

Bradford Neonatal Staffing Strategy - July 2021

Response to Neonatal Critical Care Transformation Review

Introduction

Bradford has a well-established Neonatal intensive care service operating as part of the Yorkshire and Humber Neonatal Operational Delivery Network (Y+H ODN). It was expanded in 2014 to provide additional capacity with an increased cot base from 27 to 31.

The standards and specifications that are required to deliver high quality, sustainable neonatal care have been described in detail across a number of recent national publications^{1, 2, 3, 4, 5, 6, 7}

This paper will summarise these and outline the challenges specific to BTHFT. Actions and opportunities have been identified and prioritised by the Neonatal team and supported by the Children's CBU triumvirate team.

In addition

- The CNST Maternity incentive scheme³ requires an action plan to be in place for neonatal staffing and for this to be agreed at Board level. This paper could be considered to constitute such a plan.
- A trust level Neonatal GIRFT review is expected in the next few months. Based on information from the network review and reviews at other trusts, this plan would address many of the anticipated recommendations.

Background

Maternity transformation

In November 2015, the Secretary for Health announced a national ambition to reduce the number of stillbirths, neonatal deaths, maternal deaths, and brain injuries that occurred during or soon after birth by 20% by 2020 and by 50% by 2030 (subsequently brought forward to 2025 in the NHS Long Term Plan).

In response to this, in 2016 the National Maternity Review published Better Births⁸ which set out the Five Year Forward View for NHS maternity services in England. It highlighted a range of challenges facing neonatology, including capacity and workforce issues. In response NHS England commissioned the Neonatal Critical Care Review (NCCR)¹.

Neonatal critical care transformation

The NCCR report was published in December 2019 as an action plan to deliver the vision of

"A seamless responsive and multi-disciplinary service built around the needs of newborn babies and the involvement of families in their care. High quality neonatal care will be networked together across England, to improve outcomes for all families, provide safe expert care as close to their home as possible, and keep mother and baby together while they need care"

The action plan outlined the processes required to implement these changes, including development of local action plans, integration of neonatal services into maternity planning, establishing national reporting of key regional outcomes and developing the Neonatal Implementation Board as work-stream 10 of the Maternity Transformation Programme to oversee implementation of this plan.

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The NHS Long Term Plan⁹ has committed to new investment over the next 5 years to meet the action plan. Its three key commitments are focussed on:

- Aligning neonatal capacity: redesigning and expanding neonatal critical care services to further enhance safety and effectiveness
- Further developing the expert neonatal workforce required: extra neonatal nurses and expanded roles for allied health professionals to support clinical care
- Enhancing the experience of families through care co-ordinators and investment to improved parental accommodation

The NCCR report recommended neonatal networks and trusts should produce a gap analysis of medical and nurse staffing, and that workforce transformation was needed, with greater recognition of allied health professional roles.

BTHFT will be expected to work alongside the Yorkshire and Humber Neonatal Operational Delivery Network (Y+H ODN) and Specialised Commissioning to implement the above recommendations.

GIRFT review

A Neonatal GIRFT (Getting It Right First Time) review is being undertaken in part to assist the implementation of the NCCR Action Plan and provide further understanding and support to the key challenges facing neonatology. Network GIRFT reviews have been completed. Individual trust visits are underway.

Neonatal service commissioning

Bradford Neonatal Service is a designated Neonatal Intensive Care Unit (NICU) and one of four NICUs across the Y+H ODN, commissioned by NHS Specialised Commissioning to provide Neonatal Intensive, High dependency and Special Care.

Neonatal Critical Care service specification²

<https://www.england.nhs.uk/commissioning/wp-content/uploads/sites/12/2015/01/e08-serv-spec-neonatal-critical.pdf>

Neonatal activity is paid via daily tariff depending on the level of care delivered for each infant (Neonatal Health Resource Groups - HRGs 2016)¹⁰. Increased activity in terms of both days and level of care attracts a higher income*.

However, as detailed in the NCCR, there is significant variation in the money received by Trusts for neonatal care which leads to differences in what can be provided and reduced transparency about what funds are available. The NHSE/I pricing team is working with the Neonatal Critical Care Clinical Reference Group to introduce new prices for neonatal care with a formal national tariff from April 2022.

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*Commissioning arrangements (2020-2021) have changed in response to the Covid pandemic – temporarily switched to a block payment system. At the time of writing, details on when this will return to a tariff system is still awaited.

Delivering high quality care

The recommendations contained in the NCCR and supported by other publications²⁻⁷, are all underpinned by the core aim of delivering better outcomes by improving the quality of care.

They can be summarised as 4 overlapping themes

1. **Activity:** Survival rates are higher in larger Neonatal Intensive Care Units (NICUs)
2. **Core staff:** Sufficient numbers of well trained nursing and medical staff are required to deliver the necessary levels of activity
3. **Quality measures / shared learning:** To improve it is necessary to benchmark recognised quality measures against other providers
4. **Multi-disciplinary team:** High quality neonatal care is only deliverable in the context of a multi-disciplinary perinatal team supported by a range of allied health professionals.

