

National Quality Board



Edition 1, June 2018

Safe, sustainable and productive staffing

**An improvement resource for
neonatal care**

This document was developed by NHS Improvement on behalf of the National Quality Board (NQB).

The NQB provides co-ordinated clinical leadership for care quality across the NHS on behalf of the national bodies:

- NHS England
- Care Quality Commission
- NHS Improvement
- Health Education England
- Public Health England
- National Institute for Health and Care Excellence
- NHS Digital
- Department of Health and Social Care

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Message from the Chair

I am delighted to present England's first improvement resource for the safe, sustainable and productive staffing for sick and premature newborn babies admitted to an acute inpatient neonatal service.

The neonatal service is a speciality, which covers a whole pathway of care for newborn babies, ranging from intensive care through to community outreach and transport. Newborn babies often have a unique set of problems and their care needs are different.

The level of neonatal care a baby needs will vary from minimal intervention for a few minutes or hours through to considerable support over many weeks, months or even years. This is why a one-size-fits-all approach is not appropriate. Leadership is key and our leaders have a complex task at hand to take into account so many factors when planning staffing – from getting the ratios right to considering the impact of the physical environment of the ward, the skill mix, productivity and efficiency of the team, and measuring the quality of the team to develop staffing plans.

The Department of Health (DH 2001) recommended that neonatal services should be organised into managed clinical networks, with hospitals providing neonatal care working together to ensure that babies and their families receive care in the most appropriate setting. Right care in the right place at the right time. This resource supports the continuation of managed clinical networks and the development of safe sustainable staffing within the network.

What we know from our research and review of current evidence is that the very best practice combines professional judgement with professional standards and benchmarking, the use of an appropriate staffing model/dependency tool, robust evaluation of outcomes and feedback from our families to ensure that the staffing approach is working.

This improvement resource offers clinical managers on the front line clear and easy guidance to help them understand all the information that's out there and adapt it to suit their needs.

This work hasn't been done in isolation. An enthusiastic team of specialist experts from a range of care settings and professions have come together to develop this resource. They carefully considered feedback from parents and families.

We really hope that you find this resource useful. Our newborn babies are precious and only by caring for them in the best possible way will we give them the healthiest start to life that they need and deserve.

Michelle McLoughlin

Chief Nurse, Birmingham Women's and Children's NHS Foundation Trust

Chair, Neonatal safe, sustainable and productive staffing improvement resources
workstream

Summary

This improvement resource is designed to be used by those involved in clinical establishment setting for nurses working in neonatal care, from the ward manager/sister/charge nurse to the board of directors. NHS provider boards hold individual and collective responsibility for making judgements about staffing and the delivery of safe, effective, compassionate and responsive care within available resources (NQB 2016).

The resource pulls together the guiding principles underpinning staffing in neonatal services. The improvement resource is cognisant of current practice and outlines a systematic approach for identifying the organisational, managerial and local factors that support safe staffing. It is informed by research in this area and builds on the National Institute for Health and Care Excellence (NICE) quality standard (QS4) for neonatal specialist care (2010), the DH Health *Toolkit for high quality neonatal services* (2009) and the British Association of Perinatal Medicine (BAPM) *Service standards for hospitals providing neonatal care* (2010). It is designed to assure parents and families that staffing in the neonatal units is sufficient to routinely monitor and control more effectively and efficiently the care provided to babies, and to allow adequate and where necessary improve communication with parents and families.

The following recommendations outline the core responsibilities and expectations set out in this improvement resource.

Recommendations

In determining staffing requirements for neonatal services:

1.	Boards must ensure there is a strategic multiprofessional staffing review at least annually (or more frequently if service changes are planned or quality or workforce concerns are identified), which is aligned to the operational planning process. In addition a mid-year review should provide assurance that neonatal
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	services are safe and sustainable. This should assess whether current staffing levels meet the recommended levels and are likely to do so in future.
2.	All neonatal units should work collaboratively within an operational delivery network (ODN), sharing their workforce plans and strategies for recruitment and retention across the ODN.
3.	Skill mix should be regularly reviewed to ensure that the most suitable staff are in undertaking the correct roles and are available in sufficient numbers.
4.	Professional judgement should be used together with appropriate workforce and acuity tools.
5.	Data collected using BudgetNet and the neonatal nurse staffing tool (Dinning) should be used to calculate the required establishment according to the level of activity. This should be shared with the neonatal ODN.
6.	Training and development must be linked to annual individual appraisals and development plans, and must be provided within the resources available to the team.
7.	Organisations should recognise the increasing need for flexible working patterns to meet the fluctuating needs in neonatal services.
8.	All neonatal units should adhere to the pathways agreed with the ODN and specialised commissioning teams to ensure efficient working across the network.
9.	All neonatal units should input data into BadgerNet to enable national benchmarking.
10.	Areas of concern highlighted by parents/families or staff using workforce planning and analysis methods must be carefully scrutinised and appropriate actions taken to address them.

1. Introduction

This is an improvement resource to support nurse staffing in neonatal care settings. It is based on the National Quality Board’s (NQB) (2016) expectations that to ensure safe, effective, caring, responsive and well-led care on a sustainable basis, trusts will employ the right staff with the right skills in the right place and at the right time (Figure 1). It is also aligned to Commitment 9 of *Leading change, adding value: a framework for nursing, midwifery and care staff* (NHS England 2016).

