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FORWARD

Welcome to the South West Neonatal Operational Delivery Network’s (ODN) first Annual Report. Whilst 2014/15 has been an exciting year and we have much to report, it has also been a challenging one as the ODN team came together and looked to re-establish and re-structure the Network within its new boundaries across the South West. We hope that going forward this will provide us with a good foundation to ensure that as a Network we can provide the leadership and support required to enable on going effective partnership between the neonatal units working across the South West. More importantly we feel that we are now well placed to move into 2015/16 with a team and Network structure that can start positively impacting on delivering real improvements in neonatal services, which in turn will have real benefit for premature and sick babies and their families across our region.

On a clinical note, units have continued with previous high levels of workload. National and international benchmarking suggest that outcomes are average or better than average across the majority of domains, particularly mortality. National Neonatal Audit Program data has identified some areas for service improvement, and these are highlighted in this report, but the data has not suggested any major governance concerns. The most significant ODN incidents have related to service disruption because of closed cots, either due to infection control measures, or problems with buildings and renovation. These have been managed without major clinical incident. The pressure on intensive care and high dependency beds in St Michael’s Hospital remains by far the most important and serious capacity concern and will be the subject of further review in 2015/16.

On a final note, we wish to express thanks to all that have supported and worked with the Network over the first year and we look forward to the successes that we will achieve in partnership in 2015/16.

With Thanks from the Neonatal Network Team
EXECUTIVE SUMMARY

The South West Neonatal Operational Delivery Network (ODN) Annual Report 2014/15 provides a summary of work taken forward by the ODN during the year and an overview of the activity and outcomes of units within the Network. It reflects the huge amount of work that has been completed by the neonatal workforce within the South West over 2014/15 in delivering expert clinical care to our all our babies and families and whilst continuing to improve patient pathways, experiences and improve outcomes across the region.

KEY ACHIEVEMENTS 2014/15

In collaboration with our neonatal colleagues and Commissioners the South West region and the ODN has established success in a number of key areas:

- Established a new functional and robust ODN structure that is in line with national best practice.
- Built collaborative relationships with clinicians, parents, Trusts, Commissioners, key charities and higher education organisations.
- Developed appropriate ODN governance structures, including process for regional exception reporting and risk management.
- Successfully established a Regional Dashboard and performance monitoring program. This will be vital in providing the Network with a performance baseline and regional and service standards for clinical care for which to support future service improvements.
- We were the first neonatal ODN to establish a live neonatal cot bureau to monitor and manage capacity across the region.
- Launched a website for all parents and professionals using or working within neonatal services across the South West.
- Established a Parent Advisory Group which will provide the ODN with positive stakeholder engagement and representation on key Executive Boards and Working Groups.
- Secured funding for nurse training from Health Education South West.

KEY FINDINGS OF THE 2014/15 ACTIVITY REPORT

- There are sufficient total cot numbers across the South West ODN to meet all the needs of SW infants, including those currently cared for out of region.
- There are insufficient numbers of cots staffed at ITU and HDU nursing ratios within St Michael’s to meet its current ITU / HDU workload.
- The majority of LNUs need to redesignate cots from ITU / HDU to special care.
- NNAP identifies specific areas for review for South West Units, particularly including:
  - Rates of AN steroid administration
ROP screening
Breastfeeding rates

There is a clear and pressing need to focus on improving data inputting and data quality across the South West region.

KEY OBJECTIVES 2015/16

Clinical Objectives

- For all units and transport services within the ODN to meet the national service specification for neonatal care (other than specific agreed exceptions to service configuration).
- Mortality and major morbidity rates to be average or better than average for all infants in the SW ODN compared to nationally benchmarked data.
- Within 5 years for outcome data to be in the top quartile for UK based neonatal services.
- For parent and family experience to be rated in the top quartile nationally.
- To develop a single clinical definition of Special Care and Transitional Care.
- To meet 100% 12 hourly update of cot bureau and neonatal nurse staffing data.

ODN Strategic Objectives

- To continue to strengthen our strategic function within Commissioning and to deliver ‘actual’ efficiency savings and quality improvements in the provision of neonatal services across our region.
- To review cot designation and develop a standardised approach to the recording of capacity and occupancy levels across the region.
- To assess unit compliance with the National Service Specification for Neonatal Critical Care and Service Specification for Neonatal Retrieval Services.
- To develop a robust peer review program, including site visits, benchmarking unit compliance with the Neonatal Service Specifications and toolkit requirements, as well reviewing outcome data and patient / family experience.
- To embed the CDOP data sharing initiative within ODN governance and service improvement frameworks.
- To increase the central ODN resource, by identifying key areas of service delivery that might be best organised and delivered on a region-wide basis.
- To develop a Commissioning and Contractual focus on quality and outcomes rather than activity and finance.
- To reach full transparency of contracts, costs, activity of units across the region.
- To lead and manage the QIPP and CQUIN programs across the region.
- To develop a South West Neonatal Workforce Strategy.
• To progress the Business Case for the development of a Regional Nurse Bank, to include non-registered, registered and ANNP workforce groups.
SOUTH WEST NEONATAL NETWORK

NETWORK AIMS AND OBJECTIVES
The South West Neonatal Operational Delivery Network was established in January 2013 and is one of the 12 Clinically Managed ODNs for Neonatal Services in the UK. The Network is a key central point for clinical communication and collaboration across the South West.

It provides strategic leadership in relation to neonatal services across the region and provides advice to NHS Trusts and Commissioners to ensure babies and their families receive high quality, equitable, accessible and clinically effective neonatal care. Some of the other key responsibilities are:

- To provide a safe, high quality service for special neonatal care workloads across the Network region, and seek to improve outcomes for all babies born and cared for within it.
- To develop and implement seamless neonatal clinical pathways for mothers and their babies across the region.
- To develop and implement common neonatal clinical practice guidelines and policy across the region.
- To maintain a framework for demonstrating the attainment of minimum quality standards, the implementation of continuous quality improvement, and adequate risk management in special and intensive neonatal care across the region.
- In collaboration with the Region’s Specialist Commissioners at the NHS England, to agree the appropriate allocation of capital and revenue for neonatal care across the Network.
- To ensure that the input of parents and families is valued and considered in all aspects of the Network’s work.

SOUTH WEST NEONATAL UNITS
The South West ODN serves a population of 4.7 million people spread across 9,000 square miles – the largest regional footprint in England. It has a live birth rate of approximately 60,000 babies per annum. It stretches from the Isles of Scilly up to the north of the region where it borders Wales, and 7 English Counties from Oxfordshire around to Dorset. There are a total of 12 units within the ODN. Three of these are designated as Neonatal Intensive Care (NICU), 7 as Local Neonatal Units (LNU) and 3 as Special Care Baby Units (SCBUs). It covers all Local Authorities in the South West and care is provided by 12 NHS Foundation / Acute Hospital Trusts.
There are 3 different types of neonatal units:

**SCU Special Care Unit**

These units provide high dependency services and in addition they provide a stabilisation facility for babies who are to be transferred and for babies received from other units for continuing special care.

**LNU Local Neonatal Units**

These units provide neonatal care for babies in their area except for the sickest babies. They provide all categories of neonatal care but will transfer babies who require complex or long term intensive care to a Neonatal Intensive Care Unit as they are not staffed to provide long term intensive care. Local units may receive babies from other neonatal services in the Network if they fall within their agreed work pattern.

**NICU Neonatal Intensive Care Units**

The units are sited alongside specialist obstetric and fetal-maternal medicine services to provide a wide range of medical neonatal care. This includes additional care for babies and their families referred from the Network. Some units also provide neonatal surgery services and other more specialised treatment.
Figure Two: Provider Units within the South West

<table>
<thead>
<tr>
<th>NEONATAL UNIT LOCATION</th>
<th>TRUST</th>
<th>DESIGNATION</th>
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</thead>
<tbody>
<tr>
<td>St Michael’s, Bristol</td>
<td>University Hospitals Bristol NHS Foundation Trust</td>
<td>NICU</td>
</tr>
<tr>
<td>Southmead, Bristol</td>
<td>North Bristol NHS Trust</td>
<td>NICU</td>
</tr>
<tr>
<td>Plymouth</td>
<td>Plymouth Hospitals Trust</td>
<td>NICU</td>
</tr>
<tr>
<td>Gloucester</td>
<td>Gloucestershire Hospitals NHS Trust</td>
<td>LNU</td>
</tr>
<tr>
<td>Swindon</td>
<td>Great Western Hospital NHS Foundation Trust</td>
<td>LNU</td>
</tr>
<tr>
<td>Bath</td>
<td>Royal United Hospital NHS Foundation Trust</td>
<td>LNU</td>
</tr>
<tr>
<td>Taunton</td>
<td>Taunton and Somerset Hospital NHS Foundation Trust</td>
<td>LNU</td>
</tr>
<tr>
<td>Exeter</td>
<td>Royal Devon and Exeter NHS Foundation Trust</td>
<td>LNU</td>
</tr>
<tr>
<td>Truro</td>
<td>Royal Cornwall Hospital NHS Trust</td>
<td>LNU</td>
</tr>
<tr>
<td>Barnstaple</td>
<td>Northern Devon Healthcare NHS Trust</td>
<td>SCU</td>
</tr>
<tr>
<td>Torbay</td>
<td>South Devon Healthcare NHS Foundation Trust</td>
<td>SCU</td>
</tr>
<tr>
<td>Yeovil</td>
<td>Yeovil District Hospital NHS Foundation Trust</td>
<td>SCU</td>
</tr>
</tbody>
</table>

**SOUTH WEST NEONATAL ODN STRUCTURE**

The South West Neonatal ODN is governed by an elected Executive Board that is made up of elected clinical and managerial neonatal representatives from across the region and key partners including maternity and child health, Strategic Clinical Network colleagues, Commissioners and parent representatives.
The Network Board meets quarterly and its purpose is to supervise the development and modernisation of neonatal services across the Network in line with national priorities and local imperatives. Its aim is to provide senior management and executive leadership and make strategic decisions and approve key planning issues and commit resources within delegated limits. The Board advises Commissioners and on their behalf drives forward the agreed ODN wide implementation of the strategy for neonatal services. The Board governs the Neonatal Network Team and oversees the work of Advisory and Working Groups that are established as part of the Network structure.