Close involvement of parents and families are a key part of delivering care but this paper will focus on specific staffing requirements and challenges.

1. Activity

National Standards

The NCCR outlines the levels of activity that will be expected for a designated NICU

- at least 100 VLBW (very low birth weight <1500g) births per year
- at least 2000 days of intensive care per year.

This is based on evidence that survival of extremely preterm babies is higher in busier NICUs. 50% of all neonatal deaths are in babies born below 28 weeks gestation.

The NCCR aligns and is in part based on the British Association for Perinatal Medicine (BAPM) framework for practice “Optimal Arrangements for Neonatal Intensive Care Units”⁴

<https://www.bapm.org/resources/296-optimal-arrangements-for-neonatal-intensive-care-units-in-the-uk-2021>

This framework also suggests

- NICUs should be provided in centres that deliver neonatal general surgery and if possible cardiac surgery (where geography allows within networks)

As part of the NCCR, neonatal networks will need to review capacity across their region and where a NICU does not meet criteria, either produce a plan with the provider trust to develop the unit or re-designate that unit as a local / special care neonatal unit which no longer provides intensive care.

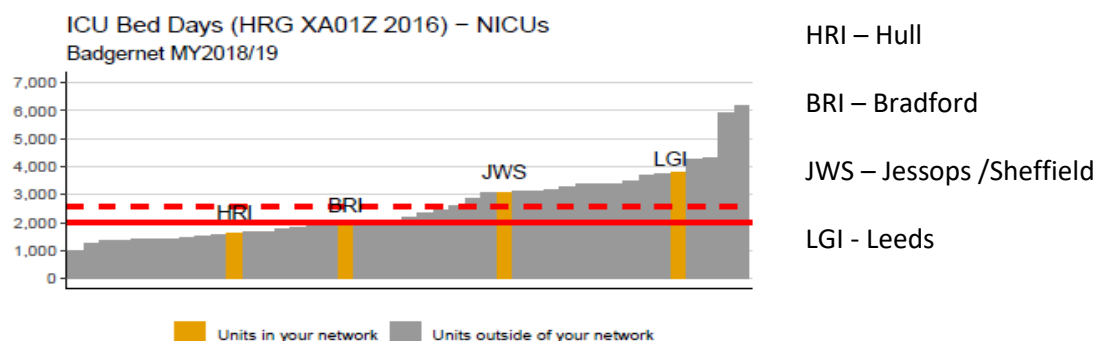
Bradford

Bradford is only just able to reach the specified activity levels, despite operating at, and often above, recommended unit capacity based on current staffing. Maternity staffing is also an important component of maintaining activity in terms of the ability to accept in-utero transfers from outside Bradford.

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	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
IC days	1600	1654	1884	2052	1857	1464*

*There appears to have been a significant effect on activity across the UK / Network due to the pandemic. Activity in April/May 2021 is back to 2019 levels.



Although the Y+H Network and commissioners are committed to supporting Bradford as a NICU, units are potentially at risk of being downgraded (and losing Intensive Care activity and associated income) if they fall below prescribed levels of activity.

Maintaining a busy NICU (>2000 ICU days) in Bradford means better outcomes for Bradford babies and access to specialised care closer to home.

Opportunities

With the correct staffing model in place, we are confident the demand is there to deliver and sustain 2000 days / year of intensive care activity.

- Medical Neonatal Intensive Care for preterm infants across ODN
 - Bradford is the designated NICU for babies of Bradford, Airedale, Calderdale. Airedale has recently been downgraded to a Special Care baby unit (SCU) as part of the NCCR review and this will mean more activity being diverted to Bradford. Calderdale is no longer providing therapeutic hypothermia as a treatment which will mean that these babies will need Bradford NICU care.
 - Outside of the pandemic, all NICUs across the network consistently operated at above recommended capacity. It is a constant challenge to accommodate babies for intensive care and when we have capacity, babies are frequently diverted to us from Pinderfields, Harrogate and beyond. We are working with Leeds and the ODN to determine if (depending on our staffing) it would be beneficial for patient flow across the network if Bradford were to become the designated unit for Pinderfields.
- Palliative Care
 - Bradford has a renowned perinatal palliative care service¹¹ through an established 'Butterfly pathway' which works closely with fetal medicine specialists and paediatric hospices. There is an opportunity to deliver care to increasing number of babies with complex life limiting conditions including cardiac / neurological abnormalities, who previously would have been cared for in Leeds.
- Surgery / central venous catheter service
 - In line with national recommendations (p14), the availability of on-site paediatric surgical specialists for periods of the week would improve care and allow babies with surgical problems to be safely managed in Bradford and avoid unnecessary transfer to Leeds (or

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beyond). Because of the high level of local practical skill, we are also looking to develop a regional central line insertion service working alongside our paediatric surgical colleagues.