Figure 1: NQB expectations for safe, sustainable and productive staffing (2016)

Safe, Effective, Caring, Responsive and Well- Led Care		
Measure and Improve -patient outcomes, people productivity and financial sustainability- -report investigate and act on incidents (including red flags) - -patient, carer and staff feedback-		
-implement Care Hours per Patient Day (CHPPD) - develop local quality dashboard for safe sustainable staffing		
Expectation 1	Expectation 2	Expectation 3
Right Staff 1.1 evidence based workforce planning 1.2 professional judgement 1.3 compare staffing with peers	Right Skills 2.1 mandatory training, development and education 2.2 working as a multi-professional team 2.3 recruitment and retention	Right Place and Time 3.1 productive working and eliminating waste 3.2 efficient deployment and flexibility 3.3 efficient employment and minimising agency

In line with the overarching NQB guidance, NHS provider boards hold individual and collective responsibility for making judgements about staffing and the delivery of safe, effective, compassionate and responsive care within available resources.

This improvement resource is designed to be used by those involved in clinical establishment setting for nurses working in neonatal care, from the ward manager/sister/charge nurse to the board of directors. It can also inform commissioner frameworks of quality.

The resource outlines a systematic approach to identifying the organisational, managerial and local factors that support safe staffing. It builds on the NICE quality standard (QS4) for neonatal specialist care (2010), the DH *Toolkit for high quality neonatal services* (2009) and the third edition of the BAPM *Service standards for hospitals providing neonatal care* (2010).

'Measure and improve' has been a guiding principle in developing this resource which is focused on safe and sustainable staffing, set within the context of the wider multiprofessional team. When using this resource it is useful to recognise how professional organisations and unions can support this work.

Neonatal care services

The resource covers all neonatal services. Neonates may also be cared for in infant and children's ward areas in specialist children's hospitals or district general hospitals. This resource will assist in the planning of workforce in these areas also.

The neonatal service is unique in that it covers a whole pathway of care including:

- intensive care
- high dependency care
- special care
- transitional care
- outreach care
- transport.

Safe care must remain paramount and, irrespective of policy drivers, organisations have a responsibility and remain accountable for ensuring that babies and families receive high quality care in the right place at the right time, delivered by staff equipped to provide safe, dignified and compassionate care. Managers with a professional registration must also always act in accordance with their professional accountability for the provision of safe care under their Code of Conduct.

Existing standards in neonatal care staffing

The NICE quality standard (2010) in support of the *Toolkit for high quality neonatal services* (DH 2009) includes a standard for safe staffing in neonatal care. This recommends an adequate and appropriate workforce, with the leadership and skill mix competencies to provide excellent care at the point of delivery for babies receiving medical and surgical interventions.

The minimum standards for nurse staffing levels for each category of neonatal care are (DH 2009, NICE 2010, BAPM 2010):

- neonatal intensive care: 1:1 nursing for all babies
- neonatal high dependency care: 2:1 nursing for all babies
- neonatal special care: 4:1 nursing for all babies.

Neonatal transport teams have their own staffing recommendation (NHS England 2015b). BAPM has compiled a framework for practice (2017) for the provision of neonatal transitional care (NTC), offering recommendations for staffing of NTC services with consideration of the care needs of both mother and baby. Successful implementation of NTC demands joint working between midwifery and neonatal nursing staff as well as paediatric services. NTC is a service, rather than a location, and thus need not be determined by building or geographical constraints.

There are no nationally-defined staffing recommendations for:

- neonatal outreach care
- neonatal care in specialist children's hospitals and district general inpatient neonatal care settings.

Neonatal care is delivered within an operational delivery network (ODN) which ensures that the baby receives the right care in the right place at the right time (DH 2009); babies may need to be transported to an appropriate unit.

Neonatal care is a low volume, high cost speciality commissioned by specialised services. It covers all levels of care from intensive care through to care in the community. Acuity and dependency vary depending on the individual need of the neonate, which can make it difficult to determine how many nursing staff will be required on a shift-by-shift basis; professional judgement is needed.

2. Right staff

Neonatal care is delivered primarily by suitably qualified and trained nurses and medical staff, supplemented by allied health professionals (AHPs), working as a team to offer the highest possible standards of care. Staff need to be available in sufficient numbers and with sufficient knowledge, experience and training to offer safe, effective care to babies and their families as part of a cohesive multidisciplinary team (MDT) where and when required.

National standards for appropriate staffing levels in neonatal care are well established. These include:

- *Toolkit for high quality neonatal services* (DH 2009)
- *Service standards for hospitals providing neonatal care*, 3rd edition (BAPM 2010)
- *Quality standard (QS4) for specialist neonatal care* (NICE 2010)
- *Optimal arrangements for neonatal intensive care units in the UK including guidance on their medical staffing: a framework for practice* (BAPM 2014).

Staffing levels vary according to the activity and workload on individual units but should meet the recommended minimum levels specified in the above.

Workforce planning to ensure that units are safely and appropriately staffed should be undertaken primarily by unit managers in conjunction with clinical leads and other departmental/divisional and trust colleagues and in collaboration with the ODN. This should take account of the recommended levels set out in NHS England's national specifications for neonatal critical care (2015a) and neonatal transport (2015b).

