Business case title	**Paediatrics** **Neonatal Unit – Nurse Staffing**			
Division	**Urgent Care**			
Lead Manager	**Eirian Lloyd Powell – Neonatal Manager** **Dr Steve Brearey – Consultant Paediatrician**			
Date to Divisional Directors meeting		**Agreed to proceed**	**Yes**	**No**
Date discussed at Finance meeting		**Agreed to proceed**	**Yes**	**No**
Date to QVDT		**Agreed to proceed**	**Yes**	**No**
Date to CDG		**Agreed to proceed**	**Yes**	**No**

Contents

1 – Executive Summary

The Neonatal Unit at the Countess of Chester Hospital NHS Foundation Trust is the largest local neonatal unit (LNU) in Cheshire and Merseyside. Staffs cares for up to 20 babies, including 3 in intensive care for babies from 27 weeks gestation and >800gms. It is the only LNU in the region which can provide cerebral function monitoring and total body cooling for potentially brain damaged term babies.

Recent high publicity reports of care at the Mid Staffordshire FT (Francis report 2013) and Morecambe Bay FT (Kirkup report 2015) included cases of sub-optimal neonatal care and failure to learn from incidents including staffing issues. In addition, neonatal deaths in London and Northern Ireland due to sub-optimal infection control measures have been well publicised in the media.

It has been identified that a number of national neonatal staffing standards are not met by the Trust and that staffing on the neonatal unit has an inferior skill mix compared to other comparable units within the **North West Neonatal Operational Delivery Network (ODN).**

This Business Case identifies the need for more trained staff to maintain the consistent excellent service and makes it more robust and sustainable in the future.

The Unit consists of

- 3 Intensive care cots – One to one nursing (BAPM standard)
- 3 High Dependency cots – One nurse to two Cots (BPAM standard)
- 14 Special care cots – One nurse to four cots (BAPM standard)
- 4 transitional care cots which are situated on Cestrian ward (post-natal ward).

The Neonatal Unit is designated as a LNU (level 2) unit – it sends and receives babies to and from other units in the ODN depending on capacity and level of care needed.

There are a number of differences in staffing the Neonatal Unit compared to other wards that present a challenge to delivery in high quality neonatal care.

Nurses are expected to be able to deliver one to one intensive care to very sick babies when required, although a proportion of their workload is for babies who may require a lower level of care.

There is considerable variation in numbers of admissions and in numbers of babies requiring intensive care throughout the year, which cannot be predicted and is not seasonal.

Unfortunately there is only a very small pool of suitably trained bank staff (x1 available for weekends and x1 available band 4) and very few nurses from the paediatric ward who are able to cover at times of peak demand. This is difficult to manage as the paediatric staff do not have the QIS (Qualification in Speciality) to care for the Intensive care or high dependency babies.

2 – Objectives

The overall objective of this business case is to secure the required funding to be able to recruit the appropriate staff to ensure patient safety and sustain and deliver the core standards.

Core Standards have been set for service delivery by all relevant professional bodies; The DH Neonatal Toolkit, NICE Quality Standards 4 (2010), Bliss and the North West ODN all support these standards.

1. **British Association of Perinatal Medicine (BAPM standards)**
    - Intensive care babies require 1:1 nursing
    - High Dependency 1:2
    - Special care babies require 1:4

2. **DH Neonatal Toolkit**
    - A minimum of 70% special Care and 80% ITU & HD workforce should be NMC registered.

3. **The North West Neonatal Operational Deliver Network (ODN)**
    - The shift leader should be supernumerary and not rostered to deliver direct patient care.
    - A supernumerary member of staff is responsible for the co-ordination of the discharge planning (not the shift leader).
    - The Manager needs to be supernumerary to ensure that all the relevant managerial roles are delivered in a timely manner by an additional registered practitioner.

The overall objectives for the business case:

- Improve quality of care
- Concentrating on meeting the needs of our patients

- Achieve the standards as outlined in the professional bodies recommendations
- To address recommendations for the skill mix
- Improve efficiency
- Audit

Professionals are competent in the specific requirements for excellent care, and these skills are **embedded** within a high standard of professionalism.

3 – Current Service Profile

Per Shift

Role	Band	No. Per Shift	Comments
Registered Nurse	5/6	4	Currently we attempt to staff the unit with 4 Registered Staff and 2 Nursery Assistants. However we require as a minimum standard x2 band 6, x2 band 5 (QIS) Reasons for not maintaining this staffing level: • Limited financial resources • Annual Leave • Sickness – staff do not state that their sickness is due to stress (do not wish to be labelled)
Nursery Nurse	4	2	
Total		**6**	

If all ITU cots (3 in total) are full at 1:1 nursing, plus 2 HDU cots at 1:2 nursing then all trained nurses are at full capacity as per the standards and therefore in theory we would be unable to take any special care babies (14 cots) and the unit should be closed if adhering to the required standards. (Thereby additional qualified staff required to meet the specifications of the neonatal unit)

Many units in the region will often close once the BAPM standards have been exceeded and therefore will likely close before reaching full occupancy. Our unit continues to stay open despite exceeding the BAPM standards if we still have cot occupancy.

During times of high demand and to ensure patient safety staff will frequently change their shifts, annual leave and days off work as well as working extra shifts and being "on call". Although the nursing staff deserve great credit for their hard work and flexibility, these practices are difficult to sustain in the long term, and are detrimental to the staff's wellbeing and staff retention.