- Neonatal Cardiology
 - There is currently a review of which babies with antenatally diagnosed Congenital Heart Disease (CHD) need to be delivered in a surgical centre. Discussion is ongoing but Bradford has the necessary diagnostic and image sharing capabilities to be able to potentially take a number of babies with these diagnoses.

National Tariff

- Presuming the restoration of a tariff payment system by 2022, increased activity will bring additional income to the trust. The Neonatal service brings in a net income for the trust (2019/20 - planned income 9.9M against a budget of 6.4M)
- The trust should ensure it understands the implications of the proposed national tariff for neonatal services and optimises future income, it will be important to engage in any consultation and ensure accurate recording and collection of patient data and activity.

2. Core Staff – Nursing and Medical

Nursing

National Standards

Staffing has a significant impact on mortality and morbidity. There is good quality evidence for improved outcomes where nurse:patient staffing ratios meet national standards¹². The NCCR supports the use of nurse staffing ratios (1:1 ICU, 1:2 HDU, 1:4 SCBU) to define the establishment required to deliver neonatal care, as recommended in the Toolkit for Quality Neonatal Services (DoH 2009) and reiterated in the BAPM staffing standards, and Neonatal Critical Care Service specification^{13,14}.

Neonatal GIRFT recommendations include developing a trust/network competency based education strategy to ensure confidence and intensive care skills are maintained and to support nurses to develop new skills.

In addition, the Maternity Incentive Scheme (2021) includes *Safety Action 4: Clinical workforce planning*³. To achieve compliance “neonatal units should meet the service specification for neonatal nursing standards. If these are not met, an action plan is in place and agreed at board level”. Trusts must meet all actions within the scheme to qualify for the incentive payment.

Bradford

Recruitment / establishment

Bradford historically had low levels of nurse staffing in comparison to the national average and other Y+H NICUs. This was identified as a serious concern at the National Neonatal Peer Review in 2017 (see action plans)¹⁵ and was identified again in the 2019 Network peer review and the 2020 CQC report as an issue the Trust should address.¹¹

Since then there has been increased nursing investment by the Trust, implemented in October 2019 with a 5 year plan in place. There are twice yearly establishment reviews with the Chief Nurse.

At current levels of activity there remains a shortfall of **10.5 WTE** in the funded nursing establishment according to the Neonatal Nursing Workforce Tool. Transitional Care, Neonatal Educator and the Outreach Service are excluded from the calculation.

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There is also a vacancy rate of an *additional 16 WTE* short of funded establishment which is limiting progress towards improved staffing levels.

Nursing Numbers (WTE) – correct for May 2021		
Current 71.03	Funded Establishment 87.33	Required based on activity 97.85

The NCCR acknowledges Neonatal Nurse recruitment is a nationwide problem and many units are currently in a similar position (or worse) to Bradford.

Commitment to additional neonatal nurse funding is part of the NHS Long Term Plan. However the ODN report that Yorkshire and Humber has not obtained additional funding for this financial year. This is partly because of high vacancy rates which have made the region less attractive for investment in increased establishment numbers. This decision will be reviewed yearly.

Skill development / education

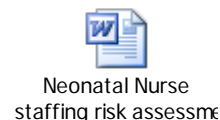
Delivering 1:1 or 1:2 Intensive / HDU Neonatal care requires specialist training.

At **41%** of nurses with QIS (Qualified in speciality) Bradford falls below national recommendations of 80%¹⁴. This deficit in sufficiently skilled neonatal nurses is currently the major nurse staffing challenge.

Inability to maintain adequate staffing ratios or skill mix poses a risk to the quality of care delivered. In particular there is an association with increased late onset infection in a high risk immunocompromised population. We have seen some evidence of this in Bradford on review of our infection rates and a cluster of recent SIs.

Current mitigation

In view of the above, Neonatal Nurse staffing has been formally risk assessed, escalated and is managed via the CBU risk register.



Actions / Opportunities

Revise Escalation policy / Capacity guidance to safely manage surges in demand.

- Standardised objective assessment of unit capacity and agree actions to maintain safe levels of activity. Aim to transfer lower dependency babies to LNU/SCBUs with support from network.
- Close liaison with network and maternity service on appropriate management of in-utero and neonatal capacity and patient flow.

NHS Long Term Plan funding

- Prioritise reducing vacancy gap to increase likelihood of securing investment.
- Work alongside Y+H ODN to submit a bid for national funds

Improve numbers of nurses with specialist neonatal (QIS) training

- Submit paper to the Trust to highlight specific current issues and review the Neonatal Educator role, supernumerary status of newly qualified nurses and the continuity of funding increase.
- The Y+H ODN has set-up both a foundation and QIS programme to facilitate training of neonatal nursing staff across the region (Sept 2020). Network educators have been appointed and Bradford will contribute to shared nursing education from induction to QIS. The service will need support to make time for nursing staff to attend / complete these educational requirements (in addition to their clinical work)
- Develop additional a Neonatal educator role. Set clear expectations and provide structured support for newly qualified nurses with respect to skill development and career progression

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Staff support / retention / skills development

- Regular appraisals and offer of support. Aim to conduct exit interviews with all staff who leave the service.
- Work with limited clinical psychology resource to seek feedback on team wellbeing.
- Set clear expectations and provide structured support for newly qualified nurses with respect to skill development and career progression

Trainee / junior medical staffing

National standards

There are BAPM and DoH toolkit standards for junior medical staffing in a NICU⁴ supported by the NCCR. Requirements are for a rota separate from general paediatrics with at least one tier 1 clinician (Advanced Neonatal Nurse Practitioner - ANNP or ST1-3) and a tier 2 (ST4-8, specialty doctor or ANNP) on the unit 24 hours a day, 7 days per week.