The Board aims to integrate, where appropriate the work of the neonatal ODN and Specialised Commissioning Team in the procurement of neonatal services. The Board also provides the final quality assurance for identified key initiatives and through the Network Team reports into the South West ODN Oversight Board. The South West Neonatal ODN is directly accountable to the South West ODN Oversight Board which was established in early 2015 and is made up of Senior Commissioners and Chief Executives from all Trusts within the region. This Board will seek to provide assurance through performance monitoring that each ODN is operating between a clearly defined governance framework.
## Figure Four: Neonatal ODN Board Membership 2014/15

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<tr>
<th>POSITION</th>
<th>NAME</th>
<th>ORGANISATION</th>
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<td>Executive Chair</td>
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</tr>
<tr>
<td>Senior SW Commissioner</td>
<td>Debbie Hart</td>
<td>South West Area Team NHSE</td>
</tr>
<tr>
<td>Specialised Commissioning ODN Lead</td>
<td>Patricia Mclarnon</td>
<td>South West Area Team NHSE</td>
</tr>
<tr>
<td>Host Representative</td>
<td>Rebecca Dunn / Judith Hernandez</td>
<td>University Hospitals Bristol NHS Trust</td>
</tr>
<tr>
<td>Maternity and Child Health SCN Lead</td>
<td>Ann Remmers</td>
<td>South West Strategic Clinical Network</td>
</tr>
<tr>
<td>Obstetric Lead</td>
<td>Dr Emma Treloar</td>
<td>University Hospitals Bristol NHS Trust</td>
</tr>
<tr>
<td>NICU Representative</td>
<td>Dr David Harding</td>
<td>University Hospitals Bristol NHS Trust</td>
</tr>
<tr>
<td>NICU Representative</td>
<td>Dr Paul Mannix</td>
<td>North Bristol NHS Trust</td>
</tr>
<tr>
<td>NICU Representative</td>
<td>Dr Alex Allwood</td>
<td>Plymouth Hospitals Trust</td>
</tr>
<tr>
<td>LNU/SCU Clinical Representative</td>
<td>Dr Simon Pirie</td>
<td>Gloucestershire Hospitals NHS Trust</td>
</tr>
<tr>
<td>LNU/SCU Clinical Representative</td>
<td>Dr Andrew Collinson</td>
<td>Royal Cornwall Hospital NHS Trust</td>
</tr>
<tr>
<td>LNU/SCU Clinical Representative</td>
<td>Dr Alison Busfield</td>
<td>Royal Devon and Exeter NHS Foundation Trust</td>
</tr>
<tr>
<td>Senior Management Representative</td>
<td>Roisin McKeon-Carter</td>
<td>Plymouth Hospitals Trust</td>
</tr>
<tr>
<td>Senior Management Representative</td>
<td>To be appointed</td>
<td></td>
</tr>
<tr>
<td>Senior Nursing Representative</td>
<td>Jo Smith</td>
<td>Great Western Hospital NHS Trust</td>
</tr>
<tr>
<td>Senior Nursing Representative</td>
<td>Chris Routley</td>
<td>Yeovil District Hospital NHS Trust</td>
</tr>
<tr>
<td>Parent Representative</td>
<td>Laura Vernou</td>
<td></td>
</tr>
<tr>
<td>Network Clinical Lead</td>
<td>Dr Rebecca Mann</td>
<td>SW Neonatal Network</td>
</tr>
<tr>
<td>Network Manager</td>
<td>Rebecca Lemin</td>
<td>SW Neonatal Network</td>
</tr>
<tr>
<td>Network Lead Nurse</td>
<td>Heather Burden</td>
<td>SW Neonatal Network</td>
</tr>
<tr>
<td>Network Data Analyst</td>
<td>Dr Pippa Griew</td>
<td>SW Neonatal Network</td>
</tr>
</tbody>
</table>
REPORT FROM THE NEONATAL NETWORK MANAGER

South West Neonatal Network Manager - Rebecca Lemin

This is the South West Neonatal ODNs first Annual Report after its reformation in January 2014 to becoming a single clinically managed Operational Delivery Network for the South West Region. Over the last year on the ground within units, changes may not have been that evident but at a regional level we have been building the foundations of what we hope will be a strong and effective Network. This work, we hope, will support us in moving proactively and strongly forward and enable us to effectively address the challenges and the needs of neonatal care within our region. We expect however to see ‘tweaks’ to our operational procedures as we start to understand what best fits our region and ways of working. As the year ended we have been encouraged to see evidence of a shift in culture and continued and growing commitment from professionals to working as a seamless region in the delivery of Neonatal Care. Key tasks have included:

- Establishing Network structures in line with national guidance
- Strategically reforming as a single Network
- Establishing new governance and monitoring arrangements
- Developing key partnerships
- Embedding robust regional processes to both report and manage incidences and risk across our services

We started the financial year with 3 members of staff and finish with 5 having been joined by a Network Administrator and Data and Research Analyst. As the financial year drew to an end we were lucky enough to be awarded funding from Commissioners for a Quality Improvement Lead who we envisage will be supporting the Network in taking forward key projects over 2015/16.

A significant challenge of our first year was to rebrand and relaunch the ODN after its hiatus and re-organisation and to ‘re-engage’ the South West neonatal community. Considerable effort has been put into establishing collaborative and effective relationships with key partners both nationally, regionally and locally which will be fundamental as we move forwards into 2015/16. Particular highlights include:

- Achieved engagement from every Clinical and Nursing Lead within the region, and for the first time from Trust Management leads, who come together every quarter to discuss Network work and progress.
• After overwhelming interest appointed a 12 strong appointed Board within representation from all levels of neonatal care and key partners from Commissioning, the SCN and our Host Trust.

• Launched a new regional Neonatal Website www.swneonatalnetwork.co.uk. Aimed at both parents and families who receive neonatal care and professionals who deliver it across our region we hope that it will become a central point which provides information, advice and support both on our services and the neonatal ODN.

• Recognition of the role of the Network as the regional ‘expert’ in neonatal services and collaboration with Commissioners from our Specialised Commissioning Area Team to scope out the role of the ODN in the Annual Commissioning and Contracting process.

• Adopted a significant role into the development of the Neonatal QIPP and CQUIN programs for the South West and we will manage their implementation in 2015/16 on behalf of the Specialised Commissioning Area Team.

• Establish working relationships with the South West Maternity and Child Health Strategic Clinical Network which we hope to further strengthen in 2015/16 and identify where we can work in partnership to address common strategic challenges. Regular data sharing across Networks has been established and there is cross representation on each other’s Executives Boards.

• Established good engagement with the National Neonatal ODN agenda and establishing links with existing national management and data groups.

• Reestablished our relationship with the National Neonatal Charity BLISS after there was acknowledgement from both sides that engagement with the South West Region was lacking. Specific plans to address this are in place for the coming year including identification of a key lead within BLISS assigned to the South West, joint submissions for national funding and a planned visit by Caroline Davey, the new Chief Executive to some of our units in the region.

• Successfully supported the region during the closure of one of its NICUs over a prolonged period, and developing alternative Network pathways during the closure.

• The ODN Team delivered their first year’s work within budget, and without overspend. A small underspend relating to delayed filling of posts at the beginning of the financial year was used to cover the design and set up costs of the ODN website.

As a final note, the new designation for two formal types of Networks as mandated by the NHS has now become well established nationally, and although Network practice varies across regions the remit remains clear – to ensure that babies and their families received high quality, equitable, accessible and clinically effective neonatal care. Despite national recognition of the success of Networks, there remain some issues at a national level with ODNs that along with our colleagues from other Networks need to address. These are particularly around the long term vision for and future funding of ODNs as well as a need for more direction and guidance from NHSE around the
role of ODNs. Whilst acknowledging this uncertainty we will not let it affect us in thinking long term and for us reinforces the need to clearly demonstrate the clinical and strategic importance of our ODN and to demonstrate the ‘real’ impact it has on the quality, consistency and egress of neonatal services within our region.

