspects of a neonatal placement according to trainees are:

1. Good learning opportunities and experiences
2. Good senior support
3. Great team, relationships, environment

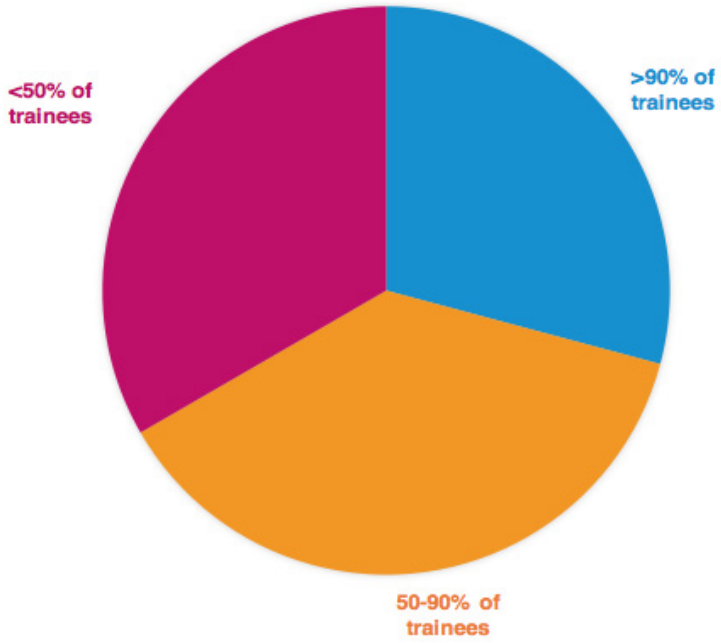
Looking at the concerning aspects of neonatal placements, rota issues and staffing levels were the top concern - leading to short staffing and stressful working patterns – these are mentioned by around half of trainees.

The next level of concerns are related to:

4. A lack of structured teaching and/or difficulty getting to study days
5. A lack of learning opportunities and challenges getting assessments completed
6. Poor morale, teamwork, relationships

The 2017 General Medical Council (GMC) survey has also been released. It is interesting to note that busy London units have received sustained positive feedback from trainees. This demonstrates that even in clinical areas with high activity, there can be a positive training experience. The reason this is important is because trainee experience goes hand in hand with patient experience. It is therefore worth investing in supervision and education for trainees, as these efforts are rewarded on every level. Themed data by specialty will be further released in Autumn 2017; however, Trusts can compare their findings on the GMC site with previous years and also to other trusts here.

Neonatal placements rated as "Good/Excellent" satisfaction score across London



1.5.3 The National Neonatal Nursing Workforce

The BAPM Service Standards (2010) and Tool Kit for High Quality Neonatal Standards (2009) also make clear the anticipated pattern of nursing and allied health professional staff cover in different levels of unit. Nursing roles identified include:

- Non-Registered Clinical Staff
- Neonatal Nurse Qualified in Speciality (QIS)
- Nurses QIS working in roles with Enhanced Practice
- Advanced Neonatal Nurses Practitioners
- Neonatal Nurse Consultant Role

The following recommendations are based on the numbers of nursing staff that should be available on each shift.

For each category of care:

Intensive Care	1 RN : 1 cot
High Dependency Care	1 RN : 2 cots
Special Care	1 RN / NN : 4 cots

70% of neonatal nurses should be QIS as per BAPM standard.

The also outlines the current nursing structure, career, education and competence framework for neonatal nursing in their guidance.

The nursing roles identified include five different levels which offer a structured career pathway for the neonatal nurse:

- Unregistered and support neonatal workforce
- Novice / advanced beginner / New Entrant
- Competent Neonatal Nurse / QIS
- Proficient Neonatal Nurse
- Expert Neonatal Nurse

Bliss Baby Report 2015 found that there is a shortfall of neonatal nurses in England. During their survey they found that 64% (52 out of 81) of units considered they did not have enough nurses. Bliss has calculated that there is a shortfall of 2,140 neonatal nurses in England, leaving babies without the nursing care they need. Further analysis shows that 2/3 of UK units do not have the required number of specialist nurses to reach the BAPM 2010 standard of 70% of nursing staff to be QIS.

2140 more nurses were needed to care for babies in England and 2/3 of all units do not have enough nurses QIS.

1.5.4 The London Neonatal Nursing Workforce

London Neonatal ODN completed a Workforce Strategy Report for 2016/2017 (LODN 2016). The key findings are highlighted below and validate the issues found by Bliss in 2015.Having identified the current status and national compliance to the standards, it was clear that the real time issues in London needed further investigation.

Key Findings: London Neonatal ODN 2016

- 16% vacancy rate across London for all levels of nurses
- 64% of all vacant posts are at QIS level (Band 6)
- 24% of vacant posts are at New Entrant level (Band 5)
- Majority of nursing deficit occurring in tertiary level NICUs (27%)
- 21% deficit in LNUs (Level 2) and SCUs (Level 1)

Fewer than half of all London units meet the BAPM standard of 70% QIS workforce

  - » Average is 68%
  - » Variance is 49-92%

- Difficulties in releasing nurses from clinical duties to undertake QIS course
- Added pressure for nurses in LNU having to do placements in NICU to complete QIS

As part of the HEE Shape of Caring Review, Turrill (2015) undertook a review of Neonatal QIS education and competency. The main driver of the project was the diversity of QIS education which has become evident nationally since it is no longer regulated at a national level since the English National board was dissolved in 2002. The aims of the project were to determine current and predicted scale of need for QIS course places per Network and nationally. To identify and disseminate foundation learning packages that had a basis in the RCN novice level practice domains (2012 & 2015) with a final aim to create a criteria based standards audit toolkit, mapped to the BAPM education framework (2012), to be utilised throughout England by HEIs, trusts and networks.

> *"Overall the need for standardisation of QIS education for neonatal nurses is fully supported nationally*

Although Turrill's project was published in 2015 and identifies 'real time' issues with education, training, access to foundation and QIS education and has strong recommendations for stakeholders, the toolkit has yet to make an impact.

2. Key Findings

Key findings have been identified through site visits, stakeholder engagement and data collection. This chapter focuses on the issues highlighted and potential workforce solutions.

2.1 Outcomes of London Medical Workforce Survey

To complement the London ODN neonatal nursing workforce survey, a medical comparison was completed.

Medical Workforce Survey Analysis

As part of the project a London Neonatal medical workforce survey was completed to accurately identify the workforce population and shortages. A short survey was sent out via email to 25 neonatal units across London. Great Ormond Street neonatal unit and Royal Free Hospital neonatal unit were excluded from the survey as they do not use the BAPM workforce model. GOSH uses the PICU-based workforce model and Royal Free provide a consultant-led SCBU service without middle grade doctors.

24 units responded (96% response rate) to the workforce survey and show a point-prevalent data capture. Results reflect a point in time (5 October 2016); because of the dynamic nature of workforce, this snapshot cannot indicate the variability of gaps in staffing.

Whole Survey Analysis

15 out of 24 units had a separate neonatal rota.

4 units have resident consultants. One unit introduced resident consultants as a workforce solution.

> “ *In view of long term recruitment issues – [we are] now starting MTI schemes and replacing senior clinical fellows with resident consultants*
>
> **Lead Consultant**

In the 24 units across London, there are 243 WTE Tier 2 middle grade posts, of this 179 WTE are training posts (73.7%) and 64 WTE non-training posts (26.3%). When units were asked if their workforce numbers were sufficient for their needs (a subjective question), 9 units said that they were. 3 said that it would be if they were fully recruited and 12 said their current workforce numbers were not sufficient for their needs.

Half of the neonatal units in London considered themselves to be understaffed.

A breakdown is provided per unit level later in the report.

ANNP

There are 33.25 WTE ANNPs working across London, 4 are working on Registrar rotas and 16 are working on SHO rotas. Therefore, 2/3 of ANNPs in London are working on medical rotas while the remaining 1/3 are in other roles.

Rota Gaps across London

There are 13.1 WTE Tier 2 (middle grade) rota gaps and 16.5 WTE Tier 1 (SHO grade) rota gaps in London.

This equates to 5.4% Tier 2 middle grade rota gaps and 6.7% Tier 1 (SHO) rota gaps across London.

The most common reason for gaps was “vacant / unfilled posts”. Other reasons included maternity leave, long-term sickness and awaiting non-training doctors to start.

Rota gaps have consequences for training opportunities for the junior doctors working on the rota, and access to study leave and annual leave can be compromised.

> *There are frequent gaps on general paediatric rota, and a 9 or 10 person rota would allow better service provision as well as easier access to study leave etc.*
>
> *The site also has an extensive Paediatric Department, with lot of learning opportunities, but no time within the neonatal rota to attend them.*
>
> **Lead Consultant**

Special Care Units across London

SCU	Live Births 2015/16	Total Cots	WTE Total Reg	WTE Total SHO	WTE Total ANNP	Reg Gap	SHO gap	*Sufficient?
1.A	5087	16	16	15	0	1	1	Yes
1.B	4604	16	16	16	0	0.2	0	No
1.C	4311	12	7	10	0	2	0	No
1.D	2001	6	8	8	0.2	0	0	No

*Sufficient for their needs (a subjective question).
Shaded rows identify units with below the recommend 8 registrars as per BAPM standards.

1 unit felt their workforce numbers were sufficient for their service. The other 3 did not. All units had a mixed neonatal/paediatric rota with a separate neonatal rota in hours Monday-Friday. No units had resident consultants.

The main concerns cited by units 1.B, 1.C and 1.D was that the middle grade rota did not allow for separate neonatal unit cover in the evenings and weekends as registrars would be in A+E/paediatric units most of the time.

> ***Do you think the number of WTE middle grade doctor slots are sufficient for your unit?***
>
> *No. The current number of slots doesn't allow for separate A&E middle grade cover between 1230-2100 at the weekend which is available on Mondays - Fridays.*
>
> *Our A&E is very busy and this makes managing patient flows quite challenging at weekends.*
>
> **Consultant**

Local Neonatal Units across London

LNU	Live Births 2015/16	Total Cots	WTE Total Reg	WTE Total SHO	WTE Total ANNP	Reg Gap	SHO gap	*Sufficient?
2.A**	4164	22	17	7	0	0	1	No
2.B	5108	28	7	7	0	0	2	Yes
2.C	4743	16	9	6	0	0	0	Yes
2.D	3733	23	14	8	1	0	0	Yes
2.E	5430	30	8	8	0.5	0	0	Yes
2.F	4804	18	12	16	0	1	0	No
2.G	6486	23	6	8	1	1.2	0	No
2.H	8202	25	8	10	1	0	4	Yes
2.I	4190	18	10	11	2	4	1	No
2.J	2972	18	6	6	1	0	1	Yes
2.K	3997	26	6	6	0	0	0	No
2.L	3986	20	6	7	0	1.2	1	No

*Sufficient for their needs (a subjective question).
**Unit 2.A have their registrars cross-site working with unit 3.A.
Shaded rows identify units with below the recommend 8 registrars as per BAPM standards.