The Maternity Incentive Scheme³- *Safety Action 4: Clinical workforce planning* also applies to the neonatal medical workforce. To achieve compliance “neonatal units should meet the BAPM national standards of junior medical staffing. If these are not met, an action plan is in place and agreed at board level”. Again financial penalties apply if trusts do not meet this requirement.

National / Regional Shortages

Over the last 4 years there has been a national shortage of trainees applying to work in the speciality of Paediatrics. Figures released by the Royal College of Paediatrics and Child Health (RCPCH) show that almost one in five trainee positions are currently unfilled and there was a 28% fall in national applications to train in paediatrics*. This is inevitably impacting on the ability of this Trust and others to adequately staff the junior medical grade rotas. The recent Neonatal Network GIRFT (March 2020) review highlighted the Yorkshire region as having particular staffing problems at Tier 1 level that are significantly worse than the national average.

Vacancies cause a significant strain on both the quality of the service and staff. Changes in rotas are required to maintain minimum staffing, which often increases the proportion of night-time and weekend duties, thereby reducing access to daytime training opportunities and increasing feelings of stress and overload. Given that training in neonatology is an essential part of the paediatric curriculum, this makes both paediatrics and neonatology less attractive specialities for trainees to choose.

*Dr Simon Clark, RCPCH in the National Health Executive, July 2017

Rota / training / working pattern changes

A number of changes have been introduced to try and improve recruitment and retention, and rota compliance as per Junior Doctor contracts, but although hopefully better for trainees, these will have an additional impact on the ability to fill medical rotas with trainee doctors.

NHSE have¹⁶ brought in new junior doctor staffing rules which include a limit on the frequency of weekend working (maximum 1:3).

The 2017 RCPCH position paper in response to the Shape of Training report¹⁷ has led to a new Progress+ training pathway which is due to be introduced in September 2023. In practical terms, this means that trainees can complete their certificate of training with a shorter time spent

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doing neonatal medicine. It will also mean that there is likely to be a reduction in the number of training posts at Tier 1 and Higher Specialist Training (Tier 2 - Middle Grade) levels.

Across medical practice the focus of junior doctor roles is shifting toward education and away from service delivery. There is an expectation that services meet the educational needs of trainees. Failure to do so results in poorer experience for juniors, negative feedback and makes a service vulnerable to decisions about future allocation of trainees by the deanery. Although our trainee feedback is excellent¹⁸, there is a risk that this could deteriorate if there is inadequate staffing at junior medical level.

The conclusion is that the current medical workforce model is unsustainable and no longer fit for purpose. The NCCR report identifies that service transformation is needed and this must become much less reliant on deanery trainees.

Bradford

Our Tier 1 rota has been adjusted to be compliant with the new weekend working rules, but to achieve this it has been necessary to increase the number of short-day weekend shifts being offered as locums. Weekend cover is already thin and these locum shifts are not particularly attractive making it difficult to maintain adequate cover.

In line with the national problem of unfilled posts, the neonatal service has carried an average of >1 WTE gap on its junior rotas for the last 4 years. The current gap is 1.0 WTE increasing to 1.8 WTE in September. Out of hours shifts are covered by locum (internal and agency) spend but locum supply is limited and further medical gaps are likely to impact on quality of care and / or activity levels. The General Paediatric service has recently had a middle grade staffing crisis and without action we would anticipate this being an inevitability for our service at some point in the future.

Actions / Opportunities

Given the challenges outlined above the old model of relying on medical trainees to fill Tier 1 / 2 rotas is no longer viable. Persisting with this approach is likely to create either; insufficient medical cover to provide activity necessary to maintain NICU viability and income, or increasing reliance on expensive and potentially unreliable locum cover. Trainees still have a key contribution to make to the unit but failure to adapt could lead to a vicious cycle of declining numbers and poor experience.

Staff Grade / other non-training posts

Shorter term solutions to address rota gaps include advertising for a LAS post, MTIs or a fixed term Staff Grade. There has been some success over the last year and we plan to continue to pursue this, although suitable individuals can be hard to identify.

As part of collaborative work with Airedale and Harrogate, we have offered some of their staff grade doctors the opportunity to work on our unit, both to provide them with neonatal intensive care experience and potentially to provide us with some additional Tier 1 cover.