The NQB expectation is that boards ensure there is a strategic multiprofessional staffing review at least annually (or more frequently if changes to services are

planned or quality or workforce concerns are identified) which is aligned to the operational planning process. In addition a mid-year review should provide assurance that neonatal services are safe and sustainable. The current and future staffing requirements to meet recommended levels are considered at the network level by the ODN. Nursing, medical and AHP staffing requirements should be assessed using the recognised and agreed processes and tools (see Section 2.1 Tools) and must take account of the European working time directive. Due consideration should be given to the possible 'skill mix' of the nursing team utilising both registered and non-registered staff, while ensuring that the workforce is suitably trained and experienced and can offer the most flexible means of achieving recommended staffing levels according to service needs.

ODNs should ensure that regular reports are produced which map staffing levels to the recommended minimum levels and highlight and quantify any shortfalls. This information can be used to inform workforce planning and strategy documents as well to identify training requirements. These reports should be discussed at network board level and any appropriate action taken.

There should be a staffing review following any reconfiguration or change to neonatal services, and where quality or workforce concerns are identified (NQB 2016).

A similar approach should be adopted for neonatal transport services in addition to any transitional care and community outreach provision.

2.1 Workforce planning

The workforce requirements for neonatal units will vary according to demand/activity, and the associated available capacity in terms of cots. Together these determine the numbers and skill mixes of staff required (as demonstrated in Figure 2). There will need to be some variation in the establishment shift by shift depending on workload, but the total establishment (that is, number of available nurses from which to fill shift

rotas) needs to be adequate to absorb peaks and troughs in activity and workload. As well as numbers of available staff, their skill mix needs to be considered.

DH (2009) stipulates that:

- 70% of the nursing establishment must be 'qualified in specialty' (QIS)
- a minimum of two qualified nurses/midwives should always be on duty (one of whom must be QIS)
- there should be a supernumerary team leader additional to the staff caring for the babies on each shift.

These recommendations are specific to the three types of neonatal unit: neonatal intensive care unit (NICU), local neonatal unit (LNU) and special care unit (SCU). Some provision should also be made in the establishment for neonatal outreach (community services). Neonatal transport, however, must be separately staffed so as not to deplete the unit staff numbers when babies are transferred within an ODN (NHS England 2015b).

Non-registered nurses should support clinical care and ensure adequate total establishments and rotas, but they must be appropriately trained and work under the supervision of registered QIS nurses.

Advanced neonatal nurse practitioners (ANNPs) are used in many neonatal units. Their work ranges from advanced nursing roles to medical roles, working as part of the tier one and two medical rotas. They can provide a flexible solution to many of the workforce challenges facing neonatal services. They require appropriate job plans, agreed accountability pathways and indemnity outside their routine nursing roles and work.

There are also particular demands on workforce requirements in relation to ANNPs. Recognised training courses for ANNPs are not widely available. When qualified, these staff members are often lost to the nursing workforce and placed on medical

rotas despite remaining on nursing budget lines. This reinforces the case for planning at a network level.

Workforce planning in the context of neonatal nurse staffing should be shared with ODN management teams and based on sound methods that consider factors such as:

- **unit capacity** – number of required and available cots at each level of care (the cot requirement should be calculated at least annually based on the previous year's commissioned and actual activity levels, with consideration of any planned in-year service developments)
- **unit designation** – level of neonatal unit
- **unit workload** – actual number of 'cot days', determined from the number of babies and their categories of care in each 24-hour period but considered shift by shift.

Workforce/staffing plans need to address both:

- total nursing establishment (available workforce from which to roster shifts)
- shift requirements (number of nurses available and rostered to work on a daily basis).

The total establishment needs to cover the shifts in terms of both numbers of nurses available from which to draw and appropriate skill mix to match staff to workload. It also needs to factor in extra staffing to cover annual leave, sickness and absence, study leave (training and education) and other unplanned leave such as compassionate and carer leave in line with trust policies.

Shift-by-shift cover must take account of the recommended minimum staffing levels based on average unit occupancy of 80% (DH 2009), and include a supernumerary team leader and an appropriate skill mix to meet the care needs of the babies on the unit during each shift. However, as neonatal units provide an emergency-driven service and admissions are not 'planned', staffing requirements can vary from shift to

shift and depart from those rostered. These need to be monitored closely and adjusted where appropriate, both in terms of the number of staff and the skill mix that may be required to provide safe, high quality care.