6 out of 12 LNU's felt they were adequately staffed for their needs. Unit 2.H has the greatest number of live births and 8 WTE registrars and feel their staffing levels are sufficient.

*Unit 2.A has their registrars cross-site working with tertiary unit 3.A.

5 out of 12 units do not have the minimum 8 staff on the Tier 2 (middle grade) rota, 3 out of these 5 units felt that their staffing numbers were insufficient and they all recognised this.

> *The Unit needs more middle grade cover: at present reliant on locums and community support to make the rota work.*
>
> *We are often short of middle grades due to gaps not being filled, maternity leave or sickness. The middle grade doctors we have are overworked.*
>
> **Lead Consultant**

One of the 3 units will have an ANNP moving to their middle grade rota soon to help with the Tier 2 gaps.

7 units had separate rotas from General Paediatrics while the others were mixed (one being mixed out of hours). Separate rotas did not make a difference to whether units felt they had sufficient medical staffing.

Neonatal Intensive Care Units

NICU	Live Births 2015/16	Total Cots	WTE Total Reg	WTE Total SHO	WTE Total ANNP	Reg Gap	SHO gap	*Sufficient?
3.A**	5297	24	17	13	0	0	1	No
3.B	5271	37	8	9	1	1	0	Y - if fully recruited
3.C	6697	30	11	12	6.5	0.5	0	Y - if fully recruited
3.D	5177	37	11	11	3	1+	0	Y - if fully recruited
3.E	5974	46	10	16	3	0	2.5	No
3.F	6446	50	13	15	4	0	1	Yes
3.G	5346	36	8	11	2	1	1	No
3.H	5190	40	9	10	7	0	0	Yes

*Sufficient for their needs (a subjective question).

**Unit 3.A have their registrars cross-site working with unit 2.A.

When looking at Level 3 NICUs, only 2 units felt their current staffing numbers were sufficient for their workload. 3 units said that their numbers are only sufficient if fully recruited, leaving 3 units who consider themselves to be understaffed.

Unit 3.A has the most registrars but they cross cover LNU unit 2.A. The majority of ANNPs are based in tertiary units, with only 1 unit not having an ANNP.

This data shows the heavy reliance on medical staff to maintain services across London.

Although consolidation of units is out of scope for this project one team identified that despite consolidation within their area, there were still medical rota gaps.

> *"With the current numbers of WTE middle grade doctors, there is no opportunity to dedicate time for other educational or learning activities, like audits, guidelines etc. The unit has a MRI scanner adjacent to the NICU and neonatal neurology and cardiology expertise; an additional post would give the advantage of learning these skills."*
>
> **Lead Consultant**

2.2 Outcomes of Interview Process

Semi-structured interviews took place with Lead Consultants, Neonatal Consultants, Matrons and Neonatal nurses in 14 out of 26 neonatal units across London. Units included the 3 different categories of neonatal care to ensure all levels were considered.

Each unit was very welcoming and showed obvious commitment to delivering high quality care with dedicated teams. It was a very positive experience to meet with them.

Recurring themes were identified throughout the interviews and echoed the workforce and service delivery issues already acknowledged by the London Neonatal ODN, RCPCH, GMC and Bliss. While this is a report on London workforce, the findings may be similar in other parts of the country.

While formal thematic analysis was not undertaken, it was clear during the interview process that teams had similar common challenges. Challenges spanned across organisational service delivery and workforce. A summary of the issues is provided in Table 2.1.

Table 2.1 Key Findings from Semi-Structured Interview	
Organisational	
BAPM standards are not being achieved due to vacancies	Despite consolidation within London, there are still issues with staffing
Different models of Transitional Care	Variance in postnatal baby checks and IV antibiotics – whose role is this?
Variance in data management – whose role is this?	Culture of unit is influential on staffing
Family Integrated Developmental Care Model developing in London	Reducing newborn admissions in neonatal units pivotal
Nursing	
Band 6's Nurses Qualified in Speciality are difficult to recruit	QIS ratios vary significantly across London. Difficulty in releasing nurses to undertake QIS training
Nurses leaving due to wanting a better work / life balance	2/3 of ANNPs are currently on medical rotas
Nurses have enhanced skills but not a defined role and often used at their own discretion	Retirement planning is crucial
Pre-registered neonatal nursing modules currently only in 2 HEIs	
Medical	
Vacancy in middle grade workforce	Task orientated service provision for junior doctors leading to an unsatisfactory placement experience
Not enough time for learning and role development	International schemes to get doctors: use of Medical Training Initiative (MTI)scheme is variable
Role of Associate Specialist used effectively in some units and should be explored	Effect of pay cap on locum doctors
	Training could be shorter and more intense
Non-Registered Staff	
Variance of roles and responsibilities of unregistered nurses including drug administration	Current Training for Nursery Nurses does not include care of newborn
Specialty courses at graduate level, meaning nursery nurses may not reach entry requirement	Development of the Nursing Assistant role is seen as both positive and negative by nursing staff

2.3 Possible Workforce Solutions following Semi-structured Interviews

Units have developed responsively to their local population and workforce and have organically developed a range of roles and solutions thereby creating variance across London.

After discussion with the teams in London and ODNs nationally, the following 8 roles were explored further and identified as possible workforce solutions. Roles could be either considered separately or together which would enable a whole workforce transformation.

Possible Workforce solutions following semi-structured interviews

8 roles identified

1. Unregistered and Support Neonatal Workforce
2. Enhanced Neonatal Nurse Practitioner
3. Advanced Neonatal Nurse Practitioner
4. Physicians Associate
5. Clinicians Assistant
6. Non-medical prescribers
7. MTI scheme
8. Associate Specialist

2.3.1 Unregistered And Support Neonatal Workforce

The role of the unregistered support worker is well established in neonatal care. Units reported having different levels of support and unregistered workers within the units.

Roles identified correlate with the RCN Guidance 2015

- Health care assistant (HCA)
- Maternity support worker (MSW)
- Health care support worker (HCSW)
- Nursery Nurse diploma (NN)
- Associate/assistant practitioner foundation degree (AP)

Units have developed these roles with the majority employing Nursery Nurses (NVQ Level 3) to deliver hands on care in SCU and TC. Nursery nurses support parents with infant feeding, parent craft and education under the supervision of a registered QIS nurse as well as caring for babies.

Maternity units have developed the role of the Maternity Assistant (MA) to support midwives and delivery of care to parents and babies. Those areas with TC report utilising skills of MA's, nursery nurses and neonatal nurses in their units.

One unit is considering developing a shared role for the NN / MA rotating across the neonatal unit and maternity unit. Their rationale was that shared training and rotation of staff will aim to develop skills and competence in neonatal care / perinatal care. This will in turn enhance care delivery, support the nursing and midwifery staff, focus on keeping the mother and baby together and preventing admissions to the Neonatal Unit.

Medication administration is inconsistent. Some units reported that their trusts were in favour of this group of staff administering simple medications (those that do not require a calculation) whilst others had recently withdrawn the option, and others had never been able get this off the ground due to organisational barriers. One unit reported a development of supporting unregistered nurses with administrating intravenous medication and are in the process of currently developing this training. When exploring this further, other units were not in agreement with developing the NN to provide this level of care.

The traditional NN training has changed over recent years and the students are exposed to the care of babies over 3 months and not the newborn or the premature infant. New NN's coming into neonatal care therefore need further training and competency / skill development.

Most units support the nursery nurse through competency-based courses within an HEI such as the Transitional Care, Special Care module and Safeguarding Children's modules, thus considering them to be a nursery nurse qualified in Special Care.

Units were concerned that recent changes in nurse education has meant that the majority of modules are now at graduate entry level and this may lead to complications if the NN does not meet the entry requirements to study.

> *I don't agree with diluting the nursing workforce with non-registered nurses – we need more nurses who are QIS.*
>
> *We have 'J' working in the HDU area but it is ok as we have trained her so we know what she is competent to do*
>
> ('J' is a Nursery Nurse)
>
> **Practice Educator – when talking about Nursery Nurses**

However, interestingly one Consultant did not recognise the role of the nursery nurse as being any different to that of the registered nurse.

Assistant Practitioners are non- registered nurses who have undertaken the Foundation to Nursing course. This career pathway is currently being superseded by the Nursing Associate role – a role that is being developed and regulated with the Nursing and Midwifery Council.

Feedback was very positive about this role and its development in the future. It was felt that there is scope to develop the role further and for the unregistered nurse to be able to provide a higher level of clinical support in the units following training and support in practice.

A review of the Swedish model of care shows a development of unregistered nurses working alongside and supported by nurses QIS in both HDU & ITU (Section 3.5 – table 3.1).

The current vacancy factor in Sweden in approx. 20% of nurses who are QIS. Development of this role has meant there are fewer gaps in providing 'hands-on care' as non-registered nurses are trained to deliver more enhanced skills than in London.

Challenges & Risk

Increasing this role may be thought to be diluting the qualified nursing workforce. However, if training is robust and clinical skill acquisition is developed and maintained and this group of staff become registered with the Nursing and Midwifery Council (NMC), then this would provide the governance behind the development of the role.

> *I don't think we have any nursery nurses working in our unit*
>
> **Consultant**
>
> *We have 4 nursery nurses working in our unit*
>
> **Matron**
>
> *Oh! I thought they are nurses*
>
> **Consultant**

2.3.2 Enhanced Neonatal Nurse Practitioner

The Enhanced Neonatal Nurse Practitioner (ENNP) is a recognised role within neonatal nursing and has developed within London and throughout the country at varying rates.

Scope of clinical practice / Clinical effectiveness in practice

Nurses have the opportunity to undertake an enhanced practice course following the QIS course and prior to commencement of the Advanced Neonatal Practitioner course. Nurses can choose to complete ENNP training and stay at this level, and this is a good option for those that do not want to undertake the rigorous ANNP training but would like to enhance their development.

The enhanced training has meant nurses are able to consolidate their QIS training and develop skills in assessment and management of neonatal conditions, perform and analyse blood gases, develop a comprehensive understanding of physiology and pathophysiology, undertake basic interpretation of chest and abdominal x-rays, and

perform neonatal cannulation. HEIs can also offer non-medical prescribing courses following this.

Challenges and risk

The main challenge with this role is that there needs to be enough nurses with QIS in post to be able to undertake the enhanced training. With large gaps in numbers of QIS nurses and difficulties in releasing nurses for QIS training, this could be seen as an added pressure to a service.

Units in London have supported nurses to complete this course in the past and many QIS nurses have undertaken it, following consolidation of the neonatal training, and are performing elements of the skills learnt.