NETWORK OBJECTIVES FOR 2015/16
The Neonatal ODN Annual Work Plan was drafted and agreed by Executive Board in April 2015. A significant element of next year's work will be in embedding the structural processes and procedures established in our first year.

Specific key aims for 2015/16 include:

- Develop a 5 year integrated maternity and neonatal strategy for the South West Region which includes future service configuration. Embed the changes in practice that have been agreed but are not yet fully established.
- Continue to strengthen our strategic function within commissioning and to deliver ‘actual’ efficiency savings and quality improvements in the provision of neonatal services across our region.
- Increase the central ODN resource, by identifying key areas of service delivery that might be best organised and delivered on a region-wide basis. A first example could be the provision of a regional milk bank.
- Develop a process for region-wide procurement of NICU specific services - using procurement of TPN as first example.
- Develop a Commissioning and Contractual focus on quality and outcomes rather than activity and finance.
- Reach full transparency of contracts, costs, activity of units across the region.
Much of the focus of the first year has been the development of improved integration between the units within the ODN, and with the units and ODNs immediately bordering the South West. There have, however, been a number of achievements which are specifically worth highlighting.

In February 2015, the SW Network Team hosted the first meeting of National Neonatal ODN Clinical Leads, which was held in Bristol. This allowed exchange of ideas with other ODNs to maximize shared learning and improve co-ordination / management of shared problems. Specifically the significant overlap and referral of cases from South Wales was identified as an area which needed further focus. There was widespread enthusiasm from other ODNs in the Country for the adoption of the Neonatal Cot Bureau, implemented across our region and a strong feeling that it would enable colleagues in obstetrics and gynecology across the UK to identify the nearest NICU cot availability and labour ward capacity with ease.

A series of successful meetings were held with representatives of the Child Death Overview Panels (CDOP) across the South West region. Following a Stakeholder meeting, consensus on improving and standardising data collected from CDOP panels regarding infants dying within neonatal units or up to 44/40 corrected gestation were agreed. CDOP Managers across the region agreed to routinely share results of investigations of all neonatal deaths with the ODN. It is anticipated that the South West ODN will become the first in the UK to receive systematic independent reviews on all neonatal deaths to further support service improvement and development.

Over the course of 2014/15 there have been a number of occasions when routine operating has been compromised by capacity issues, either relating to volume of work, or to other adverse factors such as infection control concerns, or problems with buildings and capacity. Increasingly the clinical and service manifestations of these episodes have been managed and communicated by the Network Team to minimise disruption for families and make things as easy as possible for affected units. This increased collaborative working has been supported by improved data about cot availability (facilitated by the newly developed Cot Bureau), improved communication (facilitated by the website) and a gradual move towards standardising care (developed through the work of the Guidelines Group, which is working to unify practice across both the Northern and Southern sectors of the ODN).
Following publication from the BAPM ‘Optimal Arrangements for Neonatal Intensive Care Units in the UK including guidance on their Medical Staffing: A Framework for Practice’ a review of current service configuration for NICU units in the South West has been initiated. This suggested that the current configuration was possibly not optimal and that further consideration should be given to more detailed review of the service configuration of the current 3 level 3 units in the South West. A working group comprising clinicians from each of the 3 NICUs and the ODN will review this in more detail through 2015/16 and develop a proposal to take to Executive Board and Area Team Commissioners. Clearly defining our final tertiary configuration will underpin a future review of the transport services, both of which report significant pressures regarding staffing models and workload.

KEY CLINICAL OBJECTIVES 2015/16

The current challenges / targets are:

- To support units in meeting their CQUIN and QIPP targets.
- To complete a review of level 3 unit capacity and configuration.
- To meet 100% 12 hourly update of cot bureau and neonatal nurse staffing data.
- To assess unit compliance with the National Service Specification for Neonatal Critical Care and Service Specification for neonatal retrieval services.
- To develop a robust peer review program, including site visits, benchmarking unit compliance with the Neonatal Service Specifications and toolkit requirements, as well reviewing outcome data and patient / family experience.
- To embed the CDOP data sharing initiative within ODN governance and service improvement frameworks.
REPORT FROM THE NURSE LEAD

SOUTH WEST NEONATAL NETWORK LEAD NURSE - HEATHER BURDEN

The Lead Nurse’s responsibility is to provide over-arching nursing leadership, developing and implementing high quality clinical standards in the delivery of the Neonatal Care Service Specification across the South West ODN. Over this first year, the pace of change has been enormous. The ODN started with a blank slate and the recruitment of only half of our team members, so the focus was to develop the Network foundation structure upon which service improvement could be supported. For the nursing side, the following 5 Network foundational pillars have been achieved:

1. FOSTERED LINKS WITH PEERS IN ALL TWELVE TRUSTS

One of our first priorities for the Network Team was to visit every unit, meeting colleagues face to face, discussing their achievements and challenges and identifying patterns of similarity across the Network. Strengthening relationships across the region cannot be emphasised too strongly, especially as the previous Peninsula and Western Network hubs have combined to become a single ODN.

2. ESTABLISHED CLINICAL GOVERNANCE PROCESSES.

Network Incidents

There is much we can learn from each other through sharing good practice from critical incidents and managing of risk. Clinical governance processes, incident reporting triggers and a Network Risk Register have all been developed and are now in use. Although this meant that incident reporting was slow to gather during 2014/5 the Network successfully tested the documentation on 3 unit closures, 2 transfer adverse events and 3 clinical adverse events.

Exception Reporting

Exception reporting provides the ODN with quality and safety assurance for infants remaining on a neonatal unit outside their designation criteria. This year we concentrated on developing a robust reporting form and guidance for communication, which has now been agreed and is in use
as part of the Clinical Dashboard. It standardises the mechanism for the reporting of neonates who meet the criteria for transfer for uplift in care but have not been transferred.

During the year, returned exception reports indicated that, following Consultant to Consultant discussion, most clinical decisions were taken that considered it safe or best practice to continue the care of the neonate in the referring unit and not to transfer.

**Network Risks**
An ODN Risk Register has been established for the first time, identifying a total of 9 Network risks this year. These included:

- 2 Risks for Retrieval Services - PNTS and NEST (both High Risk)
- 5 Risks for Workforce and Education - Nursing and Medical (all Very High Risk)
- 1 Risk for Cot Capacity – NICU and Surgical Cots (High Risk)
- 1 Risk for Infrastructure – Unit refurbishment in 3 units still required (Low Risk)

Not surprisingly, workforce and education issues are our highest risk, followed by cot capacity, retrieval services and infrastructure.

**Figure Five – Neonatal Network Risks 2014/15**
3. **NURSE EDUCATION**

In response to the identified risks above, we were able to secure funding from Health Education South West for 35 QIS Nurses and 8 ANNPs to qualify over this year at a cost of £135k prior to their tender for an Advanced Practice Acute and Urgent Care (APAUCE) Contract. This was a great boost to Network morale and the first time that ANNP training had been funded centrally. It eased a catch-up requirement for QIS and ANNP education following the Capita Contract for Education in the South West (see figure 6 below).

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<th>Trust</th>
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<th>ANNPs trained</th>
<th>No of students eligible &amp; waiting for QIS places</th>
<th>No of Funded ANNP in SW (WTE)</th>
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Training Needs

Gaps in the nursing workforce remain a major challenge, a picture that is reflected in other neonatal ODNs across the Country. In terms of QIS training, the ODN still holds a backlog of 92 nurses who are currently eligible for QIS training. The demand forecast for 2015/16 already stands at a maximum of 30 nurses identified for next year’s QIS course. In reality, a reduction in these numbers will be part of our 5 year plan as release of more than 30 students per year from the workplace is not an option.

Replacing medical staff with ANNPs is also a challenge. There are currently 41.4 wte ANNPs funded across the South West, of which 9.8 wte posts remain unfilled, despite eight ANNPs undertaking training this year. Nurse education and training will be a priority next year as will building our relationship with Health Education South West.

4. WORKFORCE

This year has been difficult for nurses. A quarter of the Trusts in the ODN undertook consultations and restructures affecting nurses in neonatal service. It is a stark reminder of the pressure on the NHS to find continued savings. The loss of senior nurse posts in the ODN resulted in 2 new appointments to the Executive Board within its first year. Despite these changes, we welcome both Sue Spooner and Sue Prosser onto the Executive Board and appreciate their expertise in decision-making. Other emerging nursing projects within the ODN have included:

- Commencing the use of Badger’s nurse staffing calculator, used by the majority of units.
- The drafting of a proposal for a Regional Neonatal Nurse Bank which has been favourable across the ODN. A Business Case is in draft format and this will be taken forward in 2015/16.