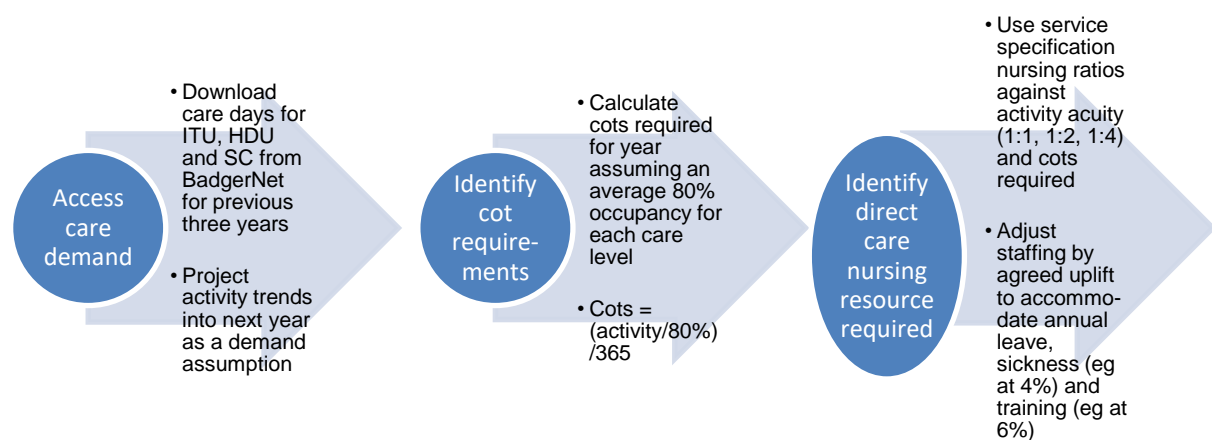
2.2 Tools

Workforce planning tools can help managers and senior staff determine safe and appropriate staffing levels when used together with patient acuity data and professional judgement.

BadgerNet

BadgerNet is a patient database management system that determines workload based on activity. The system provides information on whether a unit is staffed according to the national standards on a shift-by-shift basis. Bank and agency staff are included in the calculations, so it is possible to distinguish which staff are part of the in-post budgeted establishment from temporary staff. The nurse in charge of the neonatal unit should ensure this information is imported accurately; if inaccurately done, it could wrongly demonstrate the establishment is correct when the reality is the service is dependent on large numbers of bank and agency staff.

Figure 2: Data from BadgerNet



Establishments in neonatal settings should include an ‘uplift’ to allow management of planned and unplanned leave for all staff, and to ensure effective management of

absences. It is important to set a realistic, accurate uplift since underestimation may mean day-to-day staffing requirements are not met. A consequence could be unexpected and unfunded over-reliance on temporary staff.

It is necessary to take account of local factors when calculating the percentage allowances for uplift. Examples include:

- annual leave entitlement
- sickness absence (planning should be based on the organisation's target level of sickness absence)
- parenting leave
- study leave (mandatory training and role-specific training) – this will vary depending on numbers of new and newly qualified staff in the team
- specific additional roles that require allocated time, e.g. link nurses
- supervision in line with national and local policy.

Dinning

The neonatal nurse staffing tool (Dinning) was developed by the Trent Perinatal and Central Newborn Networks, and is extensively used by other neonatal ODNs and endorsed by the neonatal clinical reference group (see Appendix 1).

It calculates local staffing establishments based on historical activity workloads according to BAPM's categorisation of care. By inputting the total number of cot days for a 12-month period, this workforce tool calculates the required number of cots at each of the three levels of care and also the number of nurses needed to staff them. This calculation is based on the recommended minimum levels and an average occupancy of 80%. Deficits against the recommended minimum levels can also be calculated.

The tool can be easily adapted to reflect changes in the staffing costs each year and the proportion of nursing staff in each Agenda for Change (AfC) band can be adjusted to reflect local needs and workforce supply. But the tool cannot measure

the numbers of bank and agency staff being used, only the numbers of staff on the budgeted establishment against the activity they provided. It therefore cannot provide assurance that the unit is staffed to national standards on a shift-by-shift basis, as bank or agency staff may have been used.

To calculate what the budgeted establishment should be according to the level of activity passing through a unit and to provide assurance that the unit is staffed to national standards on a shift-by-shift basis, it is highly recommended that both data collection and analysis tools are utilised within individual neonatal units (by the data/clinical lead) and at a network level (by the network manager and reviewed by the network board) for comprehensive benchmarking, collated workforce planning and to inform required actions.

2.3 Professional judgement

Professional judgement (see Appendix 2 for the principles to follow) is useful in planning safe staffing levels to cover the clinical workload on neonatal units. But as it can be subjective, it should be used together with appropriate workforce tools. In neonatal care, professional judgement is simplified by the daily categorisation of level of care for each baby by BadgerNet. Data on a baby's condition and care needs is used to assign them to intensive, high dependency or special care, as defined by the BAPM standards. It is against this collated workload that the staffing levels need to be calculated, together with the senior team's professional judgement when planning shift rotas and making adjustments to ensure adequate levels each shift.

Registered nursing and midwifery staff are required to raise concerns over inadequate or unsafe staffing levels as part of their Code of Conduct (Nursing and Midwifery Council (NMC) 2015a).

A triangulated approach is therefore required, whereby professional judgement is used in conjunction with the workforce planning tools and NICE guidance (2010).

Additional factors

Local factors may need to be considered when assessing safe staffing, such as the unit layout, distance/proximity and access to delivery suites, ante/postnatal wards and transitional care. Neonatal standards (Bliss 2016) also require babies to be cared for in parental accommodation in the unit; parents require supervision and support from nursing staff until they are confident and competent to be discharged home with their babies.

Planning shift cover and allocations may be influenced by the environment and unit layout if rooms are of varying size or there are multiple rooms. For example, the layout of a unit may necessitate staffing above the minimum recommendation to ensure that no room and no babies are unsupervised at any time; higher staffing to maintain safety may also be required to provide cover for a nurse called to assist on the labour ward following a delivery. Each baby's level of dependency, the ease with which back-up can be called for in emergency/resuscitation situations and how breaks are covered are other important factors to consider. Any of these local factors may mean it is necessary to staff the unit at a level above the minimum staffing recommendations to ensure safety at all times.