We have expressed interest in developing the role of Physicians Assistants but their current training is difficult to match to neonatal care.

Advanced Neonatal Nurse Practitioners (ANNPs)

Increasing ANNP numbers to address the problems of staffing junior medical roles would bring the most benefit and resilience to the service.

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Bradford Neonatal unit already employs 2 ANNPs with a wealth of skills and experience

- Both current ANNPs are well established members of the neonatal service who would be able to provide support for new appointees.
- Depending on experience, ANNPs have the necessary skills to work on both tier 1 and tier 2 medical rotas. Sufficient ANNP numbers provide the necessary resilience and flexibility that is required to provide safe cover for clinical activity whilst also meeting the training needs of junior doctors.
- ANNPs bring many additional skills as experienced neonatal nurses and often have areas of special interest and expertise. ANNPs fulfil valuable educational and leadership roles across both medical and nursing disciplines. Their clinical role allows them to support and improve the experience of junior trainees, as well as providing additional senior guidance for neonatal nurses, helping them to further develop their skills.
- As permanent and experienced practitioners they are likely to offer a better standard of 1st line care reducing unnecessary admissions and improving patient flow. ANNPs can also develop further specific skills and adopt senior leadership roles (QI, risk and governance, network and national improvement work) to support consultants/nursing management.
- Nursing retention can be improved as an ANNP grade provides career progression opportunities for senior nurses who want to remain within clinical practice.

In 2020 the Trust approved funding for 2 further WTE ANNPs

- Qualified ANNPs are limited in number and recruitment has been unsuccessful so far. We have however advertised for 2 trainee ANNPs for the September 2021 intake. Although there is a 2 year training period, this does provide some future resilience.

Over the next 5 years we would seek to increase ANNP numbers further to respond to the longer term challenges outlined above

- This may form part of the ongoing collaborative work with Airedale where their paediatric/neonatal service is exploring the possibility of developing ANNPs able to rotate through Bradford in order to learn and maintain the necessary skills.

Consultant Neonatologists

National standards

The RCPCH Workforce Team produced a paper in January 2019 which recommends that a Neonatal Intensive Care Unit (NICU) should have a minimum 8 WTE consultants on the on call / unit rota. BAPM recommend all NICUs seek to extend consultant presence on the unit to at least 12 hours per day⁴.

Neonatal Consultant roles are evolving in a number of ways. Clinically they are becoming more integrated members of the perinatal team providing increased antenatal counselling / perinatal care as complexity increases. There are also NICE requirements for enhanced developmental MDT follow-up⁶ that requires consultant input. Additional roles have increased significantly with an expectation to contribute to local and regional maternity/neonatal governance, education, national audit and network QI initiatives (see 3 – Quality measures). Other NICUs are developing specialist services such as Neuroprotective Early Intervention programmes and Nutritional MDTs with evidence to show improved long term outcomes.

Bradford

The funded establishment for Neonatal Consultants in Bradford is currently 7 WTE and is fully appointed. The consultants work a 24 hour on-call rota. This provides 12 hours on-site cover / day during the week but not at weekends. The team has contributed as much as possible to the roles outlined above but there is limited scope to provide additional work based on current job plans.

Opportunities / Actions

Develop an 8th Consultant post to provide 12 hour/day cover and sustain additional responsibilities (see 3 – Quality measures).

Review collaborative MDT working across maternity and paediatric CBUs to ensure seamless responsive care with effective transition between specialities.

- The perinatal palliative care “Butterfly Pathway” was regarded as an example of excellent practice in the last CQC report but it is not a commissioned service and only partly covered in job planned time.
- Development of sub-specialist services such as Neuroprotective programmes will need to be explored.

Other units around the region have adopted different on-call models to provide longer periods of on-site cover and as a way of adapting to more modern ways of working. A review of current arrangements is needed as a 24 on-call pattern in the context of higher levels of activity is less attractive to potential new consultants.

3. Quality Measures and shared learning

National standards

NCCR and Neonatal GIRFT include recommendations to

- Improve clinical care
 - Improve attainment in key optimal early care metrics for preterm infants
 - i. Review benchmarking data, develop formalised annual QI plans and submit to the neonatal network. Utilise national QI resources.
 - ii. Close maternity and neonatal collaboration at network and unit level
 - Reduce Unnecessary mother-baby separation
 - i. Work on strategies to reduce term admissions (ATAIN project)
 - ii. Expand neonatal outreach services to support earlier discharge
 - Maintain skills and confidence
 - i. Provide expert clinical advice to LNU/SCUs as required
 - ii. Provide guidance and training in advanced respiratory care
 - Improve access to breastmilk and sustaining breastfeeding
 - i. Use BAPM Breastmilk toolkit
 - ii. Seek UNICEF BFI accreditation
 - Improving support for families
 - i. Clear action plan for ongoing development of partnership care with families making use of Bliss Baby Charter, UNICEF, BAPM family integrated care frameworks.
- Strengthen Clinical Governance and Safety, and reduce litigation
 - Clear processes for escalation of risk within trust, from trust to network and network to region and a co-ordinated approach to maternity and neonatal governance
 - All neonatal deaths should be reviewed with timely notification of deaths to MMBRACE, completion of PMRT (Perinatal Mortality Review Tool) and notification requirements for the Child Death Review Process. All deaths should be reviewed at network level.
 - Focus on reducing medication errors, including rolling out suitable electronic prescribing.