5. PARENT ENGAGEMENT AND RECRUITMENT

This year we have had the privilege of welcoming our first 4 parent representatives into the Network and we are most grateful for their time, expertise and passion. Bliss has been instrumental in their recruitment and we thank Mehali Patel for helping us in this process. Although the Parent Advisory Group is in its infancy, our parents, Laura Vernoum, Catherine Miles, Laura Bradshaw-Price and Ruth Swales, have already contributed to the Board and Working Groups with advice, parent stories and a parent expert viewpoint.

The Network has learnt much from these parents in our first year, both through their personal experiences and from their ideas for service improvement. Thank you to each of you. Next year we will be continuing to increase the number of parent representatives and would encourage staff in units to signpost parents to this valuable role.
NURSING OBJECTIVES FOR 2015/16

Next year we must continue to build on and develop what has been achieved this year, including:

- Development of a South West Neonatal ODN Workforce Strategy.
- ANNP course to be agreed in the University of Plymouth to commence in 2017.
- Nurse Education in 2015/16 - 2 new Higher Education providers won the tender for HESWs APAUCE Contract. University of the West of England and University of Plymouth will commence this Contract from April 2015.
- In January 2016 our first partnership model of QIS training will commence. UWE is in the process of developing a Partnership with UH Bristol for the QIS Course in the Northern units.
- Nurse Education – achieve consistency in academic content as a standard for QIS.
- Progress the Business Case for the Regional Nurse Bank, to include non-registered, registered and ANNP workforce groups.
- Benchmarking of unit workforce based on specification and toolkit standards
- Peer reviews of units – a rolling program of 3 units per year over the next 4 years.
The Network Data Analyst Dr Pippa Griew started in post in June 2014 and the following 9 months have seen an incredible amount of work undertaken to establish data collection and analysis across the region. Going into our 2nd year as an ODN we now have strong foundations on which to build and regular data returns which will enable us to start to establish a baseline on the activity, capacity and needs of our region. The initial main focus was to identify the information requirements of the region and establish systems, reports and support to enable the production and collection of this information. The summary below gives a brief outline of the range of work completed and our Work Plan for 2015/16:

**BADGERNET**

We have now achieved full regional access to badgernet with agreement from Caldicott Guardians within each Trust to share Badgernet data in line with expectations within the Neonatal Service Specification. This will not only reduce the amount of time that units spend on quarterly regional returns but also provide us with access to the data which enables us as a ODN to strategically lead across the region.

All units have now migrated across to the new Badgernet system providing greater capabilities and enabling us at regional level to pull off single reports. Our data lead sits on the national Badgernet Working Group which not only provides us with a forum for feedback but also provides updates from the system and other data leads from across the Country. Engagement with data leads within units over the past 9 months have demonstrated that there is a lack of consistency with data entry, data resources and data quality across our region which impacts on the validity of our data and our perceived performance. To address this a regional Data Lead Working Group has been established which along with data leads from across units will look at how data entry and quality can be improved.

**MONTHLY NEONATAL DASHBOARD**

Work has been taking place across the year to develop and refine a regional Neonatal Dashboard and quarterly unit return. This is our main reporting template for the region and the aim has been to strike a balance between the information we need regularly to strategically manage the region...
on behalf of NHSE and the level that units have to report on. We think that we now have this about right with the ODN able to get the majority of activity information from Badgernet with units then expected to respond to queries and return required exception reports. We now have one full year of data which is fantastic and it enables the ODN Team to start being able to establish a baseline and look at emerging trends within data, activity and performance.

NEONATAL COT BUREAU
Since late 2014 the ODN has being working with NHS Pathways Directory of Services (DOS) and in March successfully launched a system which enables the Network at a strategic and local level to record and view capacity across the region on a daily basis. The system is also able to provide the ODN with reporting functionality which will enable us to store capacity data and use it for future analysis and planning. The DOS system is well established and already holds information about pressure and capacity in both Emergency Departments, general and acute beds in hospitals across the UK. Specific examples include it being used by all our colleagues in PICUs nationwide and our colleagues in the Critical Care ODN. Our units have been quick to adopt the Cot Bureau and after 4 months it is running very successfully, it has also been welcomed by our maternity and obstetric colleagues who are able to see the status of units on a daily basis. Nationally we have been forerunners and as a result of the success in our ODN other Neonatal Networks are looking to adopt this system and roll it out across their regions in 2015/16.

VERMONT OXFORD NETWORK
The Vermont Oxford Network is a non-profit voluntary collaboration of Health Care Professionals comprising nearly 1,000 Neonatal Intensive Care Units from across the world. All units from the South West region subscribe to VON and in return they provide confidential comprehensive reports on our very low birth weight (<1500g) babies. This year the ODN negotiated a discounted regional subscription price, making substantial savings for NHSE and enabling us as Network to request regional reports which will provide us with crucial benchmarking data and serve as a foundation for us to identify local quality improvement projects.

NATIONAL NEONATAL AUDIT PROGRAMME (NNAP)
All units currently contribute data to the National Neonatal Audit Programme, in line with all other units in the UK. An Annual Report is published, which covers predefined audit topics. The results from all units in the South West Neonatal ODN are included in the Data and Activity section in this Annual Report. In the future, a particular focus will be around data quality, to ensure that results accurately reflect unit activity and outcomes.
DATA OBJECTIVES 2015/16

One of the main aims of 2015/16 will be to consolidate the work and systems established in 2014/15 and seek to improve data quality across the region. In addition to this specific data work programs include:

- Develop regular performance reports for Specialised Commissioning Area Teams.
- Work with our maternity colleagues in the SCN to ensure that key neonatal data features on the SCN Dashboard and that we utilise maternity data to inform practice.
- Support and establish system to record and monitor the data requirements of the 2015/16 QIPP and CQUIN programs.
- Work with our transport teams to achieve regional electronic reporting via Badgernet.
- Support the data requirements of the Neonatal ODN 2015/16 Work Plan.
TRANSPORT AND RETRIEVAL TEAMS

Neonatal services within the South West ODN are supported by 2 retrieval teams, NEST based in Bristol and PNTS based in Plymouth. These cover the Northern and Southern sectors of the ODN, in line with previous service configuration of the Western and Peninsula ODNs.

Following an RCPCh external review of NEST services a substantial increase in funding has allowed an on call tier of Consultant medical staff to support the ANNP delivered service. Dr James Tooley has returned from a year’s sabbatical in transport medicine and now fulfills a post as a dedicated lead to the retrieval service based at St Michael’s Hospital. The staffing models differ considerably between Bristol and Plymouth, as do SOPs and patterns of workload.

A Transport Working Group has been established, with the aim of standardising Clinical Guidelines and Operating Procedures including incident reporting and governance procedures. Both services continue to report ongoing difficulties meeting National Service Specifications and an audit against these needs to be undertaken during 2015/2016. More importantly, during the latter part of 2014/2015 the NEST retrieval team received a substantial increase in funding from Commissioners, to deliver a full medical on call tier of staffing to support the existing ANNP provided service. Additional monies were provided to support improved governance and training opportunities.
REPORT FROM THE PARENT ADVISORY GROUP

PARENT REPRESENTATIVES AND FAMILIES

The establishment of a Parent Advisory Group (PAG) was seen as a key goal of the ODN, and this year we have welcomed our first 4 parent representatives into the South West PAG. The Network has worked closely with Bliss for support in the recruitment of these volunteers.

Our Parent representatives are:

Laura Vernoum, based in Somerset. Laura sits on the Network Board and is Joint Chair of the Parent Advisory Group. Laura’s 26/40 twins, Alfie and Theo, were cared for in the Network.

Catherine Miles, based in Bristol. Catherine has been supporting the Parent and Family Experience Working Group and is Joint Chair of the Parent Advisory Group. Laura’s son, Harry, was born at 26/40 and was cared for in the Network.

Ruth Swales, based in Cornwall. Ruth supports the Parent Advisory Group. Ruth has 3 children. Enys was cared for by the Network when she was born at 28/40.
Laura Bradshaw-Price, based in Bristol. Two of Laura’s children, Elizabeth and Samuel, were cared for in the Network at 27/40 and 25/40 respectively. Laura supports the Parent Advisory Group.

The Parent Advisory Group will meet for the first time in June 2015. Parent representatives have also actively attended the Executive Board and the Parent and Family Experience Working Group. In addition, parents have been involved in the following:

- The Network participated in the Picker national parent experience survey for the first time.
- A Parent Engagement Strategy is in draft format. The parent input to this has been greatly valued.
- Discharge Planning – Four of our Local Neonatal Units completed a 2 year study for the Train to Home Project, a research project led by Professor Peter Fleming and Jenny Ingram in collaboration with Bristol University and the University of the West of England (UWE). This is a tool developed to improve parent confidence in preparation for discharge. The picture of the train at the baby’s bedside shows how your baby is doing in five areas: Breathing, feeding, growing, temperature and sleeping. Parents and staff work together to enable timely and planned discharge preparation. The tools and training package have now been linked to our Network website and one of these units is trialing the self-directed learning package. As a result, there has been significant interest from other Networks for inclusion when complete. Watch this space as the South West may well lead on this nationally.
In 2014/15 one of the South West Specialised Commissioning Team’s priorities was to direct and oversee the establishment, development and effectiveness of ODNs in line with NHS England ODN operating principles. This work included building on the existing hosting relationships, to further define and clarify the responsibilities of all parties and establish a more robust governance model for ODNs hosted within the South West. During this time the neonatal ODN made impressive progress in establishing themselves, have secured excellent stakeholder engagement and have demonstrated a clear commitment to working innovatively to provide excellent, consistent and equitable care for all parents and their babies across the region.