2.4 Benchmarking/peer review

It is important that a degree of uniformity exists with regard to staffing levels across neonatal services. This will be achieved by all providers meeting the recommended minimum levels as defined by NICE (2010), BAPM (2010) and DH (2009). Achieving these standards will help to minimise the risk of variance in standard of care provided and ultimately the outcomes for the babies receiving care. However, it is best to ensure that 'like is compared with like', so that any peer comparison of staffing levels and outcomes are broadly comparable between similar units, such as the designation of the unit. This reflects accepted methods and is common in national neonatal benchmarking reporting such as the National Neonatal Audit Project (NNAP; Royal College of Paediatrics and Child Health – RCPCH 2016). It is therefore logical for NICUs to be compared to NICUs, LNUs with LNUs and SCUs with SCUs, but within the context of the same BAPM/toolkit standards.

Peer comparison/benchmarking of staffing levels is best done by neonatal ODNs as they can collate data from individual units and report in an agreed manner. Reports should be issued at least twice a year (NICE 2010, NHS England 2015a); quarterly reporting may better reflect monthly variation. The BadgerNet database, now used by all neonatal units, has made the process much easier as nurse staffing levels can be input on a per shift basis, enabling mapping of average staffing levels to the workload activity on the unit. A comparison can then be made with the recommended staffing levels.

Network dashboards which collect other information, such as medical and AHP cover, use of bank/agency nurses to fill shifts and any declared sickness/maternity leave levels, can enrich staffing reports, allowing more detailed peer comparisons/benchmarking as well as assisting workforce planning by quantifying the staffing shortfalls.

The use of dashboards also enables commissioners and ODNs to review the quality of care delivered by individual trusts, and a direct comparison of the quality of care against the staffing levels.

Recording of available staff

Numbers of nurses who provide the hands-on clinical care on neonatal units must be recorded separately from numbers of support workforce who may assist them, such as ward clerks and healthcare assistants. Many units, especially larger NICUs, use the latter in a supportive, purely non hands-on way, and they can significantly increase the productivity of the ward. However, only those nurses with responsibility for providing direct clinical care should be reported against the recommended staffing standards on a shift-by-shift basis. This method should be reflected for nurses undergoing preceptorship/mentorship, such as when newly qualified or in QIS practical placement training, as well as student nurses or midwives at any level of their training. These nurses should not be counted in the shift establishments and must be regarded as supernumerary.

3. Right skills

3.1 Role of nursing in the multiprofessional team

Neonatal services provide the whole spectrum of care from intensive care to care in the home. Cots are 'flexed' according to care requirements. This makes it difficult to calculate the nurse staffing requirements in advance as care needs can quickly change from one shift to the next. Staffs need to be flexible in their care provision and skilled in all elements of the care they may need to deliver.

Neonatal units also operate within networks, requiring babies to be moved from one unit to another to access the care level they require. Effective networking within the designated ODN and co-operation with staff in other units and the transport service are essential. The movement of a baby within a unit and to other units in the ODN needs to be carefully discussed with families.

Neonatal nurses play a key role in the planning and delivery of care to babies and their families. They require a wide skill base as their work ranges from providing care for the sick or premature neonate to teaching parents how to care for their baby, gradually handing over responsibility for this in the lead up to discharge. They also provide care across a whole spectrum of care needs, from intensive care, high dependency care, special care and eventually to care in the home environment.

Nurses working in the neonatal setting work very closely with a variety of disciplines including the medical team, AHPs, pharmacy and psychological support.

There are a range of opportunities for career development for nurses and other professionals within the neonatal setting; for example, achieving a qualification in neonatal nursing, education roles, practice development, family care, outreach,

transitional care, management, research and enhanced or advanced neonatal nursing. Each of these roles is vital in a neonatal team to provide safe, effective care.

Leadership

All neonatal units should be led by a supernumerary senior nurse who is responsible for the unit and who can ensure that it is safely staffed and that workforce planning is effective. There is some evidence that nurses in senior roles feel better prepared and confident when trained in management and leadership before appointment to the role (Hunn 2016). Ongoing management and leadership training should be available to staff. The senior nurse needs to work effectively with the medical lead for the unit; together they should ensure that the unit's staff levels meet standards to deliver safe effective care, and engage with their designated ODN.

Shift leader

Each shift should be led by a senior nurse (DH 2009). They are responsible for:

- safe staffing of the unit during that shift
- effective deployment of staff to ensure that all babies and families are cared for by staff who are appropriately trained to deliver that care
- capacity management
- safe transfers in and out of the unit
- effective working within the ODN, ensuring the unit fulfils its network responsibilities and follows its designated pathways
- completion of RAG scoring systems for staffing
- entry of nurse staffing data into BadgerNet database
- effective liaison with the medical and AHP teams.

Nursing provision

Nursing provision should match patient acuity levels, namely:

- intensive care 1:1

- high dependency care 2:1
- special care 4:1.

The minimum percentage of registered staff should be:

- 80% for intensive and high dependency care
- 70% for special care.

A minimum of 70% of AHPs should hold an accredited post-registration qualification in specialised neonatal care (DH 2009).

All AHP/therapy assistants should be appropriately trained and have the competency skills they need to work in the neonatal setting (RCN 2012b).

Senior nurses who have undertaken enhanced or advanced nursing courses and are on the medical rota can still provide nursing expertise and education.