However, there are variances in role development and application in practice. Some nurses are very active in applying and developing these skills and will use these skills in daily practice. However, some units report that these enhanced skills are dependent on the nurse wishing to perform them and some nurses still consider these roles as 'medical tasks' and will only undertake them at their own discretion.

There does not appear to be a role definition or expectation of the role of the ENNP in London despite its wide spread recognition.

Another challenge of the ENNP role is that there is such variance in the education and training.

Review of existing courses for enhanced neonatal practice within London, as well as nationally, show a variety of modules being offered.

The course aims and objectives vary, as well as differing duration of study, strategies for teaching and learning and final assessment. Modules / courses also range in academic weighting from Undergraduate, Post Graduate or Masters level. There is also a cost implication for trusts (ranging from £900 – £2600).

Higher Educational Institutes (HEI) within London reported that although courses have been accredited, they ran on an ad-hoc basis. There is not enough consistent interest from trusts and therefore it is not economically viable for HEI's to run annually. Some London HEI's have not run the course for the last three years.

Since the professional bodies have not regulated QIS courses or ENNP courses within post-registration education, there is inconsistency in the standard and delivery of these courses which in turn encourages inconsistencies in practice.

Example ENNP Courses may be found in Appendix 2.

Nationally the ENNP role has followed a more structured trajectory. Band 6 nurses in North West England are expected to undertake the 'Enhancing Neonatal Nursing Practice' once QIS has been achieved. BAPM Standards 2010 highlight that the role of the ENNP may overlap with elements of the SHO role. Currently this is a non-prescribing course.

2.3.3 Advanced Neonatal Nurse Practitioner

The Advanced Neonatal Nurse Practitioner (ANNP) is a well-established role within neonatal nursing and has developed within London and throughout the country at varying rates. The role is embedded into the culture of units and these nurses are expert neonatal nurses with a wealth of experience and knowledge.

Training for the ANNP role takes three years studying at Masters level.

Scope of clinical practice / Clinical effectiveness in practice

Nurses have had the opportunity to undertake an advanced practice course following consolidation of the QIS course and also ENNP course; however the ENNP course is not a prerequisite.

Following review of units and the nursing workforce survey, findings show that these posts are used in differing ways. This is mainly due to skills and competence of the ANNPs but also due to the individual needs of each trust.

ANNPs may be part of the middle grade rota and/or the SHO rota however they are paid from the nursing budget. In response, some units ask their ANNPs to remain on the nursing rota as well as the medical rota to support the senior nursing team.

> *ANNPs to bring stability to the unit*
> **Lead Consultant**
>
> *Role of ANNP – [the] Golden Thread between Doctors and Nurses*
> **Head of Nursing**
>
> *ANNPs shouldn't lose the nursing aspect, they need to be involved in audit and looking to change clinical practice*
> **Head of Nursing**

The London workforce survey showed that 2/3 of ANNPs are working within the medical rota.

Challenges and risk

LNUs reported that they had difficulty retaining the ANNP following training as nurses wanted to consolidate their skills in tertiary centers. LNUs were reluctant to support training for this reason. The **cost of back filling** the ANNP training was considered a challenge for trusts in the current financial situation.

Units reported that ANNPs are senior nurses who after training for QIS/ENNP/ANNP do not always want to carry on working a shift pattern because of family commitments and life/work balance; as a result ANNPs often leave and take on a senior management role such as a matron, senior nurse or Head of Nursing.

> *"ANNPs are happy to do everything initially, but as time progresses they are less keen on doing 'SHO jobs'*
> **Lead Consultant**

Although there are courses within London, nurses reported that they preferred to travel out of London to undertake training. This needs further investigation. HEIs reported that not all nurses are able to undertake a Masters level qualification due to the impact on studying whilst working full time and/or academic ability.

Senior staff are often quoted as emphasising the importance of developing the ANNP role as an important part of the solution to solving medical workforce problems.

However, increasing ANNP numbers in London cannot be considered as a long-term solution to mitigate against falling numbers of medical staff.

It has the potential to increase the strain on nurses who are QIS, takes senior nurses away from the existing pool and depletes the QIS numbers further, thus adding to the vacancy factor.

2.3.4 Physicians Associate (PA) Band 7/8A

The PA role is well established in the USA, and is developing within the country at a rapid rate since the first course started in 2007. In the UK, as of 2017, there are more than 30 courses. PAs have been successfully introduced in one Paediatric Intensive Care Unit (PICU) within London (White H Round J 2013), and the same Trust is considering recruiting PAs to work across obstetrics and neonatology to support newborn care. A sample job description can be found in Appendix 3.

Physicians Associate - A Case Study

PAs introduced to PICU in 2010 as increased activity necessitated 6 more staff members on the rota.

Needed a "good SHO level" team to carry out plans made for the children.

The role is technical and protocol driven, does not require advanced decision making skills therefore can be done by a range of people: e.g Junior Clinical fellows/ANPs/ODAs/Junior trainees/PAs

Successes

- Real benefit was seen at first medical changeover as they had the time to help junior doctors during orientation and settle into new role and develop skills
- Good levels of supervision within PICU environment
- Creates a stable workforce
- Ability to work 'out of hours' to support weekends and evenings

Skills / Tasks

- Procedural skills
  - » Insertion of PICC lines and difficult phlebotomy
- History taking and examination
- Order and chase investigations (however, unable to order x-rays due to radiation considered as a prescribed drug)

Challenges

- Difficulty is that PAs are unable to prescribe
- PAs have 3 week "elective" in year 2, need to encourage PAs to come to Paediatrics / Neonatal Unit to gain experience and then willingness to come to work in the units.
- Professional identity may be problematic if coming from another discipline (Nursing / ODA / Paramedic background)
- Average length of stay 6-7 years

Lessons Learnt and Advice

- Initially the recruitment process focussed more on experience etc, rather than who is trainable
- Took about 4 months to settle in, the role in the department was unknown to them as well as unit staff Nurses were not keen as staff already working can do those jobs
- Initially paid at band 7 but seemed unfair as a starting grade. Changed to initial pay of band 6 with progression to band 7 when competencies are achieved

2.3.5 Clinicians Assistant - Band 4

The Clinicians Assistant role was identified by 2 units.

One unit described an assistant role which had proved to be successful between the neonatal and the general paediatric unit (case study 1) and another unit had developed an assistant's role from a member of the phlebotomy team who worked solely in the LNU (case study 2).

The role is seen as a unique post with several important and varied clinical, administrative and coordinating functions. This post is suitable for a graduate who is enthusiastic about the clinical environment and has excellent interpersonal skills to communicate with a wide range of professionals. A sample job description can be found in Appendix 4.

Clinicians Assistant - Case Study 1

Background

- Graduate with a science background (e.g. Biomedical Science BSc)
- Post would suit graduate prior to medical school
- Desirable skills at interview include phlebotomy, quality improvement, experience in a clinical environment, accepts boundaries.

Training

- Shadow SHO's and ad hoc learning – on the job using a competency framework
- Work alongside adult phlebotomists to gain phlebotomy skills in adults then develop skills in children whilst in clinic and finally neonates.
- Nursing Educator to support teaching of clinical skills

Successes

- Ability to work with 1 less SHO on rota
- Can work well on a neonatal unit as a finite area

Skills/Tasks

- Blood taking / Cannulation
- Coordinate care / attend hand over and act on decisions
- Collect Notes / Prepare discharge letters prior to signing by clinician
- Request investigations / Preparing lists for ROP screening
- Inputting Badgernet data & SEND
- Help with audits & quality improvement projects
- Support SHO on postnatal ward, supports NIPE completion

Challenges

- Life span of role is 2 years as no career progression or movement in post
- Post holder cannot work above knowledge as lacking theory & knowledge
- Cannot have access to medications
- Does not make clinical decisions

Lessons Learnt and Advice

- Important to think of them as an SHO level and not as nursing staff
- Keep under medical remit to ensure role definition
- Most useful during weekdays and not weekends as not enough tasks to undertake
- Accept that it is for two years
- Initial 6 months acts as a probation period and post holder working at a novice level: 1 year working at a good level prior to last 6 months waiting to find new post
- Ensure graduate level entry
- Use nursing appraisal system but with SHO type appraisal
- A popular job to apply for from health care assistants but this post does require a degree level entry as opposed to NVQ level
- Recruit at different times of year to provide shadowing and supervision for each other. Works well with 2 in post working months I each area before rotating
- The post helps to unite doctors and help them feel supported

At interview - Top Tips!

- Ask about boundaries, awareness of limitation of the role
- Discuss team working & prioritisation skills
- Ensure candidate would fit into the existing medical team
- Are they aware of where they are going and where they want to go?
- What is their motivation and where will it take them?
- Needs to be able to prioritise, listen to handover and act
- Ask to write a referral letter as part of interview

Clinicians Assistant - Case Study 2

Compared to the first case study, this post was "home-grown" and developed responsively to the unit's needs.

Background

- One neonatal unit has a Clinicians Assistant whose background is in phlebotomy.

Training

- She was trained by the Consultants and Registrars on the unit. She also completed the Nursing Associate Foundation Degree at Southbank University.

Successes

- Improved quality of care
- Stability to workforce
- Ongoing teaching and training for doctors
- Ownership of administrative tasks – providing consistency
- Support for medical and nursing teams
- Less costly than PA / ENNP / ANNP role

Skills/Tasks

- **Practical Tasks:** Insertion and removal of cannulas, umbilical lines, long lines and blood taking
- **Administrative Tasks:** Inputting daily updates on Badgernet data for all babies, managing ROP screening, organising Newborn Blood Spot, and immunisation schedule
- **Pastoral Support:** The CA has been working on the unit for 13 years. She provides support to the doctors and nurses. She is actively involved in supporting the unit during the changeover of doctors

Challenges

- Requires selective recruitment - would suit an individual who would like to increase skills but acknowledge limitations in career progression

Lessons Learnt and Advice

- An excellent role providing stability and support to a LNU. Has longevity

2.3.6 Non-Medical Prescribing

Non-medical prescribers can help to alleviate some of the pressures within neonatal units. One Level 3 unit is developing prescribing pharmacists who will not only be prescribing, but will also help the nursing team with drug administration.

ANNPs can prescribe on the unit as it is part of their training, however non-medical prescribing is not limited to ANNPs. The Department of Health has information regarding training to become a non-medical prescriber. A review of this policy was completed in 2010 and results indicate that overall, nurse and pharmacist prescribing is currently safe and clinically appropriate and was generally viewed positively by other health care professionals. (DoH Policy Research Programme, 2010).

Between 2% and 3% of both the nursing and pharmacist workforce are qualified to prescribe medicines independently – 93% of nurse prescribers and 80% of pharmacist prescribers had used their independent prescribing qualification. 86% of the nurses and 71% of the pharmacists were currently prescribing (DoH Policy Research Programme, 2010).