ODNs are a valuable resource to the Commissioning process and this working relationship needs to be formalised to ensure the ODN intelligence is being utilised to support Commissioning for outcomes. As the neonatal ODN is now well established we are now exploring the ways in which the ODN can add value and expertise to us Commissioners on Contract negotiations and business cases for service provision, and the CQUIN and QIPP schemes across the South West to drive up quality and improve outcomes for patients.

Developments within neonatal services are amongst the Commissioning priorities and the 2015/16 Work Plan establishes objectives for the Neonatal ODN to undertake regional reviews in the following areas:

- **Transport:** To review the future neonatal transport needs of the region, assess the options for future service configuration, and ensure that the SW transport services are fit for purpose and compliant with transport service specifications.
- **Review of Capacity and Delivery:** To assess regional configuration to ensure the delivery of safe and high quality services and realise greater efficiencies in the allocation of current resources.
- **Term Admissions and Transitional Care Reviews:** To provide support to service reviews to be established to look at term admissions and transitional care provision across the region.
- **To provide support to the Network Manager in the delivery of the QIPP and CQUIN programs across the region.**
In recognition of the value of this work the Specialised Commissioning Team has supported an additional post of a Service Improvement Lead until March 2017.

There remain some issues at a national level with ODNs that we still need to address, particularly with regard to the longer term vision for and funding of ODNs, and we will continue to support the SW neonatal ODN through this challenging time.
DATA AND ACTIVITY REPORT

SECTION ONE: CAPACITY AND NNAP REPORT

COT CAPACITY SUMMARY

- There are sufficient total cot numbers across the South West ODN to meet all the needs of SW infants, including those currently cared for out of region.
- There are insufficient numbers of cots staffed at ITU and HDU nursing ratios within St Michael’s to meet its current ITU / HDU workload.
- The majority of LNUs (excepting Gloucester) need to redesignate cots from ITU / HDU to special care.

REGIONAL COT CAPACITY

Overall activity levels for all levels of care has remained very stable over the last 5 years and there has been no overall reduction in care at any level of unit within our region. Based on the data included in this report the South West ODN requires the following level of cots to continue to meet current workload whilst running units at an average occupancy of 80%.

- 33 Intensive Care (ITU)
- 46 High Dependency (HDU)
- 184 special care (SCUs)

Current total cot numbers within our region are:

- 99 ITU / HDU combined
- 137 special care
- 52 Transitional care

This represents a total of 236 cots within neonatal units and an additional 52 Transitional Care (TC) cots. It is apparent that the way units are defining their cot base at present does not represent the way they function. In particular there is an excess of ITU / HDU cots in the LNUs, and an overall deficit of Special Care cots. Data suggests that as referral pathways are currently configured, there is insufficient ITU / HDU cots at our tertiary centre at St Michael’s, Bristol. A review of cot designation and a standardised approach to the recording of capacity and occupancy levels needs to be developed across the region.

There are wide variations in the percentage of infants classified as requiring special care or transitional care ¹ with both St Michael’s and Southmead recording between 45-55% of infants as special care delivered with carer resident, either on a PN ward or in a specialist TC setting

¹ Special care delivered with carer resident, either on a PN ward or in a specialist TC setting
requiring some level of extra care. Derriford reports a 25% rate, with all other units recording total admission rates much lower at between 8-15%. It is most likely that this represents differing classification/case identification and it is an area that the ODN will look to work with Commissioners to develop a more standardised approach, with the aim of developing a single agreed definition of normal care, transitional care and special care.

**NATIONAL NEONATAL AUDIT PROGRAM (NNAP) SUMMARY**

**NB:** The data presented relate to the calendar year 2013 as this is the most recently available nationally published data. The data reports information collected from data inputted by individual units, but may not necessarily reflect the actual clinical practice occurring in units at that time. The nature of benchmarking is such that the many units will have already implemented changes to improve reported outcomes. Wherever updated information is available this has been added for information / completeness.

In terms of standards of care, reviews should be undertaken of:

- AN steroid administration rates at St Michael’s.
- Breast feeding rates of preterm babies at Yeovil.
- Overall compliance and documentation of parents seeing a senior staff member within 24 hours of their baby’s admission – particularly in the LNUs, and particularly in Yeovil.
- ROP screening in Swindon and Truro.
- All units need to review documentation of temperature recording in the first hour of admission of preterm infants.

**NNAP 2013 RESULTS**

The most recent available NNAP results relate to the period from 1st January 2013 to 31st December 2013. The data precedes the amalgamation of the 2 South West ODNs, and therefore are presented as 2 separate Networks, the Peninsula, comprising Plymouth as lead NICU, with LNUs in Truro and Exeter and SCUs in Torbay and Barnstable. The Western Network comprised NICUs in St Michael’s and Southmead Hospitals, plus LNUs in Gloucester, Swindon, Bath and Taunton and a SCU based at Yeovil.

The questions posed in the audit in 2013 were:

- Do all babies of less than or equal to 28+6 weeks gestation have their temperature taken within an hour after birth?
- Are all mothers who deliver babies between 24+0 and 34+6 weeks gestation given any dose of antenatal steroids?
- Are all babies with a gestational age at birth <32+0 weeks or <1501g at birth undergoing first Retinopathy of Prematurity (ROP) screening in accordance with the current national guideline recommendations?
- What proportion of babies of <33+0 weeks gestation at birth are receiving any of their mother’s milk when discharged from a neonatal unit?
- Is there a documented consultation with parents by a senior member of the neonatal team within 24 hours of admission?
- Are all babies accessing neonatal services treated in their own Network (except where clinical reasons dictate)?
- Are rates of normal survival at 2 years comparable in similar babies from similar neonatal units? *(In 2013 we are auditing babies of <30+0 gestation at birth.)*
- What percentage of babies admitted to a neonatal unit have:
  - One or more episodes of a pure growth of a pathogen from blood.
  - One or more episodes of a pure growth of a pathogen from CSF - either a pure growth of a skin commensal or a mixed growth with ≥3 clinical signs at the time of blood sampling.
- What percentage of babies of more than or equal to 35+0 weeks gestation have an encephalopathy within the first 3 calendar days of birth?
- How many blood stream infections are there on a NNU per 1,000 days of central line care?

**NNAP AUDIT RESULTS FOR UNITS WITHIN THE SW ODN**

In summary the National Neonatal Audit Program (NNAP) has identified specific areas for review, that include rates of AN steroid administration at St Michael’s, ROP screening at Swindon and Barnstable, breast feeding rates at discharge from Yeovil. All units, particularly the LNUs and SCUs need to consider ways to improve senior input to parents in the first 24 hours of admission.

**Figure Seven: Percentage of babies of less than or equal to 28+6 weeks gestation that have their temperature taken within an hour after birth**

![Temperature within 1 hour, <29/40](chart.png)
The national target for Q1 is 100%. It is difficult to consider that this temperature is not recorded within 1 hour of admission for the majority of preterm infants that are admitted to units in the ODN and although results are broadly in line with national averages, it appears that there is room for improvement in all units other than Yeovil, Truro and Bath. It does seem likely that inadequate data entry is contributing to some low results, and individual units should review their data and ensure systems are in place to improve data quality.

**Figure Eight: Percentage of mothers who deliver babies between 24+0 and 34+6 weeks gestation given any dose of antenatal (AN) steroids**

The national target for Q2 is 85%, and over recent years performance has steadily improved nationally and across the South West region. The ODN is performing slightly below the current national average and anecdotal evidence suggests that it is not always easy for neonatal unit staff to accurately confirm antenatal steroid administration within the 10 days prior to delivery, but again individual units need to assess their performance and try to ensure data accuracy. The present data suggest that St Michael’s in particular are a relatively low performer particularly for a high risk tertiary obstetric and neonatal service, and/or that improvements in data accuracy and completeness can be made.
Figure Nine: Percentage of babies with a gestational age at birth <32+0 weeks or <1501g at birth undergoing first Retinopathy of Prematurity (ROP) screening in accordance with the current national guideline recommendations

The NNAP programme accepts a slightly wider window of timings that the national guidance, but expects 100% compliance with this standard. Some units have made significant progress in the area over recent years, but 2013 data suggests that Truro and Swindon in particular have either significant service issues, or significant data collection problems and this merits further review in 2014/15. Likewise Derriford has lower rates of compliance compared to the other NICUs in the South West ODN.
Figure Ten: Proportion of babies of <33+0 weeks gestation at birth who are receiving any of their mother’s milk when discharged from a neonatal unit (inborn babies only)

At present this standard is being benchmarked due to data collection being ongoing and no national target has been identified. Southmead clearly perform well in this domain with performance strengthened by the location of a donor milk bank within their Trust. Following the 2013/14 CQUIN which related to breast milk at discharge many units have made significant progress in increasing the percentage of babies receiving any breast milk at discharge, however the data suggest that there is room for improvement within some units. For example of 5 babies born below 33/44 at Yeovil none went home receiving any breast milk. Babies included in standard were only those who had received all their care in the discharging unit (to minimise the effects of maternal separation) so numbers for the SCUs are low and should not be over interpreted. This clearly is an area for further review of results, possibly reviewing breast feeding rates at discharge over a longer time period to increase accuracy. It also supports ongoing work to provide donor milk to all units across our region, and 2015/16 will see the ODN working with Southmead to develop a regional Service Level Agreement for the provision of donor breast milk to all neonatal units within the South West.
Feedback from individual units suggests that documentation of consultation and possibly data entry may compromise the poor results that are seen across all units in the ODN, and whilst some units clearly perform close to national standards, with the exception of Truro the LNUs in particular need to improve performance. Barnstable and the 2 Bristol NICUs seem to perform better than other units.