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- All neonatal units should submit accurate infection data to ICCQIP and NNAP (National Neonatal Audit Project) and all units should be optimising evidence based infection reduction strategies.

Completion of PMRT and ATAIN to the required standard are Safety Actions 1 and 3 respectively of the Maternity Incentive Scheme³

Bradford

Although overall clinical outcome measures are generally good, Bradford does have areas of concern.

- Higher than average rates in 2019 for both Late Onset Infection (12.2% vs 8.4%) and Necrotising Enterocolitis (12.2% vs 6.8%).¹⁹
- Higher than average Neonatal Death Rate (MMBRACE 2018 figures).²⁰

Infection rates on the neonatal unit was identified in the 2020 CQC report as an issue the Trust should address.¹¹ Quality Improvement work is ongoing but incidence can be influenced by staffing and available skill mix.

There is some consultant job planned time for completion of PMRT, ATAIN, CDOP and for local risk management, mortality and QI work. Bradford is one of very few NICUs which has BFI accreditation but this is now up for review and there is no agreed time to support this.

There isn't agreed time for Network QI / Governance / Education roles or mortality review, neither is there for NNAP data verification, family integrated care or MMBRACE. The unit does not submit infection data to ICCQIP.

The neonatal team have developed closer ties with the maternity service and are part of the OMS (Outstanding Maternity Service) work-streams and are represented on the board. Agreed time for these roles is however limited.

Opportunities / Actions

Ensure sufficient time is built into staffing resource to complete mandated improvement work.

- Nursing involvement at local and network level is important.
 - Education and leadership is part of the ANNP capabilities framework²¹ and is factored into their job plans. Increasing ANNP numbers would increase the capacity for these roles (see Medical staffing above).
 - Developing senior nurse and educator roles as part of career development and retention work would also add to capacity (see Nursing section above).
- Some additional Consultant time will be required. On review of current job plans there is very limited scope to provide additional work. The aim would be to move towards appointing an 8th consultant to fit with national guidance.

The Neonatal Outreach service is well regarded and already offers a home tube feeding service which aligns with recommendations to support earlier discharge and support families.

- Further service development such as an ability to provide home phototherapy would allow those needs to be met more fully

4. Multi-disciplinary team / services

Specialised services

Surgery

National standards

NCCR and BAPM recommendations^{1,4} are that NICUs should, where geography allows, be provided in centres that also deliver neonatal general surgery and if possible cardiac surgery.

The numbers of these surgical centres is however small and there are many “Medical NICUs” like Bradford across the UK. There is no capacity for, or suggestion that all NICUs must have on-site acute paediatric surgery.

However given the high risk of surgical problems in Neonatal patients it is vital for the safe provision of neonatal intensive care that units have good access and support from local specialist surgical centres.

Paediatric Ophthalmology to provide ROP (Retinopathy of Prematurity) screening and surgical treatment is a key service for a NICU. The RCOphth are due to publish recommendations on staffing such a service (1.25-1.5 Consultant PAs / week)

Bradford

The main challenge for Bradford is the availability of neonatal general surgery. Bradford has joint appointments with Leeds for Consultant Paediatric Surgeons but this is for outpatient clinics and surgical lists rather than specific support for the neonatal unit. There is no on-site paediatric surgical presence or acute cover. General adult surgeons at BTHFT do not have any neonatal training or expertise. This was identified as part of the 2018 GIRFT Paediatric Surgery review as something that needs addressing.

Bradford has close links with the regional Paediatric Cardiac Surgical centre in Leeds and is an active member of the Y+H Congenital Heart Disease Network. Onsite skills for diagnostic echocardiography are available but not 24/7.

There are currently two Paediatric Ophthalmologists (Miss Pilling and Mr Bradbury) able to provide screening and on-site laser treatment for infants with Retinopathy of Prematurity. There is 0.75 PA of job planned time for this. Mr Bradbury is due to retire in 2021 and a safe service cannot be provided by 1 Ophthalmologist as the service requires consultant availability 52 weeks/year.

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Bradford has good transport links via the Embrace transport service for transfer of babies with acute surgical problems.

Opportunities / Actions

General Surgery

Agreement needs to be reached with Leeds Teaching Hospitals (LTH) on arrangements for joint surgical appointments between Leeds and Bradford after the retirement of the previous surgical consultant.