2.3.7 Medical Training Initiative (Paediatrics) Scheme

The Medical Training Initiative – Paediatrics (MTIp) scheme allows Paediatric doctors from non UK/EEA to work in paediatric/neonatal units across the UK for a maximum of 24 months. Doctors would hold MRCPCH or equivalent level examinations and are offered posts at "middle grade" level. This not only benefits the unit but also provides teaching and training which doctors can promote in their home country. Recent changes made by the Department of Health and Health Education England mean that priority

is given to applicants from Low Income/Lower Middle Income Countries. Applicants from other countries are not guaranteed MTI Certificate of Sponsorship.

The RCPCH offers further information regarding the MTIp scheme.

2.3.8 Neonatal Specialty Doctors

Background

Previously known as Associate Specialist (SAS) or SASG (Specialty and Associated Specialty Grade) doctors, Neonatal Specialty doctors are employed in some units across London. These are highly skilled doctors with a wealth of experience and can be used very effectively, mainly for service delivery and patient care within neonatal units.

This role can, for some, lead to a better work/life balance. It may also be of interest to doctors who do not want as many administrative/management responsibilities as a Consultant.

Other benefits include (dependent on individual job role):

- Flexible contracts (term time/part time)
- Often no on call (particularly community based roles)
- No/little management expectations
- Targeted funding for SAS doctors
- Ability to progress onto GMC specialist register if wished (RCPCH SAS)

A sample job description can be found in Appendix 5.

Clinical Effectiveness in Practice

Case Study: Neonatal Associate Specialist

"My job has evolved, or rather took shape over time, and as my confidence grew.

The job description was just a frame and I think it should remain as such. The job then needs to be tailored for the needs of the unit and taking into account particular strength and interests of the appointee.

I happened to be interested in the neurodevelopmental follow-up and low dependency care areas so my final commitments are based in these areas.

I do:

- *Attend SCBU for 16 weeks a year (consultant level)*
- *Attend Transitional Care all year round (consultant level)*
- *Attend Prolonged Jaundice Service*
- *Attend neurodevelopmental clinic*
- *Supervise Examination of the Newborn clinic run by midwives*
- *Am clinical lead for NIPE and BFI*
- *Am one of the Milk Bank Coordinators*

On top of clinical commitments, I have my own share of managerial responsibilities like:

- *Introducing new pathways and innovations on the unit (bed –side CRP, Phototherapy at Home etc)*
- *Writing and updating guidelines*
- *Triggering risk assessment and audits*
- *Sitting on some management panels (Trust's screening Committee and Postnatal Subgroup)"*

The case study illustrates the clinical effectiveness of this role and the wide variety of support a Specialty Doctor can provide to a unit.

To support the development of this role, there is some national targeted funding available which is available on the BMA website with more information regarding how funding is allocated and managed.

There are now multiple resources available for career development. The RCPCH website has plenty of information regarding this. In addition, the NHS Health Careers website provides additional resources to support Specialty Doctors including terms and conditions for service, information regarding Certification of Eligibility for Specialist Registration (CESR) and contract information.

Recruitment

Contract information, guidance and additional information regarding Specialty Doctors can be found on the BMA website.

Future Planning

The British Medical Association (BMA), Health Education England (HEE), the Academy of Medical Royal Colleges (AoMRC) and NHS Employers recently published new guidance on the development of specialty and associate specialist (SAS) doctors in the NHS in England.

The guide aims to help to ensure that this important group of doctors remains fit to practise and develop in their careers. It describes actions that can be taken to ensure best practice is applied in the development of SAS doctors and dentists, as well as how different groups can work together to ensure the principle are consistently applied.

3. Factors that influence service delivery and impact on workforce

During the site visits, it was clear to see that there is wide variation in how units have developed operationally to deliver care. The following six factors were seen to have a significant influence and impact on the work force:

1. Culture & Environment in the Workplace
2. Preceptorship
3. Transitional care
4. Term readmission rates
5. Family Integrated Developmental care
6. Data Management

3.1 Culture & Environment in the Workplace

During the unit visits across London, culture in the workplace was often mentioned by the teams who were interviewed. Often it was a positive comment; however there are some issues that need to be addressed further.

The neonatal environment has been described as intense, with long hours, high-pressure and fast paced work. The chronic effect of understaffing in both medical and nursing teams causes fatigue. Existing medical staff cover rota gaps and units reported that shortages are predominantly filled internally by SHO's leading to increased tiredness. Those shifts that are not covered locally may result in outsourcing to locum agencies. Units report that due to the new contract and the pay cap on locum work, it is becoming increasingly difficult to fill gaps. Consequently, consultants have had to "step down" to cover gaps, resulting in cancelled clinics and decreased efficiency of the service – to say nothing of the impact on team wellbeing.

Similarly, in nursing, staff shortages are covered by nurses within the team.

Poor GMC National Training Survey results are often underpinned by rota gaps, which mean that doctors cannot attend training days, have a poorer overall educational experience, thus culminating in an unsatisfactory experience generally. This does not promote neonatology as a promising career option.

London has higher living costs compared to the rest of the country. This makes retention of staff more challenging because staff often cannot afford to live centrally and so commute for longer. Units report this as a cause of high attrition rates. One Neonatal Consultant reported that costs for accommodation, parking, and childcare are all affecting recruitment and retention rates for staff, adding *"[We] cannot get past the first level of Maslow's hierarchy."*

Some teams recounted that these factors can culminate in a stressful climate which can allow for bullying and low morale to breed and increase sickness rates. (Kivimäki M, Elovainio M, Vahtera 2000). This then negatively affects recruitment and retention.

Mindsets at work depend on good leadership; some units flagged up the difficulty in changing culture and progressing to different ways of working from senior leadership which affects junior morale.

> *"Band 7s don't do some of the tasks… the lower bands [then] don't aspire to do more, [it] is an "unspoken culture".*
>
> **Matron**

A culture of bullying has frequently been reported in GMC training surveys. This includes undermining behaviour from some senior nurses. The culture of "cyclical bullying" was discussed by a senior lecturer who mentors nurses training for QIS across numerous trusts. This is a key point to recognise as the intensity of NICU and staffing issues can allow for stress to build repeatedly.

Units spoke of developing strategies in response to these cultural issues. Trusts had continuous recruitment strategies and programmes in order to try to reduce vacancies. Some areas had developed Quality Improvement (QI) leads to

support service delivery and QI projects to foster enthusiasm and motivation within teams. Others placed value in roles such as ANNP and Clinicians Assistants to support role transition for junior nurses and stability within the unit to support junior doctors.

Others trusts have developed staff wellbeing initiatives such as campaigns ensuring staff take regular breaks and the offer of clinical supervision. For example, The HALT (Hungry, Angry, Late, Tired) campaign at Guy's and St Thomas' Hospital, encourages all staff to take enough breaks. This will help them to provide the highest standard of patient care, by putting them in a position to make the best decisions for patients. The campaign has been welcomed by the RCN.

3.2 Preceptorship

The Nursing & Midwifery Council (NMC) and the RCN strongly recommend that all new registrants have a structured period of transition for the newly qualified nurse (NQN) - known as preceptorship or foundation learning - in order to help develop confidence to practise competently and safely and support role transition. The preceptorship period should also ensure the NQN is familiar with and meets their obligations under the NMC code.

The majority of units have clinical and educational support for newly qualified nurses from neonatal educators to provide preceptorship to the newly qualified nurse. These are at either a band 6 or band 7 level and range from part-time to full-time posts.

The **London Neonatal ODN** Practice Development forum has developed Pan London clinical competencies for nurses working within the London area. These have been in place since 2015 and aim to support standardised practice and support across London (Rohan, T. et al 2015).

North West London as part of London Neonatal ODN has engaged in a project, supported by HEE, which supports a group of educators working within the NWL units to provide education and training at each unit which aims to enhance consistent learning, therefore driving up quality of care. The units have had very positive feedback regarding this approach citing nurses feeling supported; however it is challenging at times due to workforce pressures.

Outside of London there have been different approaches in supporting the NQN.

The **North West of England ODN** has an established preceptorship programme across the network which has been delivering nursing induction programmes for all band 5 nurses. The course runs for 6 months with a 6-week placement in an LNU, assessed by a clinical competency document matched to the RCN (2015) guidance. The aim is that by the end of the course, new nurses are trained to be able to care for a stable ventilated baby. The course is run twice a year and is recognized for 20-40 credits depending on HEI at level 6.

Thames Valley & Wessex ODN has developed a NQN preceptorship programme which is delivered through the network and supported by HEE Thames Valley & Wessex. The course is delivered by an experienced Neonatal Nurse and supported by HEE and the Network. Nurses who are newly qualified can access the course within a two-month time frame, and most will start within the first month.

Thames Valley & Wessex Preceptorship Programme for newly qualified nurses or novices (midwives/adult trained nurses) – commenced in 2014

Programme is mapped against BAPM foundation learning modules (2010 document) - Service Standards for Hospitals Providing Neonatal Care (BAPM)

1. Intro to neonatal care
2. Medicines management and IV care
3. Infection control
4. Blood transfusion
5. TPN
6. Simulation
7. Intro to neonatal surgery
8. Into to HDU
9. Intro to NICU
10. Palliative care
11. Attend the patient safety day which Paediatric ST1-4 doctors attend. They present a poster on a safety project they have been working on.

Teaching & Learning Strategies include:

- 10 face-to-face days
- 1 self study day
- ANNP input
- e-learning modules
- action learning sets
- Bioscience modules (respiratory/ cardiovascular etc)
- Use social media, e.g. Facebook as an education tool
- Competency framework produced

Test with pass mark set at 80%

After 6-9 months, they go on clinical placement for 2-6 weeks

It has been reported by the teams that both of these programmes have provided accelerated learning and skill acquisition, therefore increasing preparedness for QIS training. Within Thames Valley & Wessex, over half of QIS nurses are graduates of the preceptorship programme. Attrition rates have improved and the programme has facilitated movement between NICU and LNU. The course encourages a greater understanding of everyone's roles within neonatal care and has an influence on culture.

3.3 Transitional Care

Transitional Care (TC) is an important part of neonatal care; it is recognised by Bliss as the "fourth level of neonatal care". The ability to provide care for babies who can still be with their mother has wide ranging benefits including promotion of mother-baby bonding, reduced parental anxiety and reduced pressures on neonatal units. TC can be either in a separate ward or located on postnatal ward (PNW). All units that were visited had guidelines for which babies were appropriate for TC. BAPM Categories of Care (2011) states that "care above that needed normally is provided by the mother with support from a midwife/healthcare professional who needs no specialist neonatal training."

All the units that were visited had TC co-located on the postnatal ward. While the opinion that a designated area for TC would be preferred on PNW, due to patient flow this was not practical. Limited space within existing estates in hospitals does not allow for a separate TC ward.