When looking at Question 6 - Are all babies accessing neonatal services treated in their own Network (except where clinical reasons dictate), national targets are that more than 90% of infants should have their care delivered within the region where they are delivered. The data relating to transfers out of region in the Peninsula are as follows:

- 8% of all infants born in the Peninsula Network were transferred post-delivery, 75% of transfers were within Network, and 25% out of Network.
- This equates to 275 transfers, with 69 babies being transferred out of ODN, 30 for surgical reasons, none for cardiac assessment and 30 for other clinical reasons (not specified).

The national target is that >90% of infants should be cared for in their ODN of delivery, unless the transfer is for clinical reasons. This data does not take into account babies who might have delivered out of region and be repatriated to their home – eg babies who are born when parents are on holiday. The data relating to the Peninsula show transfer rates are outside that target (due to the absence of a surgical centre within the historical Peninsula ODN) but in future these transfers will not count as ‘out of region’.
In the Western Network

- 7% of all infants born in the Western Network were transferred post-delivery: 84% of transfers were within Network, 16% out of Network.
- This equates to 439 babies undertaking 660 transfers, with 103 babies being transferred out of ODN, 2 for surgical reasons, 3 for cardiac and 98 for other clinical reasons (not specified).

The data does not take into account babies who might have delivered out of region and be repatriated to their home – eg babies who are born when parents are on holiday. The national target is that >90% of infants should be cared for in their ODN of delivery, unless the transfer is for clinical reasons, and although there is room for improvement, overall the ODN performs well in this regard and meets national targets.

SECTION 2: ACTIVITY DATA

DATA OVERVIEW AND CONSTRAINTS

Whilst Clevermed produces standardised annual report data for all ODNs, this is limited in content and has not proved to be in line with individually undertaken data searches. The ODN is indebted to Pippa Griew who has collated data from individual units Badger databases and constructed the following report. There have been initial difficulties accessing the data from Derriford, so this has been manually provided by Dr Nicola Maxwell, Data Lead. The Plymouth data was collated by calendar rather than fiscal year, and data was not easily available for the year 2010. Data for the fiscal year 2011-2012 for other units, was compared to Plymouth data for the calendar year 2012 and although it is likely that data and trends are comparable between units, it needs to be noted that data collection methods for Plymouth has not been identical to that from the other units.

ACTIVITY DATA SUMMARY

These data show sufficiently stable activity levels to enable prediction of the number of cots of each level that the region is likely to require in the longer term future. The data suggests that a total of 78 ITU / HDU cots in the South West ODN, plus 184 SC cots will deliver the nationally recommended 80% occupancy rates that are considered optimal for both clinical outcome and efficiency. At present units report a total of 99 ITU / HDU cots plus 137 SC cots and 52 TC cots. This data suggests that overall too many cots are designated as ITU / HDU and that if anything more SC cots are required within the ODN. TC cot expansion is likely to offer an improvement in both efficiency and quality of care, by allowing some infants to be cared for alongside their mother in a TC environment, rather than being separated and placed in a neonatal unit. A further increase in cot numbers within the South West ODN is not required, but a redesignation of cots and the development of a TC ethos will improve care and patient experience. Obviously, adequate nurse
staffing is also a prerequisite, and in future annual reports data will include nurse staffing ratios as well as absolute cot numbers.

**WORKLOAD DATA**

Figure Twelve: Total daily activity levels (average cot days in all units) within the ODN from 2010 to 2014

This graph shows striking stability in overall ITU and HDU workload within the South West ODN over the last 5 years. To enable units to run at an average occupancy of 80% it the ODN requires a total of 33 ITU cots, 46 HDU cots (79 ITU and HDU cots combined) plus 184 SC cots. The stability of the workload makes it valuable for predicting future cot requirements.

Figure Thirteen: Current cot numbers as designated by provider Trusts

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<th>HD cots</th>
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<p>| 2 National neonatal staffing survey recommended levels |</p>
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**ACTIVITY FOR BABIES INITIALLY BOOKED OUT OF THE SW ODN**

Assessment of the effect of out of region work vs local workload suggests that although there is considerable movement of babies between ODNs, that overall the net activity levels within the ODN are not particularly adversely affected by this.

**Figure Fourteen: Year 2014/15: Number of cot days for each level of care delivered to out of area infants cared for within the SW ODN, vs care received by SW ODN babies in other regions**

<table>
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<tr>
<td>Workload ‘imported’</td>
<td>451</td>
<td>501</td>
<td>788</td>
<td>79</td>
<td>472</td>
<td>503</td>
<td>686</td>
<td>77</td>
<td>78</td>
</tr>
<tr>
<td>Total ‘exported’</td>
<td>436</td>
<td>432</td>
<td>578</td>
<td>21</td>
<td>515</td>
<td>329</td>
<td>558</td>
<td>44</td>
<td>20</td>
</tr>
<tr>
<td>Net import</td>
<td>15</td>
<td>69</td>
<td>210</td>
<td>58</td>
<td>-43</td>
<td>174</td>
<td>128</td>
<td>33</td>
<td>58</td>
</tr>
</tbody>
</table>

In the context of overall clinical workload these represent a small net import of workload, equivalent to approximately 1 cot, or 0.25 ITU/ HDU cots across the whole ODN. It is likely that
the current cot capacity and movement of patients between ODNs is necessary to allow maximum flexibility and efficiency of cot use within the ODN.

**ACTIVITY WITHIN UNITS OF DIFFERENT LEVELS**

Figures 15, 16 and 17 review activity by BAPM 11 care level over the last 5 years by units of each level, NICU, LNU and SCUs. Again, they demonstrate remarkable stability in activity, with no evidence of progressive centralisation of services within NICUs.

*Figure Fifteen: Mean daily activity levels for each level of care within the 3 NICUs in the SW ODN*

![NICU average daily activity by year 2010-2014](image)

Data suggests stable NICU activity, variations in SCU activity may reflect changing case definition as much as in workload.
Again, data shows marked stability of workload, with no evidence of ‘centralisation creep’.

Although workload within individual SCUs can be very variable on a day to day basis, and this can cause significant practical issues with staffing etc, overall the mean levels of activity have remained very stable over the last 5 years.

**REGIONAL BIRTH AND ADMISSION RATES**

The data summarised below sets out not only total numbers of admissions to neonatal services but also admissions onto neonatal units, and therefore includes infants whose care is delivered on
Postnatal Wards or Transitional Care Wards. They demonstrate very wide ranges in practice and admission definitions, particularly between the 2 NICUs in Bristol and other units in the region.

**Figure Eighteen: Number of live births and Admissions by unit 2014/2015**

All 3 NICUs record high percentage of babies requiring specialist care from neonatal services (ITU, HDU, SC or TC). This manifests as high ‘admission’ rates which in the level 3 units run at 27%/45%/55% for Derriford, St Michael’s and Southmead respectively. Figure 19 confirms this difference in data definitions, with the tertiary units only 25% - 33% of all infants recorded as needing extra care being admitted to the neonatal unit itself. This may demonstrate a difference in data collection / coding in units that run Transitional Care Wards, but in part seems most likely to also represent lower thresholds for defining babies as requiring extra care or Transitional Care.
Figure Ninteen: Percentage of all live deliveries who are recorded as being admitted to neonatal services. Includes care on neonatal units as well as PN wards and TC units.