Non-registered staff

Non-registered staff (for example, healthcare assistants, nursery nurses, nursing associates) should be used to support clinical care, but they must be appropriately trained and work alongside and under the supervision of registered Qualified in Speciality (QS) nurses or AHPs.

Transitional care

There is no national guidance for the safe staffing of a transitional care area. Staffing ratios are under review by a BAPM working party and will be published later this year. However, for safe staffing the area must be staffed separately from the neonatal unit and postnatal ward.

The mother will be providing most of the baby's care under supervision and needs adequate nursing support to do so. The mother's care remains the responsibility of

the midwife and as such the neonatal team needs to work effectively with maternity teams.

Neonatal outreach service

The NICE quality standard (2010) states that parents of babies who are discharged from specialist neonatal care can expect to receive support from health or social care professionals working in the community if their baby needs it. While there is no national guidance on the size and model of neonatal outreach provision, the outreach service requires its own staffing, additional to that required for the neonatal unit, transitional care and postnatal ward.

The size of outreach teams will depend on the geography and rurality of the area to be covered, and should have a team leader to co-ordinate the service. However, it is acknowledged that teams must be adequate to cover the requirements of the service and should be regularly reviewed, dependent on the complexity of cases that were on the casebook. The outreach team will require the support of an administrator.

Medical staffing (DH 2009, NICE 2010, BAPM 2010)

Each unit should have a designated lead consultant who is responsible for clinical and professional leadership, and management of the service along with the lead nurse and service manager.

Each NICU must have an intensive care consultant who is available at all times to provide telephone advice and support to paediatricians delivering care at other network units.

Three tiers of staff can provide medical care:

1. ST1 to 3 or ANNP: direct care
2. ST4 and above or ANNP:
3. resident experienced support consultant.

Requirements differ according to a unit's designation:

- **Special care unit:**
 - 24-hour availability of a consultant paediatrician with experience of and trained in neonatal care (out-of-hours cover provided as part of the general paediatric service)
 - 24-hour cover from a ST4 or above or ANNP (out-of-hours cover usually provided by the general paediatric service)
 - 24-hour cover from a ST1 to 3 or ANNP (out-of-hours cover usually provided as part of the general paediatric service).
- **Local neonatal unit:**
 - 24-hour availability of a consultant paediatrician with experience and training in neonatal care (out-of-hours cover provided as part of the general paediatric service)
 - 24-hour cover from a ST4 or above or ANNP (out-of-hours cover usually provided as part of the general paediatric service; however, if this is a busy general service, a separate rota is provided for the neonatal service)
 - 24-hour cover from a ST1 to 3 or ANNP with sole responsibility for the neonatal service.
- **Neonatal intensive care unit:**
 - 24-hour availability of a consultant neonatologist whose principal duties, including out-of-hours cover, are to the neonatal unit
 - 24-hour resident cover by a ST4 or above or ANNP with sole responsibility for the neonatal service
 - 24-hour cover from a ST1 to 3 or ANNP with sole responsibility for the neonatal service.

All services providing surgery should have access to a consultant neonatologist who can provide advice at all times.

Specialist paediatric surgeons:

- neonatal surgical services must have a lead specialist paediatric surgeon with responsibility for the direction and management of the surgical aspects of the service
- a specialist paediatric surgeon must be on call to provide advice to referring centres at all times.

Allied health professionals

- **Dietetics:**
 - all units have access to a neonatal or paediatric dietician competent in neonatal nutrition and who can access a specialist neonatal dietician if required
 - surgical services require a dietician with surgical expertise
 - dietetic support is available after discharge.
- **Physiotherapy:**
 - all units providing intensive care have access to a paediatric respiratory therapist
 - specialist neonatal physiotherapy services should be available across a network and accessible to all units for neurodevelopmental assessment and intervention, and for follow-up after discharge.
- **Speech and language therapy:** all units have access to a speech and language therapist who has access to a specialist neonatal speech and language therapist if required.
- **Occupational therapy:** specialist neonatal occupational therapy services should be available across a network.
- **Radiography:** all units have access to diagnostic imaging staff with expertise in paediatric and neonatal imaging.
- **Other key members of the MDT:**
 - **neurodevelopment:** staff should be available to carry out neurodevelopmental assessments
 - **pharmacy:** all units have access to a pharmacist who can provide dedicated time and support

- **discharge/community:** all units have access to staff who provide support in the community after discharge
- **administrative and data support:** all neonatal units, transitional care areas and outreach services require adequate administrative and data support to ensure that clinical staff do not need to use clinical time to undertake these roles.

Neonatal transport service staffing

The neonatal transport service should have adequate numbers of staff with the appropriate skills to provide a safe service (NHS England 2015b). Staff should include:

- a nominated lead consultant
- a lead nurse
- 24-hour consultant advice
- a doctor or ANNP appropriately trained in and experienced to carry out transfers and who is available at all times
- a nurse or other non-medical staff member trained in and experienced to carry out transfers and who is available at all times.

The size of the team, including nurses and doctors, will depend on the numbers of transfers required.

Transitional care and outreach service standards have not been nationally agreed and organisations therefore must ensure a robust approach to reviewing and monitoring staffing establishments in these areas.

3.2 Training and education needs

Access to multidisciplinary education and training allows a neonatal team to develop effectively (RCN 2012b). Individual nurses need to ensure that their personal development meets the requirements of the NMC revalidation process (NMC 2105b)

and AHPs ensure they meet the standards of conduct, performance and ethics of the Health and Care Professions Council (2016).