- Ms Sidebotham is the other named paediatric surgeon with Bradford commitments. This is an opportunity to renegotiate the level of service provided and seek designated time for inpatient review and discussion of patients on the neonatal unit. We would also seek to explore the level of surgical nurse outreach cover provided and whether this is sufficient.
- It is not feasible to establish anything approaching 24/7 cover as Bradford is not a paediatric surgical centre. In addition, given the proximity of Leeds and the availability of the Embrace transport service, rapid transfer for acute surgical review is usually achievable. However there are frequent cases where non immediate surgical advice is needed and the opportunity for review and discussion of these patients would be of real benefit to patients and their families, avoiding unnecessary transfer and enabling a more structured approach to the care of often very complex infants.
- Our aim would be to secure 1-2 PAs / week of Paediatric Surgical time at BRI for inpatient review. This time could be shared with the additional requirements for specialist surgical education and support in General Paediatrics / Surgery (see GIRFT action plan).

Paediatric Cardiology

The ability to perform diagnostic echocardiography is an important skill in determining which babies require assessment/transfer for cardiac surgery in the newborn period. This can be a time critical requirement so 24/7 cover should be the aspiration for a NICU.

- Currently four of the Neonatologists and three Paediatricians (with expertise in Cardiology) have the necessary skills but this is not sufficient to provide a service at all times. Further appointments to the Neonatal Consultant rota would be encouraged to develop this skill to improve the level of cover.

Ophthalmology

Finding an appropriately trained replacement is difficult. We need to support our Ophthalmology colleagues and their CBU and discussions are underway to determine how this work can be appropriately job planned and re-numerated.

Allied Health Professionals

National standards

Allied health professionals (AHPs - Dietitians, OTs, Physiotherapists, Speech and Language therapists, Pharmacists and Clinical Psychologists) are a vital part of the Neonatal multi-disciplinary team. Access to AHP services and to appropriately trained professionals is described

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in the Neonatal Critical Care Service Specification² / NCCR¹ and monitored through the peer review process.

The NCCR recommends trusts develop an AHP strategy as part of workforce planning which sets out the level and expertise of pharmacy and AHPs required, the level currently available, and how any gaps will be filled.

Staffing recommendations based on DoH toolkit standards include access to AHP services¹⁴. More specific figures are contained within the NCCR report (p16-17) e.g. provision of a dedicated neonatal Physiotherapist (band 7 or 8a) 0.03-0.05 WTE/cot plus a band 6²².

Neonatal GIRFT recommendations highlight the important role neonatal pharmacists play in increasing patient safety by developing and monitoring standardised approaches to prescribing and preparation to reduce risk of medication error.

The British Association of Perinatal Medicine (BAPM) and Neonatal GIRFT review recommends all families (parents and siblings) should have access to psychological support and actions plans against gaps in service need monitoring.

Bradford

Dietetics

The NCCR links to national recommendations for neonatal inpatient dietitian services which recommends 1 WTE for a unit of Bradford's size²³. This does not include outpatient services. There are currently 2 paediatric dieticians (Amanda Musk and Rachel Pountney) who provide 1.1 WTE for all inpatient/outpatient/development work.

Physiotherapy / Occupational Therapy.

Toolkit standards require NICUs to have access to both paediatric respiratory and specialist services for neurodevelopmental assessment. Recommendations in the NCCR would suggest at least 1-1.5 WTE band 7/8 based on cot number.²²

Paediatric physiotherapy time is allocated to Bradford neonatal service for in and outpatient care but this is very limited. Currently inpatient services are 4 hours a week for neurodevelopmental assessment of high risk individuals with no time allocated for therapy and respiratory physiotherapy is provided only for non-ventilated larger babies on a case by case basis.

There have been recent discussions about improving our MDT working with physiotherapy colleagues to ensure we get the maximum benefit from the limited time available but Physiotherapy provision was identified as a gap in service in our National Peer review visit and in the Regional GIRFT review. Leeds NICU have a significantly better resourced physiotherapy service.

In addition, recent NICE guidance⁶ on follow-up of preterm infants recommends specific multi-disciplinary assessments (including physiotherapy and SaLT) which are not currently provided.

Bradford does not have regular input from Occupational Therapists but there are national recommendations in place which suggest 0.5 WTE for a unit of Bradford's size.²⁴

Speech and Language Therapy (SaLT)

The NCCR links to a national review for neonatal SaLT services which recommends at least 1 WTE for a unit of Bradford's size²⁵. A SaLT service is available as required but again it is not clear the

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WTE dedicated to the neonatal unit. The current service does include inpatient reviews of babies, individualised feeding plans, liaison with Leeds service for videofluoroscopy, outpatient follow-up and home visit. Excellent links are in place with the Cleft team. It would be important to maintain at least this level of inpatient service but further resource is needed to meet NICE guidance for outpatient developmental follow-up⁶.

Pharmacy

There is an experienced neonatal/paediatric pharmacist (Chris McLernon) with time allocated to the unit. Additional cover is provided by one of his colleagues. Supported by the hospital pharmacy service they provide a high quality essential service. It will be important to at least maintain the current level and quality of service.

Psychology

The NCCR links to a national review for Clinical Psychology services which recommends at least **1 WTE** for a unit of Bradford's size²⁶.