Challenges that most units faced revolved around staffing and management. There is variation in who manages TC - some units are managed by Children's services, while others come under Maternity, and some units had joint management. Therefore, the income from TC goes to differing directorates. Medical staffing is provided by the neonatal team. Non-medical staffing varied - in some units midwives provided all care to TC babies (including administration of intravenous antibiotics (IVABx)), while others were more mixed – with neonatal nurses administrating IVABx, ANNP's completing baby checks and the

use of midwifery support workers (MSW's) or nursery nurses (NN's).

Good team working between maternity and neonatal teams are fundamental for the success of transitional care.

BAPM are currently consulting on guidance regarding Transitional Care models.

Delivery of Intravenous Antibiotics

The choice and administration of intravenous antibiotics varied across units in London, and the choice of antibiotic used also varied.

Most units used Benzylpenicillin and Gentamicin as their 1st line treatment for suspected sepsis. One unit changed to use Co-Amoxiclav as they found that they had an increase in gentamicin-related errors.

In 9 out of 14 units, the role of administrating antibiotics fell to neonatal nurses. In 3 units, the nurses went to the PNW and gave the antibiotics by the bedside. This, most importantly, reduced the separation time between baby and mother. One unit reported the strain of this model as they require an additional nurse per shift to allow this to happen. The majority of units had a "baby train", ie babies would come to the neonatal unit from PNW accompanied by either MSW or parent when their antibiotics were due. The majority of units grouped the timings for administration e.g. 0600 and 1800, in order to prevent disruption to the neonatal units' activity.

Nurses commented that their establishments often do not factor the antibiotic preparation and administration time into their rotas, thereby increasing pressure on their workload and detracting from the care babies on the neonatal unit receive.

4 out of 14 units had Cefotaxime in pre-filled syringes for their TC babies. This allowed midwives to administer the IVABx and free neonatal nurse time and reduce neonatal nurse pressure and workload. Again, this reduces separation time of mother and baby. All 4 units were tertiary level NICUs.

One tertiary unit reported that their Trust deemed pre-filled syringes to be too expensive. Another trust used to use pre-filled syringes before they had a change of clinical lead in their Microbiology department.

Management of Jaundice

Recognition of jaundice is considered to be a responsibility for both neonatal and midwifery staff. Most units relied on either a formal serum bilirubin or a blood gas analyzer bilirubin result to confirm if jaundice requiring treatment is present. Very few units made use of transcutaneous bilirubinometers (TCBs). TCB allows for a quick, non-invasive reading which can reduce the need for blood tests (and therefore reduce cost) and can help to recognise jaundice requiring treatment faster. Many units were keen for the use of TCBs to be implemented but often spoke about the cost and barriers from the midwifery team as to reasons why it has not been done.

The majority of units allowed for single phototherapy on PNW, and one allowed for double phototherapy on PNW which reduced its admissions to the unit and therefore reduced mother and baby separation.

These examples across London show that more can be done to support keeping mothers and babies together.

Performing discharge baby checks

Most units rely primarily on junior doctors to perform all newborn baby checks. Only a few units across London had midwives performing "normal" baby checks (babies delivered without any risk factors or those classified as transitional care). This reliance on doctors puts strain on the workforce and after a certain point, does not improve training. One unit said that this was one of the reasons that junior doctors were not happy with their neonatal placement. They tackled this issue by working with the midwifery team to train midwives in performing "normal" baby checks. They are working towards midwives performing the discharge check 7 days a week (it is currently 4 days). There are a handful of units that have midwives performing baby checks 7 days a week

and they report speedier discharges and improved patient flow with fewer "bed blockages". Another unit recognised the importance of having midwives performing discharge checks and have submitted a business case to their Trust.

Often the junior doctor covering PNW carries the labour ward bleep as well as performing the neonatal checks. Some units have another doctor holding the bleep to allow for the PNW doctor to focus on discharge checks and reviews only. One unit has had to increase junior doctor numbers to cope with the workload on PNW. This is a non-training post and the unit has faced difficulties in recruitment.

Through facilitated discussions with teams, it was perceived that working with the maternity team to provide midwives performing routine baby checks would not only improve patient flow, but would be overall more cost effective (due to reduced length of stay) and improve patient experience.

Another potential role is for Physicians Associates on PNW/TC.

Case Study: Unsuccessful Implementation of TC and Lessons Learned

Unit A recognised the need for a transitional care unit. They successfully wrote a business case and were granted funding for 1 year. However, funding was not in place when TC started.

Idea for TC was thought about around 4 years ago, when there was a Trust initiative about cross working in the hospital. Senior clinician and senior HR member teamed up and set a time frame to establish the TC unit.

TC Criteria

- TC: 10 babies/day
- Midwife to look after babies requiring phototherapy (no TCBs) and those on hypoglycaemia protocols
- Neonatal nurses to give IVABx on PNW. No pre-filled antibiotics
- TC located on the PNW
- 1 band 5 neonatal nurse to be rostered on postnatal ward every shift

The funding came into place 12 months after TC started, by then it was already "floundering". TC ran for another 6 months before it was stopped.

Lessons Learned

Matron felt in hindsight that it was set up too quickly. The funding was not in place when TC was started and by the time the funding had come through, it was difficult to recruit nurses into post. TC was also meant to be in a designated bay, but this did not happen due to patient capacity issues.

One of the reasons TC did not succeed was because of unhappiness of staff performing roles and issues with inter-professional relationships between NNU staff and Maternity. An example provided was regarding the difficulty in finding a "second-checker" for IVABx. Midwives would often be too busy to check patients and nurses would waste 30-45 minutes trying to find another member of staff. Often the Matron would leave the unit and go to help the nurse on TC. This was made even more difficult as their policy for suspected sepsis did not allow for "grouping" of babies into certain times for antibiotic administration e.g. 0600 and 1800, so babies would be receiving antibiotics at different times throughout each shift.

The Future for TC

The Matron was still positive about TC, the Trust are looking to set it up again; however this time it will be staffed with nursery nurses. They are introducing TCBs for jaundice checks and oxygen saturation monitoring (which the nursery nurses will do) and will have babies coming to the unit for IVABx.

"Many years ago, I was taught how to look after a sick baby by a nursery nurse."
Matron of Unit A

3.4 Term readmission rates

This year has seen the publication of the NHS Improvement Patient Safety Alert and NHS improvement (NHSI) programme ATAIN (Avoiding Term Admissions in Neonatal Units) which was launched to support safer care for full-term babies and avoid neonatal admissions.

The review has shown that between 2011 and 2013 up to 30% of neonatal unit admissions were considered avoidable. The objective of the programme was to give trusts clear guidance in how to monitor, plan to reduce and prevent neonatal admissions and support care being delivered in maternity units and in the community.

Successful reduction in admissions would have positive influence on workforce numbers and activity in neonatal units but would require a formal staffing needs assessment in areas such as postnatal care and transitional care.

A focus is needed on improved working relationships between maternity and neonatal to address workforce issues holistically across the service, with an attention to quality and safety for mothers and babies. Consideration should also be given to the impact of postnatal community care.

3.5 Integrated Family Developmental Care

Integrated Family Developmental Care, supported by Bliss, is developing within London following successful implementation internationally (Sweden and Canada) and nationally (Leeds).

Outcomes of Integrated Family Delivered Neonatal Care Programme (IFDC)

- Reduce Parental Anxiety
- Benefit medical progress
- Increase weight gain
- Increase breastfeeding rates
- Reduce infection rates
- Reduce length of stay

An established model of Integrated Family Developmental Care is being delivered in North Central London (Barnet General Hospital) who deliver care for neonates requiring HDU or SC. Ten large rooms allow parents to stay with their baby and support care delivery. This allows for an improved family experience during neonatal care and has the potential to enhance health and development outcomes. Teams who are developing IFDC note that although parents are supporting care delivery, it does not change the BAPM staffing ratios required, and actually more resources are needed to help support parents in delivering care.

Bliss - Foundation toolkit for developmental care

This two-day course, which has strong practical and interactive components, will:

- Provide a comprehensive overview of the theory, scope and evidence for family-centred developmental care
- Help you to evaluate practice
- Raise awareness of your own practice and help you to identify goals for your continuing development

The course is designed to reflect recommendations in the DOH (2009) Toolkit for High Quality Neonatal Care, and to help units work towards Bliss Family Friendly Accreditation.

Includes:

- Brain development
- Observing babies
- Family participation
- Stress and pain
- Sleep
- Sensory environment
- Motor development and positioning
- Kangaroo care
- Early feeding experience.

This model is supported by Bliss who offer a 2 day supporting developmental care aimed at health care practitioners.

Imperial College Healthcare NHS Trust have recently launched an Integrated Family Delivered Neonatal Care Programme (IFDC) supporting family participation with an integrated approach.

Integrated Family Developmental Care has been found to support improvement in the quality of neonatal care delivery and reduction in length of stay. By simultaneously working towards the ATAIN objectives to prevent term admissions, and the IFDC programme which has been shown to reduce length of stay and deliver neonatal care differently, cot occupancy can be reduced (Family Centered Neonatal Couplet Care "The Karolinska Way", 2011).

A review of the Swedish model of care shows a development of unregistered nurses working alongside and supported by nurses QIS in both HDU & ITU.

The current vacancy factor in Sweden in approximately 20% of nurses who are QIS. Development of the non-registered nursing role has meant there are fewer gaps in providing 'hands-on care' as non-registered nurses are trained in-house to deliver more enhanced skills than in London. It is important to note how organisation of care is managed with the established delivery of the Family Development Integrated care model as well as the difference in social policy.

A Swedish Comparison: A different approach

The Swedish report a shortage of nurses and have developed the role of the Assistant Nurse (AN) in Neonatal Care with an aim to support nurses QIS in all care categories. Assistant Nurses complete a specialised programme for healthcare in upper secondary school. This promotes the AN role from a young age. This is followed by specific training for neonatal care once employed.

They report they do not have issue with medical vacancies and do not use the ANNP role or a Physicians Assistant role.

All Registered Nurses perform bloods, cannulation and insertion of PICC lines.

They offer their Registered Nurses a two-year programme with the first in year in an HEI followed by second year in practice. This is followed by a 3 month supernumerary period with skills acquisition and clinical competency.

Skills include:

- Administration of oral medication
- Delivery of care in HDU / ITU

The Family Development Integrated Care model at the Karolinska Institute is embedded into the practice and the culture of neonatal care delivery and the parent is the primary care giver with 1 or more parent resident nearly all the time.

The development of the AN role has had an impact on the staffing and the skill mix within the units as babies are receiving 'hands-on care' from either nurse QIS or assistant nurses who are deemed QIS.

The AN support the family integrated model and also are trained to provide care in the HDU & ITU areas to support the nurses QIS. The staffing ratios are very different to the UK standards.

It is important to note that Sweden has a different social policy and attitude towards health care and that families have more access to maternity / paternity leave.

Table 3.1 outlines the differences in nursing numbers, skill mix and nursing ratios with this model.