<table>
<thead>
<tr>
<th>Location</th>
<th>NICU Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Southmead</td>
<td>60%</td>
</tr>
<tr>
<td>St Michael's</td>
<td>50%</td>
</tr>
<tr>
<td>Denford</td>
<td>40%</td>
</tr>
<tr>
<td>Gloucester</td>
<td>30%</td>
</tr>
<tr>
<td>Swindon</td>
<td>20%</td>
</tr>
<tr>
<td>Truro</td>
<td>10%</td>
</tr>
<tr>
<td>Devon and Exeter</td>
<td>5%</td>
</tr>
<tr>
<td>Bath</td>
<td>5%</td>
</tr>
<tr>
<td>Taunton</td>
<td>5%</td>
</tr>
<tr>
<td>Barnstaple</td>
<td>5%</td>
</tr>
<tr>
<td>Torbay</td>
<td>5%</td>
</tr>
<tr>
<td>Yeovil</td>
<td>5%</td>
</tr>
<tr>
<td>Network Total</td>
<td>5%</td>
</tr>
</tbody>
</table>

The discrepancy in documented admission rates merits considerable further review. Whilst providers with designated transitional care wards might be expected to better record TC patients (who might otherwise simply be cared for on PN wards, with their extra needs / care not recorded) it does not seem likely that case mix alone can account for the fact that 45-55% of all babies born in Bristol are recorded as being admitted to neonatal services. This picture is not replicated nationally. There is an urgent need to tighten the definitions of ‘normal care’ and ‘extra care’ (ie transitional care and special care) and to unify these across the ODN. The ODN needs to work closely with Commissioners to take this forward.

The discrepancy in the proportion of babies admitted onto neonatal units is further demonstrated in figure 20 which shows that the units with the highest absolute admission rates (the NICUs) have the lowest proportion of babies actually admitted to the neonatal unit.
Figure Twenty: Admissions by gestation at admissions (includes admissions to NNU, TC & PN wards)

<table>
<thead>
<tr>
<th>Unit</th>
<th>Total</th>
<th>23 to 26 WKS</th>
<th>27 to 29 WKS</th>
<th>30 to 33 WKS</th>
<th>34 to 36 WKS</th>
<th>+37 WKS</th>
<th>Admissions to NNU ward (% of total neonatal admissions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Southmead, Bristol</td>
<td>2911</td>
<td>61</td>
<td>42</td>
<td>95</td>
<td>307</td>
<td>2405</td>
<td>761 (26%)</td>
</tr>
<tr>
<td>St Michael's, Bristol</td>
<td>2984</td>
<td>38</td>
<td>28</td>
<td>108</td>
<td>361</td>
<td>2449</td>
<td>688 (23%)</td>
</tr>
<tr>
<td>Derriford, Plymouth</td>
<td>1224</td>
<td>24</td>
<td>23</td>
<td>66</td>
<td>229</td>
<td>882</td>
<td>403 (33%)</td>
</tr>
<tr>
<td>Gloucestershire</td>
<td>555</td>
<td>11</td>
<td>38</td>
<td>96</td>
<td>139</td>
<td>271</td>
<td>552 (99%)</td>
</tr>
<tr>
<td>Swindon</td>
<td>461</td>
<td>4</td>
<td>15</td>
<td>94</td>
<td>123</td>
<td>225</td>
<td>421 (91%)</td>
</tr>
<tr>
<td>Royal Cornwall, Truro</td>
<td>497</td>
<td>5</td>
<td>16</td>
<td>70</td>
<td>106</td>
<td>300</td>
<td>487 (98%)</td>
</tr>
<tr>
<td>Royal Devon and Exeter</td>
<td>631</td>
<td>3</td>
<td>18</td>
<td>103</td>
<td>156</td>
<td>351</td>
<td>520 (82%)</td>
</tr>
<tr>
<td>Royal United Bath</td>
<td>729</td>
<td>2</td>
<td>16</td>
<td>83</td>
<td>147</td>
<td>481</td>
<td>718 (98%)</td>
</tr>
<tr>
<td>Taunton And Somerset</td>
<td>521</td>
<td>8</td>
<td>23</td>
<td>97</td>
<td>122</td>
<td>267</td>
<td>388 (74%)</td>
</tr>
<tr>
<td>North Devon District, Barnstaple</td>
<td>193</td>
<td>0</td>
<td>0</td>
<td>29</td>
<td>58</td>
<td>106</td>
<td>161 (83%)</td>
</tr>
<tr>
<td>Torbay District General</td>
<td>334</td>
<td>3</td>
<td>4</td>
<td>48</td>
<td>95</td>
<td>184</td>
<td>331 (99%)</td>
</tr>
<tr>
<td>Yeovil District</td>
<td>218</td>
<td>1</td>
<td>1</td>
<td>22</td>
<td>52</td>
<td>142</td>
<td>215 (99%)</td>
</tr>
<tr>
<td>Network Total</td>
<td>11258</td>
<td>160</td>
<td>224</td>
<td>911</td>
<td>1895</td>
<td>8063</td>
<td>5645 (50%)</td>
</tr>
</tbody>
</table>

The data demonstrates that of all recorded activity in the tertiary centres in Bristol and Plymouth, only around a third of infants require admission to the neonatal unit at any stage. Tighter definitions of special care, transitional care and normal care need to be agreed and implemented across the ODN as a matter of urgency. Implementation needs to be complete for the 2016/2017 financial year.
Figure Twenty One: All admissions by gestation at admissions (includes admissions to NNU, TC & PN wards)

The same data presented in graphic form confirms that although the level 3 units clearly have a greater number of preterm and extremely preterm infants, their workload is disproportionately skewed by a very large number of infants apparently requiring special care and transitional care, particularly those of older gestation, >37/40. It is possible that this reflects potentially avoidable admissions or avoidable mother baby separation, or again that it reflects differences in coding for these lower levels of care.
This data compares how recorded admissions to neonatal services have changed over the last 3 years. The 3 NICUs have recorded nearly 2000 additional admissions in the over 37 week gestation infants between the 3 units over the last 3 years. There has been no associated increase in admission of lower gestation admissions. Again, this degree of change in such a short timescale seems most likely to be due to change in recording practices rather than changes in clinical demand. No increase is seen when looking at just admissions to NNU Ward. SCU workload has remained static, LNUs have recorded much smaller increases in admission rates of over 37 week gestation infants.

**COT OCCUPANCY**

Cot occupancy rates need to be interpreted with caution, as for many units the defined number of cots (ITU, HDU and SC) have simply been defined historically and bear no relation to activity levels or service requirements. In addition, cot numbers, do not at present, link directly to the numbers of nursing staff available (based on BAPM recommendations for 1:1, 1:2 and 1:4 nursing ratios for ITU, HD care and SC respectively).

National recommendations suggest that outcomes are better in units that run at 80% occupancy with BAPM recommended nursing ratios. Thus, whilst average occupancy data can be helpful in
reviewing the number of cots required in individual units, in future the ODN needs to review the designated number of *staffed* cots available in each unit.

**Figure Twenty Three: Average cot occupancy for admissions to NNU Ward only (BAPM 2011 definitions of levels of care)**

<table>
<thead>
<tr>
<th>Unit</th>
<th>Average Cot Capacity: IC &amp; HD</th>
<th>Average Cot Capacity: SC</th>
<th>Average Cot Capacity: IC - SC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Southmead, Bristol</td>
<td>89%</td>
<td>86%</td>
<td>87%</td>
</tr>
<tr>
<td>St Michael's, Bristol</td>
<td>110%</td>
<td>76%</td>
<td>94%</td>
</tr>
<tr>
<td>Derriford, Plymouth</td>
<td>70%</td>
<td>127%</td>
<td>83%</td>
</tr>
<tr>
<td>Gloucestershire</td>
<td>69%</td>
<td>87%</td>
<td>80%</td>
</tr>
<tr>
<td>Swindon</td>
<td>35%</td>
<td>83%</td>
<td>67%</td>
</tr>
<tr>
<td>Royal Cornwall, Truro</td>
<td>51%</td>
<td>74%</td>
<td>66%</td>
</tr>
<tr>
<td>Royal Devon and Exeter</td>
<td>58%</td>
<td>79%</td>
<td>71%</td>
</tr>
<tr>
<td>Royal United Bath</td>
<td>46%</td>
<td>100%</td>
<td>82%</td>
</tr>
<tr>
<td>Taunton And Somerset</td>
<td>46%</td>
<td>82%</td>
<td>66%</td>
</tr>
<tr>
<td>North Devon District, Barnstaple</td>
<td>15%</td>
<td>62%</td>
<td>38%</td>
</tr>
<tr>
<td>Torbay District General</td>
<td>35%</td>
<td>80%</td>
<td>71%</td>
</tr>
<tr>
<td>Yeovil District</td>
<td>n/a</td>
<td>51%</td>
<td>54%</td>
</tr>
<tr>
<td><strong>Network total</strong></td>
<td><strong>102%</strong></td>
<td><strong>82%</strong></td>
<td><strong>90%</strong></td>
</tr>
</tbody>
</table>

In general, the data in figure 22 suggests that there are insufficient ITU and HDU cots in the Network, and that the main deficit relates to ITU / HDU capacity at St Michael's Hospital. Overall there is an excess of ITU / HDU cots in the LNUs, with the possible exception of Gloucester. There is probably over provision of SC cots in the LNUs, but the marked variability in workload in smaller units makes it harder to base cot numbers on 'average' workload.
Figure Twenty Four: Average cot capacity (excluding TC care) – Admissions to NNU ward only

The same data expressed graphically demonstrates the relative over provision of ITU and HDU cots in LNUs, and the excess pressure and unacceptable levels of occupancy of ITU / HDU cots at St Michael’s in particular. Most LNUs and SCUs would appear to be ‘over cotted’ based on current workload. This does not mean that resources can be moved from LNUs / SCUs to NICUs, as the cots are not necessarily staffed / resourced, but that within the region there is a need to redefine the cot numbers and the designation of those cots within the LNUs and SCUs. The number of SC cots in LNUs is close to optimal. There is an excess of cots in the SCUs, but more account of workload variability needs to be taken into account. The apparent high occupancy rates of SC cots at Derriford relates to the fact that SC infants are cared for within the well established TC unit, so overall SC activity appears high as it includes infants cared for within the TC Ward as well as within the neonatal unit itself.