Neonatal unit management teams are required to ensure that all staffs are given formal learning opportunities along with eLearning, seminars, simulation, shadowing, rotation and placement exchanges to ensure that staff are adequately trained to undertake their role responsibilities, but also to ensure staff satisfaction and retention.

The nurse manager is responsible for ensuring that all unit staff undergo mandatory training at the time intervals determined by their trust. Training and development must be linked to annual individual appraisals and development plans, and must be appropriate to need.

A unit training needs analysis – informed by the training needs of individual nurses identified at their annual appraisals – should be undertaken annually to ensure that all staff have equal access to training opportunities and that staff on the unit are appropriately trained. Staff on every unit should have access to a practice development nurse and an educator (DH 2009).

Of the registered nursing staff, 70% should have the neonatal QS (DH 2009, NICE 2010, BAPM 2010); those who do not should have a clear plan to access the required training. Neonatal unit management teams should work alongside the ODNs and health education to ensure that available courses deliver nurses able to fulfil their roles effectively (Turrill 2015). Neonatal networks should be aware of all course provision and monitor this against the national recommendations (Turrill 2015).

As set out in the 2012 RCN guidance, all non-registered staff should be appropriately trained and have the competency, knowledge and skills they need to work in the neonatal setting. This is particularly important and must cover any expansion of the nursing associate role in the area of neonatal care.

3.3 Recruitment and retention

The senior responsible nurse for the neonatal team should know the following for their unit:

- vacancy rates
- sickness and absence rates
- turnover
- age profile
- number of QIS nurses
- staffing ratios.

They should undertake effective workforce planning as previously outlined and ensure recruitment and training of staff to avoid gaps developing in nursing provision.

The nurse manager should also understand what factors are affecting recruitment and retention of staff, and ensure all staff are given appropriate career development and have job satisfaction. Areas which will require attention, while ensuring the effective and safe staffing of the unit, include:

- personal circumstances
- individual aspirations
- shift patterns
- education and training opportunities
- flexible working patterns
- individual workloads
- family environments
- ward/organisational culture
- professional leadership
- team dynamics
- leadership and culture.

Workforce planning should be done in collaboration with the ODN, ensuring that the workforce is appropriate for the future. This information will feed into any national review processes to ensure sustainability.

The nursing workforce is ageing (almost 50% of nurses were aged 45 years or older in 2012; RCN 2013) and this trend is seen in neonatal services. Large numbers of highly trained and QS nurses are expected to retire over the next few years. As they do, they are often replaced with recruits taken straight from university who require training, mentoring and investment in specialist training. Exchanging a nurse of retirement age for one straight from university will increase absence rates as more parental leave is taken. To meet the gaps produced by both the ageing and the younger workforce, there is therefore a requirement to match these pressures with robust recruitment strategies and to develop nurses within the neonatal speciality. Furthermore, the effect of having widely divergent generations within the workforce needs to be considered, as well as the need to maintain skill levels among older staff by training them in treatment and technological advances (Health Education England 2015).

4. Right place, right time

Neonatal units should ensure staff members are deployed to appropriate areas to provide all babies with the right care, in the right place at the right time (DH 2009).

Effective workforce planning should ensure highly trained and skilled nurses are available in adequate numbers to meet the care needs and expectations of the babies and their families, at the time these needs present.

Neonatal nurse managers should ensure that rostering of nurses is fair and staffing adequate for all shifts. Escalation policies are needed to address any shortfalls, and any shortfalls reported to the local boards and ODNs. Workforce planning should reflect trust and network visions for the service. The trust should support flexible working patterns for staff while also ensuring that the service is able to respond effectively to the care needs of the patients and families.

Babies are not always born where their care needs can be best met and need to be transferred to another unit. All units within an ODN need to collaborate effectively with the transport team and the other units within the network to ensure the safe and appropriate transfer of babies. All nursing, midwifery and medical staff who are involved in the delivery and ongoing care of babies must be appropriately trained and able to provide resuscitation and stabilisation regardless of which unit they work in.

4.1 Productive working/eliminating waste and duplication

Neonatal units are designated according to the level of care they deliver within an ODN. Designation of units ensures that care is provided in the appropriate setting and there is adequate capacity to meet the care needs of the local population, with no more than 5% of activity managed outside the ODN (DH 2009). All neonatal unit nursing and medical staff should be able to resuscitate and stabilise a baby,

regardless of gestational age and condition, until that baby can be transferred to a unit that can provide the optimum level of care.

To ensure productive working, services should:

- be staffed according to national recommendations (DH 2009, NICE 2010, BAPM 2010)
- allocate appropriate tasks to non-registered staff members to maximise the time trained staff spend providing specialist care
- follow pathways agreed with the ODN and specialised commissioning teams to ensure efficient working across the network
- enter data into BadgerNet to allow national benchmarking.

4.2 Efficient rostering, flexibility and responsiveness

Units should meet their own demand for cots while ensuring that the needs of the network are also met.

Flexible working patterns should be offered to help attract and retain nursing staff, while also ensuring that there is adequate staffing for each shift.

Staff satisfaction/sickness/retention rates should be regularly reviewed as they provide a barometer of staff satisfaction levels.