A comparison of the staffing ratios using this model makes interesting reading and is worth further analysis. Considering the gaps in nurses who are QIS within London - is this an area to be reviewed further?

Table 3.1 shows an example of how a unit with 22 cots would be staffed against BAPM standards and then with the Swedish staffing. Of course further analysis of activity and staffing is paramount before any changes can be made.

Table 3.1 Comparison of UK .v. Swedish staffing ratios	
UK Staffing Ratios BAPM 2010	**Sweden Staffing Ratios**
ITU 1 RN : 1 ITU cot HDU 1 RN : 2 cots SCU 1 RN / NN : 4 cots	ITU 1 RN +1 AN : 2 ITU cots HDU 1 RN +1 AN : 4-6 cots SCU 1 RN+ 1-2 AN : 6-8 cots
UK 22 Cots	**Sweden 22 cots**
1 RN Coordinator 4 ITU = 4 RN 6 HDU = 3 RN 12 SCU = 2 RN / 1-2 NN	1 RN Coordinator 4 ITU = 2 RN + 2 AN 6 HDU = 2 RN + 1 AN 12 SCU = 2 RN / 2 AN
10 RN + 1-2 NN	**7 RN + 5 NN**

3.6 Data Management

BadgerNet is an electronic record system produced by medical software company Clevermed Ltd. It forms a single record of care for all babies within neonatal services. It is currently in use in over 250 hospitals throughout the United Kingdom, New Zealand, and Australia. Daily recording of data for each baby is inputted by staff and admission and discharge letters are completed using this system. It complements the maternity BadgerNet system. Inputting data is a key task for each unit as accurate coding directly links to how units are paid for activity.

Data management and completion of BadgerNet was a frustration by many.

Data completion was carried out by different members of the team such as junior doctors, QIS nurses, ward clerks, and matrons. Again, there was variation in who completed the daily inputting of national and network data requests across London.

Most units rely on medical staff to input BadgerNet data (often on a night shift) for day-to-day activities. This often does not provide any improvement to training. Some units, nurses input the data for special care babies. One LNU has a Clinicians Assistant who enters all BadgerNet data. One unit has hired a Band 8 data manager to help analyse BadgerNet data.

Whatever workforce solutions neonatal units have developed, it was clear that data entry and management now represents a significant workload for staff and this must be factored into staffing models as this is likely to increase with time, not lessen.

4. Recommendations

Organisational	
Recommendations	**Rationale**
Review of Transitional Care Models • Midwives to perform newborn examination on PNW checks to facilitate discharge • Consideration of pre-filled IV antibiotic syringes to allow midwifery staff to administer IAVBx • Introduction of TCBs within units and the community • Strengthened working relationships between midwifery and neonates • Review the impact of TC on the skill mix in maternity, neonatal and dedicated TC areas • Utilise BAPM standards for TC (to be published)	Keeping mother and baby together Better utilisation of staff and resources Cost saving for Trusts through reduced length of stay and admission prevention
Implement ATAIN programme Improved working relationships between Maternity and Neonatal teams	Improve outcomes for mother and baby Reduction in maternal mental health morbidity Safe care and admission to neonatal unit prevention Keeping mother and baby together Improve cot capacity management in NNU's; Reduce avoidable workload for staff in NNU; Reduce capacity transfers in NNU, Cost savings Enhancing breastfeeding rates
Deliver IFDC within all units in partnership with local staff and parents	Impact on quality of care Increasing parent confidence and reduction of length of hospital stay
Remove locum pay cap	Attract doctors to fill vacant shifts Prevent "acting down" by consultants which impacts directly on clinical care and service delivery

Higher Educational Institute	
Recommendations	**Rationale**
Nursing Associate (Child) curriculum planning to include neonatal care modules	Encourage exposure to neonatal nursing and influence on recruitment
Pre-registration courses to include neonatal theory & practice placements Review ANNP courses with stakeholders within London What about developing a ANNP course which is part time and so allows nurses to continue to work in their own units?	Encourage exposure to neonatal nursing and influence on recruitment Gain an understanding as to why nurses leave London to complete training Nurse QIS able to remain in London whilst training and support work / life balance
Implementation of Turrill's recommendations and educational toolkit	To encourage standardisation of QIS education, training and support foundation/preceptorship learning
Medical	
Recommendations	**Rationale**
Investment of education and supervision	Enhance trainee experience, promotion of specialty, enrich organisation reputation, positive effect on patient experience
Review of PA and CA roles in neonatal care	Support middle grade doctors in service delivery thereby freeing time for teaching and training
Promotion of MTI posts	Augment the existing middle grade workforce
Review Specialty doctor roles	Provide ownership of TC and stability to a unit Can fulfil a wide variety of clinical and QI activity
Nursing/Midwifery	
Recommendations	**Rationale**
Review and development of ENNP role within nursing skill mix Standardisation of ENNP curriculum and skills to be agreed Pan London.	Prevent the demarcation of roles between medical and nursing staff Allow for overlap between nursing and medical roles Reducing service delivery pressures on medical staff Provide an alternative career trajectory to ANNP Provide consistency of care delivery.
Development of preceptorship / foundation programmes for new nurses	Support nursing entry onto QIS training and impact on attrition Enables nurses to gain confidence to undertake QIS
Development of Nursing Assistant (new registered role) - to include medicines management	Support development of role to assist nurses Support IFDC

Non-registered Staff	
Recommendations	**Rationale**
Development of non-registered nurse rotations between maternity units / TC / SC (Support Workers) Collaborative working across areas Support ATAIN programme in maternity units & neonatal units	Support admission prevention to neonatal units Impact on lower intensity care delivery to relieve pressure on higher intensity care delivery Support IFDC

Observations

During the course of the project different elements have been observed which have been seen to have a direct and/or indirect effect and impact on neonatal care and service delivery.

Units who have a commitment to quality improvement (QI) identified an improvement in staff satisfaction and morale. Nationally recognised projects such as the Maternal and neonatal safety collaborative offer a three-year programme to support improvement in the quality and safety of maternity and neonatal units across England. Opportunities should be developed to support a culture of QI across London which enables units to share and work together on initiatives.

All trusts undertake an annual staff survey; however these are not directly targeted at certain staff groups of clinical areas. Staff culture surveys such as SCORE (Better Culture, Better care) could be utilised to gain a better understanding of individual unit culture and environmental issues. These could also be carried out by networks to review culture and environment across each network with an aim to develop pan-London QI projects.

Culture and morale in units have a significant impact on workforce. Units can promote wellbeing measures such as ensuring breaks are taken, as well as encouraging regular listening events to gauge current staff morale with an aim to respond to any concerns quickly.

Supervision and training of staff reap rewards for not only the unit but enhance patient experience. Despite conflicting clinical pressures, it is worth taking the time in this investment, as the impact has short and long term benefits.

All units spoke of the 'in-house training opportunities' for their staff. However, this could be more multi-professional which would impact on their understanding and appreciation of each other's role. The majority of teaching was aimed at either the nursing teams or medical teams. A suggestion could also be to include midwifery teams, which would help collaborative working towards keeping mother and baby together.

The impact that developing national policies will have on workforce (such as Brexit, the new Junior Doctor contract, recent changes in pre-registered nurse education, removal of university nursing bursary and the public sector pay cap) should not be underestimated.

It is important to review this report in tandem with future publications on staffing, such as the NHSI report on 'Safer Staffing for Children and Young People' which will include neonatal nursing as well as the BAPM framework for Neonatal Transitional Care.

True workforce change can only transpire after analysis of actual activity and workforce modelling has been completed.

5. Conclusions

It was obvious during this project that Neonatal Care in London is provided by dedicated clinical and non-clinical teams working within often difficult conditions.

It was clear to see that there is variance in how units have developed operationally to deliver care. Factors have been identified which have a direct impact on the workforce such as: nursing and medical vacancies, organisational culture, transitional care, admission prevention, support for junior nursing staff and the development of the non-registered workforce.

Solutions for workforce transformation cannot be considered in isolation. It is apparent that organisation of care and service delivery has to be considered in tandem in order for true workforce transformation to take place.

The roles identified in this report are not new, but are variably used across London. Increasing the support for clinical areas delivering lower dependency care can potentially relieve pressures upstream.

It is recommended that the following are explored further:

- Development of Nursing Associates in Neonatal Care
- Role definition for Enhanced Neonatal Nurse Practitioners
- Development of Non-Medical Supporting Roles
- Development of Associate Specialist / MTIp roles
- Awareness of impact of culture and morale on the workforce
- Investment in clinical supervision, education and training for all staff
- Development of networked preceptorship nursing programmes
- Development of Transitional Care
- Implementation of ATAIN programme
- Implementation of Integrated Family Development Care

However, despite all best intentions, these roles and service developments may not have a sustainable effect on vacancies in middle grade doctors or nurses achieving QIS. It is important to recognise this as a limitation of what can be accomplished.