Finally it is worth noting that overall occupancy in NICUs is close to acceptable, with total occupancy running between 82-92% - but a relative under provision of ITU vs SC cots. This might again mean that cots need to be redesignated (and nurse staffing increased) rather than needing a total increase in the physical number of cots. Other changes in NICU configuration need to be considered following BAPM findings that NICUs with higher throughput have better outcomes than smaller ones. This has resulted in recommendations for minimum throughput, and in the SW
ODN this would suggest that optimal unit size and cot capacity might be delivered by putting more ITU workload through Plymouth to reduce activity in the Bristol units, specifically St Michael’s. Further modelling is necessary to evaluate the implementation of this.

**Figure Twenty Five:** Average cot occupancy (IC, HD & SC combined) by unit level – 3 year trend data

This graphic representation of trends in cot occupancy rates across the ODN over the last 3 years demonstrates again a broadly stable workload and stable occupancy rate, with higher overall occupancy in NICUs than LNUs and SCUs respectively. It seems likely that redesignating cots as suggested, might improve occupancy rates – as long as efforts to ensure BAPM level staffing for the modified cot designation.
The 3 year trend data for activity by HRG group again demonstrate broadly stable workload across the LNUs and SCUs. Steady climbs in NICU activity predominantly relates to increased HRG 4 activity. It is possible that this might partly reflect changes in practice (eg implementation of the NICE Neonatal Sepsis Guideline has resulted in up to 10% of all infants undergoing septic screens).

MORTALITY

Standarised mortality rates (SMRs) within the South West NICU ODN are average for the UK. Independent data has shown SMR for infants <27/40 is the same as the national median (Neil Marlow, personal communication, figure 27). When divided into CCG, data suggests that mortality in the Peninsula is higher than in the Western part of the ODN and this merits further consideration.
In recent years there has been a clear trend for transferring the most critically ill infants into tertiary centres, particularly to St Michael's Hospital for subspecialty opinions – so absolute numbers of death in LNUs has fallen markedly in the last 5 years. Death rates in individual units are not helpful as accurate denominator data is not available via Badger so SMRs are not easy to calculate for individual units.

All units in the South West ODN submit data on infants <1500g to VON. The data has been analysed as a single ODN and benchmarked against UK and international service providers and in the future this will be a more accurate way to assess risk adjusted mortality and morbidity data.
Figure Twenty Seven: Proportion of total in unit deaths by gestation at birth

Although mortality rates are highest in more extreme preterm infants it is notable than nearly a third of all babies who do not survive in the SW ODN are born at >34/40. This patient group are likely to predominantly comprise infants with congenital malformations, or those with perinatal hypoxic ischaemic encephalopathy. Further work with the CDOP panels in the South West will allow detailed reports on each death to be analysed and any opportunities for improvements in care or service organisation to be implemented.

Figure Twenty Eight: Total network deaths – 3 year data
Every year some 70-80 newborn infants born in the South West do not survive. A pilot study has suggested that in as many as 25% cases there are possible modifiable factors, and from 2015 a systematic analysis of these will be undertaken following agreement with the CDOP panels re: information sharing. This will deliver an opportunity for systematic service improvement on a long term basis.
EXCEPTION REPORTING

Exception reporting underpins the governance and oversight arrangements of the ODN. The data presented has been collated centrally from Badger, and there are a number of infants cared for outside their unit designation who are still not yet notified to the ODN by provider units. It should be recognised that historically local Commissioning arrangements have agreed that some units can practice outside their unit designation – specifically, there has been agreement that LNUs in the South of the region can provide cooling for infants with HIE. Likewise, much of the cooling data for infants in the Northern sector relates either to babies where cooling is initiated prior to transfer to tertiary centres, or where cooling is initiated, but after assessment at 6 hours of age, the infant has been rewarmed without requiring onward transfer – ie not all care delivered outside a unit’s designation is undesirable. It is however desirable that we move towards 100% notification of exceptions.

The greatest numbers of exceptions in the larger LNUs in the SW region relate to non-transfer out of infants who require ventilation for more than 48 hours. Historically there has been agreement in the SW ODN that as long as infants are discussed with tertiary colleagues at 48 hours and that there is agreement regarding ongoing care, these infants do not necessarily need to be automatically transferred to tertiary centres. This relates partly to the fact that LNUs in the South West ODN are all relatively large, and have staff who are competent and confident in the delivery of ongoing ITU and ventilatory support for infants. There is also consensus that a 48 hour cut off may be less important than other individual factors – for example a critically ill baby ventilated in 100% oxygen at 24 hours of age might be a much more suitable case to consider for transfer than a stable baby at 48 hours of age who is heading for extubation in the near future.
Figure Twenty Nine: Total number of babies cared for outside of designation criteria and the number transferred to a higher level unit

<table>
<thead>
<tr>
<th>Unit</th>
<th>Gest / Birthweight</th>
<th>Cooled</th>
<th>Ventilated</th>
<th>gest and cooled</th>
<th>gest and vent</th>
<th>cooled and vent</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>Transferred</td>
<td>Total</td>
<td>Transferred</td>
<td>Total</td>
<td>Transferred</td>
</tr>
<tr>
<td>Southmead</td>
<td>0</td>
<td>0</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>St Michaels</td>
<td>0</td>
<td>0</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Plymouth</td>
<td>0</td>
<td>0</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Gloucester</td>
<td>13</td>
<td>9</td>
<td>17</td>
<td>9</td>
<td>15</td>
<td>2</td>
</tr>
<tr>
<td>Swindon</td>
<td>4</td>
<td>4</td>
<td>5</td>
<td>2</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Cornwall</td>
<td>4</td>
<td>3</td>
<td>5</td>
<td>3</td>
<td>18</td>
<td>4</td>
</tr>
<tr>
<td>RDE</td>
<td>2</td>
<td>1</td>
<td>6</td>
<td>1</td>
<td>13</td>
<td>1</td>
</tr>
<tr>
<td>Bath</td>
<td>2</td>
<td>2</td>
<td>5</td>
<td>3</td>
<td>11</td>
<td>2</td>
</tr>
<tr>
<td>Taunton</td>
<td>8</td>
<td>7</td>
<td>15</td>
<td>5</td>
<td>14</td>
<td>3</td>
</tr>
<tr>
<td>Barnstaple</td>
<td>4</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>13</td>
<td>12</td>
</tr>
<tr>
<td>Torbay</td>
<td>7</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Yeovil</td>
<td>4</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Network Total</td>
<td>48</td>
<td>32</td>
<td>55</td>
<td>24</td>
<td>99</td>
<td>34</td>
</tr>
</tbody>
</table>
SUMMARY:
This first report of the SW NIC ODN describes a region where outcome data in terms of mortality and other nationally defined outcomes included in the NNAP are all acceptable, and broadly are in line with national medians. Detailed review of workload and capacity show stable requirements and total cot numbers that meet current needs. However, nurse staffing ratios are poor, particularly in NICUs / tertiary units, and there are insufficient ITU / HDU cots at the only cardiac / surgical unit in the region, St Michael’s Hospital, where average ITU / HDU occupancy rates were 110%. Cots in LNUs require redesignation to more accurately reflect current use. All tertiary NICUs, and the two Bristol units in particular are regional and national outliers in terms of the numbers of babies they record as needing additional care (50%) and this needs further review.

ACTIONS AGREED BY ODN BOARD:
• A review of tertiary NICU cot configuration within the SW ODN to be undertaken.
• A review of surgical and cardiac workload and capacity at St Michael’s Hospital.
• Nurse staffing to be collected and used as the basis for defining workload and capacity, not cot numbers alone.
• Cot base and designation within the region to be reviewed, and based on current workload, not historical preference.
• Establish working group to agree definitions of ‘normal care’, and ‘special care’ and then to unify data collection across Network.

AND FINALLY:
This first Annual Report is dedicated to Heather Burden, who has spent the last 5 years developing nursing practice across the region in her role as Lead Nurse, and who is emigrating to New Zealand after 30 years’ service for the NHS.
Picture: Heather Burden, Rn, MSc, Florence Nightingale Fellow
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