Lack of psychology support was highlighted at our peer review visit. Current provision is just 0.2 WTE of a final year Clinical Psychology student which places significant restrictions on the work that can be done to support both families and staff.

A recent piece of work by previous Clinical Psychology students highlighted the unmet need

- Low levels of resilience amongst staff (42%) with a risk of emotional exhaustion in 1 in 5 which is well below the national average
- Locally, comparable units (Leeds and Sheffield) have psychological support from trained professionals for both families and staff.
- Local services are available to some families, dependent on location and need. These include the Specialist Mother and Baby Mental Health service, who support pregnant women and new mums with severe mental health difficulties, and the projects run by Better Start Bradford, who support pregnant families and new parents with attachment and infant bonding. However, these services are often difficult to access, with high thresholds and long waiting lists, or simply not available to those who do not live in specific post codes. As such, the majority of families do not receive the support they require for their psychological well-being (Bliss, 2018).

Insufficient AHP provision against the Neonatal Service Specification has been risk assessed and is on the Risk Register.

Opportunities / Actions

An AHP strategy is urgently needed, working with the Therapies CBU to agree how to make progress towards a more comprehensive AHP service – particularly with respect to Physiotherapy/OT and Clinical Psychology provision.

Incorporate AHPs more closely into inpatient neonatal interventional programmes which improve outcomes

- Early Intervention neuroprotective developmental care
- Nutritional MDTs

Previous discussions with the CCG to see if extra funding can be secured for additional outpatient physiotherapy/SaLT provision to meet NICE guidance need to be revisited.

Explore additional roles AHPs may be able to undertake in neonatal care, which may be re-allocated from nursing/medical staff.

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- Prescribing pharmacists. As a valued member of the neonatal team, we would also seek to support Chris McLernon develop additional skills to support his professional development
- Physiotherapists/OTs supporting family integrated care, developmental care and discharge planning

SalT are based with BDCT. Shirley While, Paediatric Team Manager has joined a new networking group of SLTs hoping to share resources, ideas and look at equity of service across the region.

Non-clinical staff

NCCR recommendations do not extend to non-clinical staff, but there is an expectation that mandatory data to support national and regional benchmarking will be completed accurately. This is important for financial and quality reasons and as illustrated above is becoming an increasingly important part of neonatal practice. Much of this work continues to fall to nursing and medical staff but there is a recognition that a more appropriate use of resources would be to employ specifically trained individuals to perform this role.

Bradford

A LTFT Neonatal administrator is in place and contributes to routine data entry and quality checks. Neonatal ward clerks have been very valuable in addressing issues around accurate documentation of admission times and parental consultation. There are currently 3 secretaries / personal assistants working for the neonatal team who do a number of important tasks.

Opportunities / Actions

With the development of EPR and other technological advances, roles will continue to change so we will need to ensure this is kept under regular review and whether further roles can be redeployed from clinical staff.

Staffing Priorities for 2021

After review of the above and discussion amongst the senior team and the CBU leadership, we have agreed the following should be prioritised as targets for the following year

1. Develop a AHP strategy and plan to work with Therapies CBU to build a business case for increased
 - a. Inpatient / outpatient physiotherapy and OT services
 - b. Clinical Psychology services
 - c. Speech and Language therapy (with BDCT)
2. Continue work to improve Nursing recruitment/retention and training.
3. Develop case for 8th Neonatal Consultant to support additional roles
4. Appoint 2 trainee ANNPs

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5. Advertise for LAS /Staff grade post and explore collaborative working arrangements with Airedale.
6. Agree with Paediatric Surgical colleagues (and LTH) on an adequate level of provision of neonatal surgical support that includes designated time for onsite consultation.
7. Support Ophthalmology service to ensure continuation of ROP service.
8. Agree revised Capacity guidance / Escalation tool.

Appendix

Staffing gaps against standards

Staff Group	Current (WTE)	NCCR standard (WTE)	Gap (WTE)	Comment
Nurses	See separate paper			
Junior Medical	Tier 1 and Tier2 rota At least 2 medically trained individuals covering NNU 24/7		1.8	116 hours short from Sept 21. Presuming successful trust grade employment. Current ANNP provision of 35 hours. Additional weekend locum cover required to comply with junior rota rules.
Consultant	7	8	1	
Ophthalmologists	0.75 PA	1.5 PA	0.75 PA	1 PA = 4 hours Consultant time
Dietitians	1.1*	1	0	*1.1 includes all outpatients. 2 Dietitians across all of paediatrics.

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Physiotherapists	0.1	1.5	1.4	Doesn't include outpatient need / provision
Occupational Therapist	0	0.5	0.5	
SaLT	TBC	1		Service via BDCT. Individual inpatient / outpatient referral.
Clinical Psychologist	0.2	1	0.8	0.2 is a student rather than fully trained
Pharmacist	0.5	1	0.5	2 WTE Pharmacists across all of Paediatrics – 0.5 allocation for NNU


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Sam Wallis July 2021