Glossary of Terms

AN Associate Nurse

ANNP Advanced Neonatal Nurse Practitioner

AP Associate/Assistant practitioner

ATAIN Avoiding term admission in neonatal units

BAPM British Association of Perinatal Medicine

BFI Baby Friendly Initiative

CA Clinicians Assistant

ENNP Enhanced Neonatal Nurse Practitioner

FIDA Family Integrated Developmental care

GMC General Medical Council

HCA Health care assistant

HCSW Health care support worker

HEE Health Education England

HEI Higher Education Institute

IFDC Integrated Family Delivered Care

IVABx Intravenous Antibiotics

LNU Local Neonatal Unit

MSW Maternity support worker

MTI Medical training Initiative

NCEL North Central East London

NICE National Institute for Care and Health Excellence

NICU Neonatal Intensive care

NIPE Newborn and infant Physical Examination

NMC Nursing and Midwifery Council

NN Nursey Nurse

NQN Newly Qualified Nurse

NWL North West London

ODA Operating Department Assistant

ODN Operational Delivery Network

PA Physicians Associate

PICC Peripherally Inserted Central Catheter

PICU Paediatric Intensive Care Unit

PNW Post Natal Ward

QI Quality Improvement

QIS Qualified in Speciality

RCN Royal College of Nursing

RCPCH Royal College of Paediatrics and Child Health

RN Registered Nurse

SCU Special Care Unit

SHO Senior House Officer

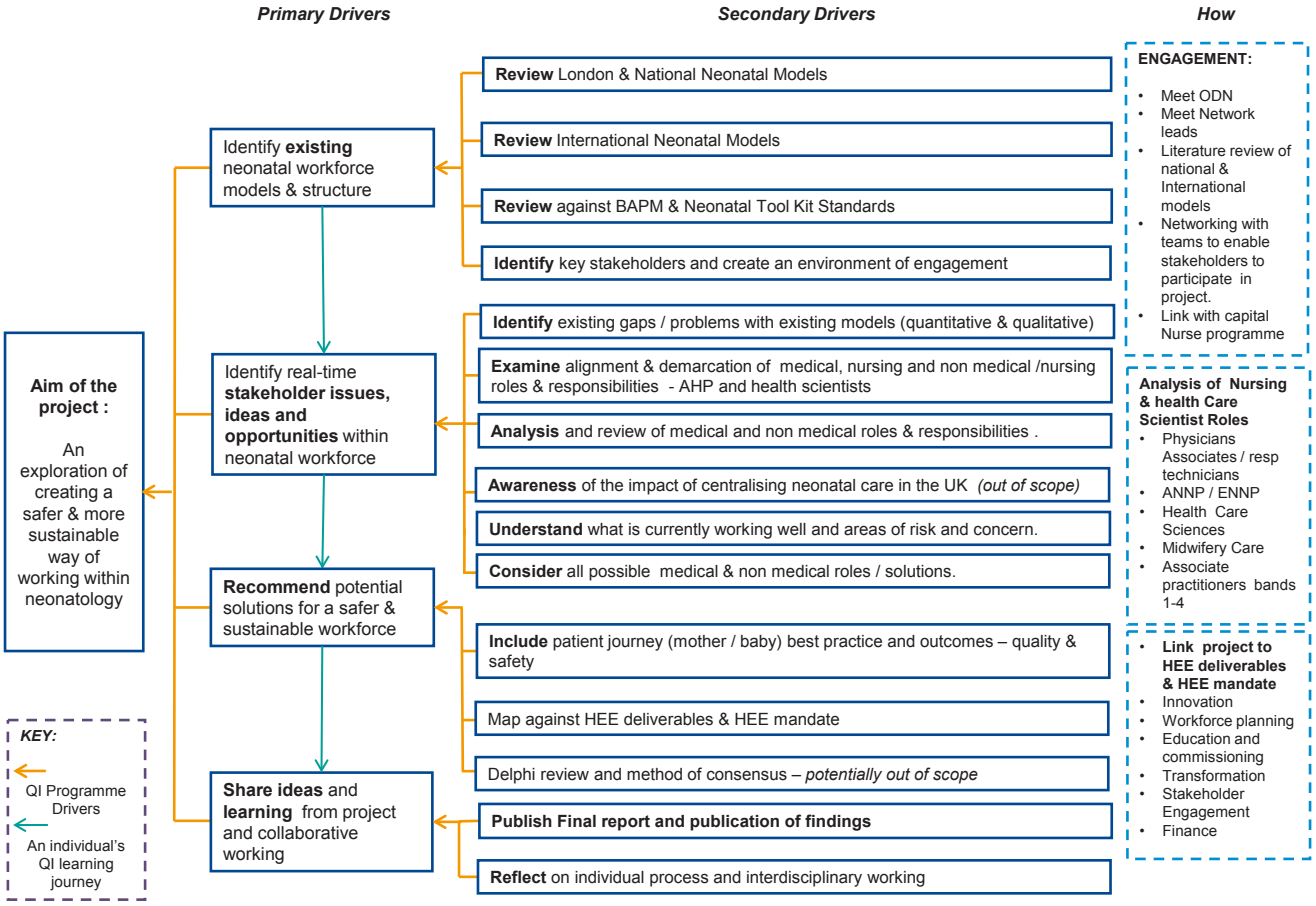
SL South London

TC Transitional Care

TCB Transcutaneous Bilirubinometers

Appendix 1 - Driver Diagram

London School Of Paediatrics and Child Health/HEE. Examining new ways of Neonatal Working



Appendix 2 - ENNP Courses

City University: www.city.ac.uk

Enhancing Neonatal Practice

Undergraduate - Level 6, 30 Credits
Cost approx. £900pp
7 study days

Following successful completion of the module the nurse would have enhanced skills in:

- Assessment and collaborative management of neonatal conditions
- Analysis of neonatal blood gases
- Neonatal ventilation management
- History taking, differential diagnosis and diagnostic reasoning
- Basic interpretation of chest and abdominal x-rays
- Neonatal cannulation

Middlesex University London: www.mdx.ac.uk

PGCert Neonatal Care

This course comprises two modules:

Resuscitation of the Newborn

11 part-time study days

- Enhance ability to provide effective and holistic care to newborn babies and their mothers,
- Key areas as foetal respiratory, cardio-vascular physiology and transition at birth physiology of asphyxia; endotracheal intubation; and the professional, legal and ethical issues related to neonatal resuscitation.

Neuro Behavioural Physiological Assessment of the Newborn

22 part-time study days

- Enhance ability to administer a thorough physical examination of a newborn baby,
- detect early abnormalities and potential problems to fully prepare the baby, parents and related professionals for the required care.

Kings College London – www.kcl.ac.uk

Neonatal Nursing: Enhancing Practice

Undergraduate – level 6 30 credits
Cost approx. £2600
12 study days

- 12 students required on a module to make it viable
- Justify your care delivery to a neonate through a comprehensive understanding of relevant embryological development, anatomy, immature systems physiology and pathophysiology.
- Critically analyse ventilation strategies used with neonates.
- Role model and teach knowledge and skills required to provide in-depth holistic care for the neonate and their family
- Further develop and evaluate your role in relation to enhancing neonatal nursing practice within your own multi-disciplinary team
- Critically analyse professional, legal, political and local drivers in relation to enhancing your practice development
- Apply knowledge and skills within your clinical area and your development of critical thinking will be assessed
- Achieve agreed clinical competencies through continuous assessment must be completed in order to successfully complete this course
- Encouraged to compete prescribing course following completion of ENNP course

Manchester University: www.bmh.manchester.ac.uk

Enhancing Neonatal Nursing Practice

40 Credit Level 7

This course builds upon knowledge and competencies gained during the Intensive Care of the newborn in order to develop increased levels of skills and knowledge.

Enhanced skills in:

- Resuscitation process
- Pre-transport stabilisation period
- Enhance holistic neonatal nursing practice throughout the infant's hospitalisation
- Enables the nurse to develop higher levels of clinical decision making while recognising current parameters of practice and accountability
- Monitor and improve standards of care through supervision of practice and clinical audit
- Providing skilled professional leadership and the development of holistic practice through research.

National ENNP courses

London

www.city.ac.uk/courses/cpd/neonatal-knowledge-enhancing-neonatal-practice

www.mdx.ac.uk/courses/cpd/neonatal-care-graduate-certificate

England

www.heftfaculty.co.uk/content/neonatal-practitioner-critical-care

www.brighton.ac.uk/courses/study/acute-clinical-practice-neonatal-care-gradcert.aspx

www.bmh.manchester.ac.uk/nursing/study/masters/advanced-practice-and-leadership/midwifery/?pg=2&unit=NURS63190&unitYear=1

www.anglia.ac.uk/study/professional-and-short-courses/enhancing-neonatal-practice

Wales

www.swansea.ac.uk/postgraduate/taught/humanandhealthsciences/pgcertenhancedneonatalcare/

Scotland

www.snng.org.uk/education/education.php

Northern Ireland

www.qub.ac.uk/schools/SchoolofNursingandMidwifery/Study/ContinuingProfessionalDevelopment/DegreeProgrammes/BScEnhancedNeonatalStudies/

Appendix 3 - Sample Job Description for Physicians Associate

Paediatric Intensive Care Unit

Physicians' Assistant

Summary

The paediatric intensive care unit has been expanding. As part of its programme to maintain high quality care, the PICU has developed three full time posts for physician assistants to work alongside the nurses, doctors and other professionals in treating critically ill children.

The Unit

The PICU is currently being upgraded to 10 beds, looking after children and infants requiring intensive or high dependency care. The most frequent admissions are patients with respiratory infections, sepsis syndrome, airways obstruction, neurological deterioration, following trauma or surgery and those with oncological diagnoses. There are around 500 admissions a year representing over 1700 bed days a year.

Existing Staff

The unit is staffed by approximately 35 nurses, 4 paediatric trainees, 6 trainee anaesthetists on rotation and representatives from psychology, play therapy, physiotherapy, dietetics and pharmacy. Health care assistants and support staff also help ensure professional time is well spent. A team of ward sisters, a matron, a nurse consultant and 5 medical consultants provide supervision of activities and lead the unit.

Role of Physicians Assistants in PICU

The PA role is being developed to work alongside the doctors in PICU. They will be trained to assess and examine critically ill patients, present them, site lines including central lines and arterial lines, to manage airways and intubate children and infants. They will be trained in advanced life support and expected to assist in resuscitation situations. They will be expected to liaise with other professionals and specialities as required and complete necessary documentation relating to their patients.

They will be supervised by the attending consultant and floor doctors, but will also have individual mentors to overview their career development.

PAs will represent the department at local and external meetings as appropriate.

PAs will have their own shift rota and will be expected to mix night and weekend work with day shifts. Hours will not exceed 48 per week.

Duties and responsibilities

The postholder will be required to:

1. Take part in all of the treatment and preventative healthcare services of the employing facility as and when requested, and work within the policies and procedures of the organisation
2. Although practises under the supervision of a Consultant Physician and other medically qualified staff, will act as an autonomous professional in assessment diagnosis and treatment of patients
3. Take patient histories and perform physical examinations of a patient. Record or dictate the history and physical in the medical record
4. Order and interpret diagnostic laboratory tests, radiological studies or various other therapies. Orders may be verbal or written
5. Discriminate between normal and abnormal findings to recognise early stages of serious medical, emotional or mental problems in the patients
6. Establish differential diagnosis, make appropriate treatment plans and initiate treatment
7. Instruct and counsel patients regarding mental and physical health, including:
   A. Diet and advice
   B. Disease and disease prevention
   C. Treatment
8. Refer patients to appropriate agencies and resources. Also refer and converse with appropriate specialists in regard to patient management
9. Fully document all aspects of patient care and complete all required paperwork for legal and administrative purposes
10. To assist with the development and review of care pathways and protocols within the clinical team
11. To participate in audit and quality control activities
12. Perform diagnostic/therapeutic procedures, subject to PA training/experience/competencies, such as:
    - Initiation of IV therapy by peripheral, central, intraosseous routes, and venous cudown.
    - Injections
    - Arterial puncture
    - Venepuncture
    - Arterial line insertion
    - Initiation of Basic/Advanced Life Support in all patients and in all settings.
    - Thoracentesis
    - Lumbar puncture

- Wound care and suturing
- Debridement of wounds
- Incision and drainage of abcess
- Application of casts and splints
- Nasogastric intubation
- Removal of foreign bodies (including sutures)
- Tube thoracostomy
- ECG
- Urethral catheterization
- Reduction of closed dislocations and fractures
- Endotracheal intubation
- Local, digital and IV regional nerve blocks
- Administration of medications

13. Teaching other groups of staff, e.g.nursing / medical students
14. Perform other tasks, not prohibited by law in which the physician assistant has been trained and is proficient to perform
15. Work collaboratively with the medical team, i.e. physicians, Advanced Nurse Practitioners, Emergency Nurse Practitioners, staff grade nurses, Physiotherapists, Occupational therapists, mental health workers, social services, etc. to encourage and ensure good working relationships
16. Meet as appropriate with supervising physicians, management team, etc. to report on progress and contribute to the development of Emergency Services within the Trust
17. Maintain knowledge and proficiency in medical practices through continuing education, staff meetings, and workshops
18. Assist in the development and mentoring of the UK Physician Assistants as the profession progresses
19. Have organised structured teaching sessions with the PA students
20. Evaluate own role and impact of such on current services via audit.