Local policies for managing rest periods must meet working-time regulations. Staff breaks should be taken during the shift rather than at the beginning or end of a shift. This reduces risk of staff fatigue, safeguarding staff health and wellbeing (Dall’Ora et al 2016).

4.3 Efficient employment/minimising agency staffing

While overall demand for neonatal services remains steady throughout the year – that is, it does not fluctuate with the season – day to day it is unpredictable, which results in a requirement to ensure safe and regular staffing throughout all seasons and times of the day.

Robust, effective escalation policies should address any inability to meet demand by reporting this to the trust board and the ODN. Units within an ODN work collaboratively to ensure that at all times a minimum of 95% of babies can be cared for in a unit within the local ODN (DH 2009).

If bank or agency staff need to be used because of lack of availability among the regular neonatal team, these staff must be appropriately trained to care for neonates. Any temporary staff should receive appropriate induction.

Neonatal units need to collaborate with maternity units to ensure most babies anticipated to require neonatal care are born in a unit that can meet their care needs.

Collaboration with the ODN team, other units in the ODN and the neonatal transport team is also important to ensure the smooth running of the network and that babies are cared for as close to home as possible.

5. Measure and improve

5.1 Measure patient outcomes, people productivity and financial sustainability

While neonatal death rates are declining slowly, significant variation persists across the country with higher rates in more deprived areas and those with above average proportions of older or younger mothers.

Outcomes have improved for the smallest babies – those born before 26 weeks' gestation (Moore 2012, NDAU unpublished data for 2010 to 2014). Hospitals providing specialist care for babies with perinatal asphyxial encephalopathy (Azzopardi et al 2009) have developed networks of care. Longer term outcomes are very similar to those in the rest of the developed world for key risk groups (Marlow 2014). Commissioners should consider the human and financial costs to the system of long-term morbidities associated with the increased survival of babies born before 26 weeks.

NHS England's neonatal critical care service specification (2015a) is based on available evidence and earlier professional standards (DH 2009, BAPM 2010, NICE 2010). In terms of contracting, standardisation of the information received via ODNs needs to be considered for the different schedules of the contract.

There is data available to support the recommended nursing levels and show that getting staffing right reduces mortality and morbidity (Watson et al 2016). This includes:

- BadgerNet data
- dashboards (network and national)
- numbers of Serious Incidents

- numbers of incidents
- number of reported shifts with insufficient staffing
- numbers of medication errors
- NNAP reports
- staff satisfaction surveys
- Bliss reports
- ODN board reports.

Skill mix should be regularly reviewed to ensure that roles are undertaken by the most suitable staff and these staff are available in sufficient numbers. As well as to ensure safety, this will mean senior staff are not called on to fill gaps in the rotas at levels lower than those they are employed at; if they are, this will impact on the financial sustainability of a service.

5.2 Report, investigate and act on incidents

NHS providers should follow best practice guidance in the investigation of all patient safety incidents, including root cause analysis for any Serious Incidents (Serious Incident Framework – NHS England 2015c)¹. As part of this systematic approach to investigating incidents, providers should consider any identified staff capacity and capability issues, and act accordingly.

Staff should be encouraged to report any occasions where a less than optimal level of staffing is likely to have or has resulted in harm to a patient (Care Quality Commission – CQC 2015).

All staff members should be aware of their professional duty to put the interests of their patients first and must act to protect them if they consider they may be at risk

¹ NHS Improvement is seeking views on how guidance could be revised to support the system to respond appropriately when things go wrong. The engagement period will close on 12 June 2018 and responses will be used to shape a new Serious Incident Framework.

www.improvement.nhs.uk/resources/future-of-patient-safety-investigation/

(General Medical Council 2012, NMC 2015a). This includes incident reporting when staffing levels are less than optimal to ensure a ward-to-board approach.

Incident and quality report findings along with all feedback and learning from incidents and mortality reviews should be acted on at local level and shared across the ODN, and reported via the Patient Safety incident reporting system to reduce the chance of a reoccurrence.

Staffing gaps may be identified and notified to the trusts from any of the following:

- feedback from the regulator network, CQC, Professional Standards Authority, Mothers and Babies: Reducing Risk through Audits and Confidential Enquiries across the UK (MBRACE-UK), clinical reference groups
- Health Education England quality visits
- NHS Improvement diagnostic reviews
- specialised commissioning visit reports
- ODN assessment visit reports
- BadgerNet database
- neonatal nurse staffing tool (Dinning).

If these identify any shortfalls, then action plans must be produced to identify how they should be addressed to maintain safety.

5.3 Patient, carer and staff feedback

Patient indicators

The important insight into staffing capacity, capability and morale that patients, carers and staff can provide can help an organisation understand the actual and perceived levels and effectiveness of the staff. The trust should harness feedback in a variety of forms from parents and carers, including:

- local Health Watch reports, maternity voices, and from social media)
- Picker surveys (Howell and Graham 2011)

- Bliss feedback and reports
- complaints, complements
- patient stories
- Friends and Family Test
- local surveys
- network parent group feedback.

Workforce indicators

Equally staff can provide important feedback regarding their working environment.

This feedback can be collected from:

- staff satisfaction surveys
- General Medical Council trainee feedback
- exit interviews
- recruitment and retention statistics
- vacancy rates
- sickness and absence levels.

Any areas of concern highlighted by families or staff must be carefully scrutinised and appropriate action taken to address them.

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