Induction and Training

It is not expected that PICU PAs will have had experience in paediatrics or intensive care before joining the department. PAs will initially be working on day shifts only and will undergo a period of training, supervision and accreditation in PICU activities. Once completed, they will move on to more independent work and begin to work evening and weekend sessions alongside the doctors in the PICU.

Continuing Professional Development

Physician assistant members of the PICU team will be expected to keep a portfolio of CPD that documents 25 hours every two years of GMC approved paediatric CPD as well as 25 hours every two years of GMC approved CPD in other medical topics. It would be expected that the portfolio would include an additional 50 hours every two years of other informal study of appropriate medical topics. (Note: this is suggested as part of the UK re-certification requirement as is expected to be set out by the statutory regulatory body when in place in the next several years.) Physician assistants will be expected to maintain their certification through the National Re-certifying Examination when in place.

Teaching and Research

The Paediatric Departments are actively engaged in teaching and medical students are attached in groups for periods of 6 weeks. PAs are encouraged to teach these students informally.

PAs would be supported and encouraged to serve as role models and mentor student PAs in the UK, as their competence allows.

There are regular weekly postgraduate teaching rounds, clinical meetings, formal teaching sessions for PAs, a radiology meeting, a journal club and two monthly medical audit/clinical governance meetings.

The Academic Department is involved in a number of research programmes and has well equipped laboratories. PAs are not expected as a matter of course to undertake research during their post but may have an opportunity to write a case report and/or explore options for undertaking research in future.

Pay

Postholders will be paid at band 7 of the Agenda for Change payscale, at a level dependent on experience.

Person Specification

	Essential	Desirable
Qualifications	If UK Trained: • Degree at 2:2 level or above • PG Dip in Physician Assistant Studies from a UK training programme • Current and valid certification or re-certification by the Physician Assistant National Examination OR: If US Trained: Current and valid certification with the National Commission on Certification for Physician Assistants (NCCPA) AND: Registration with the UK Managed Voluntary Registry for physician assistants as soon as it is in place	Higher degree Other qualifications related to child health or intensive care
Experience		Ward or outpatient work with children or infants Intensive care experience Anaesthetic experience or theatre work
Knowledge	Basic understanding of physiology Knowledge of common conditions affecting children	Understanding of principles of organ support
Skills	Cannulation and phlebotomy in adult patients Adult airway skills BLS in adults Excellent in communication – written and verbal	Cannulation and phlebotomy in children and infants Paediatric airway skills Advanced life support BLS in children
Attributes	Enthusiastic Quick to learn Able to deal with emotional situations and individuals Able to work in a large team Initiative	Keen to develop PICU research

Appendix 4 - Sample Job Description for Clinicians Assistant

Clinician's Assistant Band 4

Role Summary

The Clinician's assistant is a unique post with several important and varied clinical, administrative and co-ordinating functions. This post is suitable for a graduate who is enthusiastic about clinical environment and has excellent interpersonal skills to communicate with wide range of professionals.

It will involve supporting the medical and nursing staff; close liaison with various hospitals and departments. You will be a central anchor with a responsibility of providing a seamless service in paediatric inpatient area. You will work between the paediatric wards, SCBU and out-patient areas. The role is flexible in work pattern and will require an element of out-of hours-working.

You will be a key member of the Medical team, using your knowledge and experience to improve patient pathways. For this reason, the position will require the ability to organise your time efficiently and prioritise effectively. You will have the opportunity to influence policies and procedures in the areas in which you work.

You will take responsibility for the outstanding jobs list, using your own judgement and initiative to prioritise and ensure completion of the most important jobs. You will be supported by the physician of the week in this area.

You will use patient information systems and data collection systems in your daily work and will need to demonstrate IT literacy.

You will need an awareness of the limits of your role and the boundaries within which you will be expected to work such that you do not exceed your level of competency inappropriately.

Improvement

- This post is part of the improvement work to increase the quality of care for children within a safe environment.
- The post holder will be a key member of the Medical and the Nursing team who will be implementing new improvement methodologies and measurement of change processes.
- The post holder will use their experience of the various processes involved in assessing patients, ordering, chasing and obtaining test results to generate ideas for ways to improve these processes, and will take responsibility for implementing improvements in all the areas in which you work.

Clinical Tests and Investigations

- Be responsible for the ordering, chasing and communication of results from investigations as requested by junior doctors, consultant paediatricians and nursing staff.
- Print relevant test and investigation forms for the medical staff to sign as required.
- Inform clinical staff of the results of all investigations. Make necessary efforts to obtain these results and inform clinical staff where delays in obtaining results are likely to occur.
- Assist in design of systems to improve processes for obtaining investigations and results, based on your experience in post.
- Inform families of arrangements for investigations and provide them with the relevant information sheets in clinic and on the ward where appropriate.

Outstanding Jobs List

- You will also take responsibility for the outstanding jobs such as follow ups, investigations, discharges, ward reviews, using your own judgement and initiative to prioritise and ensure completion of the most important jobs.
- The post holder will take responsibility for monitoring, updating and action against the outstanding jobs list, reporting daily to the physician of the week.

Admissions

- To work closely with the admissions office and pathway co-ordinator, booking of routine admissions to the children's wards, ensuring that planned tests and investigations are in place as required. Liaise with the ward sisters and administrative staff to ensure that any pre-admission work up is booked appropriately.
- Under the direction of the physician of the week/nurse in charge of the ward make daily contact with hospitals from which children have been transferred so that their transfer back can be predicted and planned for.

In-patient Coordination

- Responsible for ensuring all discharge summaries are completed within 2 days of discharge.
- Responsible for updating the ward handover sheet in liaison with the nurse in charge and relevant doctors.

General Duties

- To maintain patient confidentiality at all times in accordance with Trust policy
- Work in collaboration with patient advocate and liaison service (PALS).
- To be familiar with and have an understanding of the Trust's complaint procedure.
- To support and undertake any projects/audits initiated by the Trust or Unit.
- Any other duties commensurate with the grading of your post.
- Acting as one point of contact for parents/ carers who need advice about outpatient visits and provide an efficient message system for the medical staff.
- In liaison with the play team arrange ward visit for patients who require admission.

Clinical skills

- Undergo training and achieve the required competencies in paediatric cannulation and phlebotomy.
- Identify, in liaison with medical and nursing staff, other clinical skills which would be most useful to the team. Receive training in these skills in order to be able to perform them as required.
- Develop the skills and competencies required to assist junior doctors to undertake routine examination of the newborn.

Person Specification

	Essential	Desirable
Education & qualifications	Educated to Degree level Computer literate	Phlebotomy and cannulation
Experience	Previous experience of working with the public and/or patients in a healthcare environment Experience of managing and prioritising own work load Medical Terminology Knowledge of medical IT	Knowledge of up-to-date improvement processes
Skills	Good written and oral communication Good IT skills –PowerPoints, Excel, Words Effective communication/interpersonal skills Work as part of a team within set boundaries Good organisational skills Willing to learn and undertake new skills	
Knowledge	Excellent communication and interpersonal skills Works effectively within the MDT Ability to work autonomously	
Other	Flexibility Commitment to patients & service	

Appendix 5 - Sample Job Description for Associate Specialist

Staff Grade / Associate Specialist in Neonatology

Role Summary

This post has been created to support the development of inpatient services in the Special Care Baby Unit and provide senior support to in-patient care of patients in the post-natal wards.

To support rapid clinical referrals from the community and provide a seamless service for assessment and management of patients referred from the community with prolonged jaundice.

To support and promote patient safety in the Special Baby Care Unit and post-natal wards.

To provide out-patient care, as part of the departmental out-patient follow-up programme.

To provide antenatal consultation service to the Women's Services Directorate, and to participate in clinical and other service activities with the object of ensuring a high standard of patient care.

To undertake an active part in undergraduate and postgraduate teaching and training.

To support the neonatal Milk bank and provide seamless cover for review of laboratory data regarding samples and assessment and recruitment of donors.

To contribute to the management of the clinical service and service development.

Clinical

- The post holder will, together with the Consultant Neonatal Staff, be responsible for the provision of Neonatology services at XXX Trust to include:
  - » Diagnosis and treatment of patients of the trust in such hospitals, health centres or clinics of other premises as required.
  - » Continuing clinical responsibility for the patients in your charge allowing for all proper delegation to, and training of, staff.
- All senior members of staff are expected to contribute to the management and development of the clinical service.

Teaching

- All members of staff are expected to take part in undergraduate teaching during their normal clinical work.

Clinical Governance

- All employees are expected to take part in clinical governance activity, including clinical audit, clinical guideline and protocol development and clinical risk management. They will be expected to produce evidence of their contribution in these areas and their audit of their own clinical work as part of their annual appraisal.
- The post holder will have specific contribution to improving and enhancing patient safety within the low-dependency areas of the NICU service by providing clear continuity of care for the prolonged jaundice service and by supporting junior medical staff on the post-natal ward to enable more efficient bed utilization and reduce unnecessary lengths of hospital stay.

Job Plan

		No. of programmed activities
Programmed activities for direct clinical care	Ward rounds	3.0
	Outpatient activities	2.5
	Multi-disciplinary meetings about direct patient care	1.75
Supporting programmed activities	Continuing professional development, mandatory training	1
	Undergraduate / post graduate Teaching	0.5
	Audit & Clinical Governance	0.5
	Clinical management	0.25
	Guidelines	0.25
Total		**10**

Person Specification

	Essential	Desirable
Qualifications and Training	Full GMC Registration with entry. 4 years at SPR level (or equivalent) in Paediatrics	NLS provider Status Higher Specialty Training in Paediatrics / Neonatal Medicine
Clinical Experience	Comprehensive clinical experience in Neonatology	Training / experience in neurodevelopmental follow-up
Knowledge and Skills	Ability to work as an effective member of the multidisciplinary team	
Audit and Research	Understanding of the principles and applications of clinical research	
Teaching	Experience of undergraduate teaching and post graduate training	Experience in clinical audit
Management	Evidence of understanding of the role of clinical management	Management training Evidence of leadership in the development of clinical services
Other	Evidence of understanding of and adherence to the principles of Good medical practice set out by the General Medical Council Evidence of contribution to effective clinical and clinical risk management	Experience in guideline development

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