The data in the occupancy tables highlight how busy the COCH Neonatal Unit is in comparison to its' respective Level 2 units. It is also fair to say that the NNU is as busy if not more so than one of the regional unit within the ODN

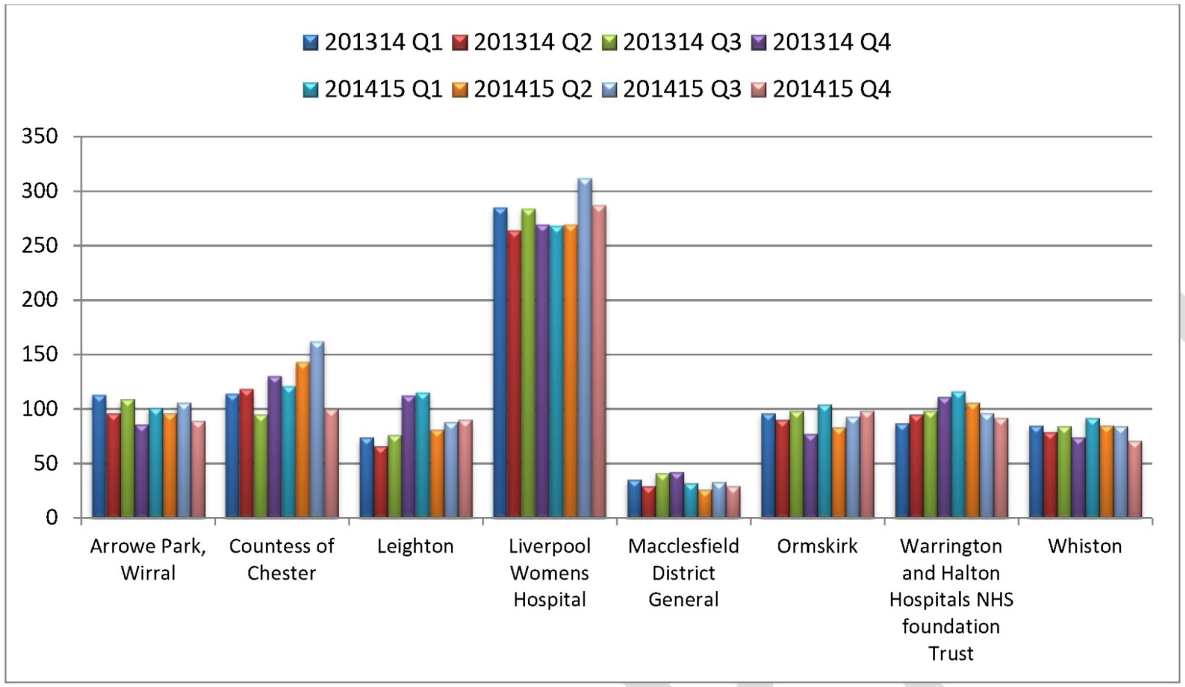
NW Neonatal Operational Delivery Network

Quarterly data report – Cheshire & Merseyside

Network Activity 2014-15

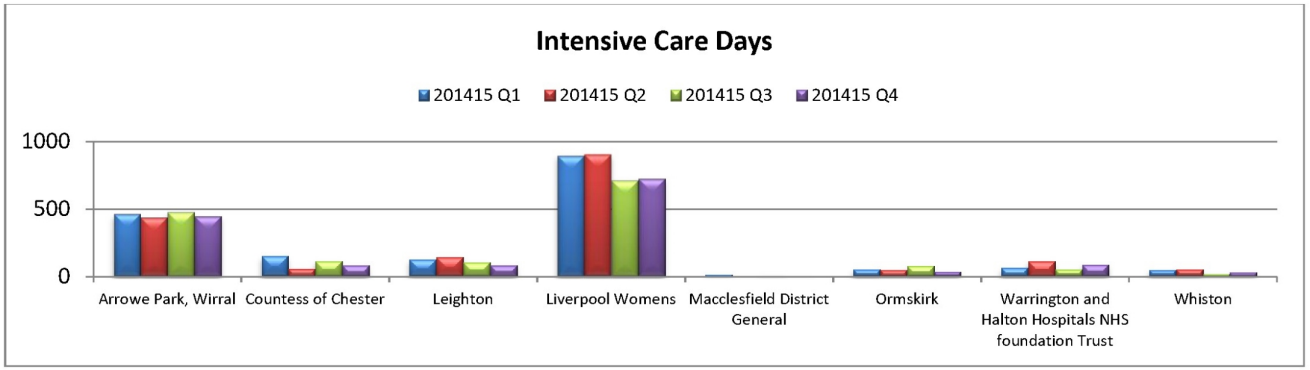
Total Admissions by Neonatal Unit Q1 2013/14 to Q4 2014/15

The charts below detail the number of unit admissions for all Cheshire & Merseyside neonatal units for the 2013/14 & 2014/15 period. This is total number of admissions, regardless of episode of care, not a count of babies.


201314 Q1
201314 Q2
201314 Q3
201314 Q4
201415 Q1
201415 Q2
201415 Q3
201415 Q4
350
300
250
200
150
100
50
0
Arrowe Park, Wirral
Countess of Chester
Leighton
Liverpool Womens Hospital
Macclesfield District General
Ormskirk
Warrington and Halton Hospitals NHS foundation Trust
Whiston

Number of Care Level Days by Neonatal Unit Q4 2014/15

The following charts detail the number of care level days by neonatal unit. The data is broken down into intensive care (level 1), high dependency care (level 2), special care (level 3) and normal care (level 4).



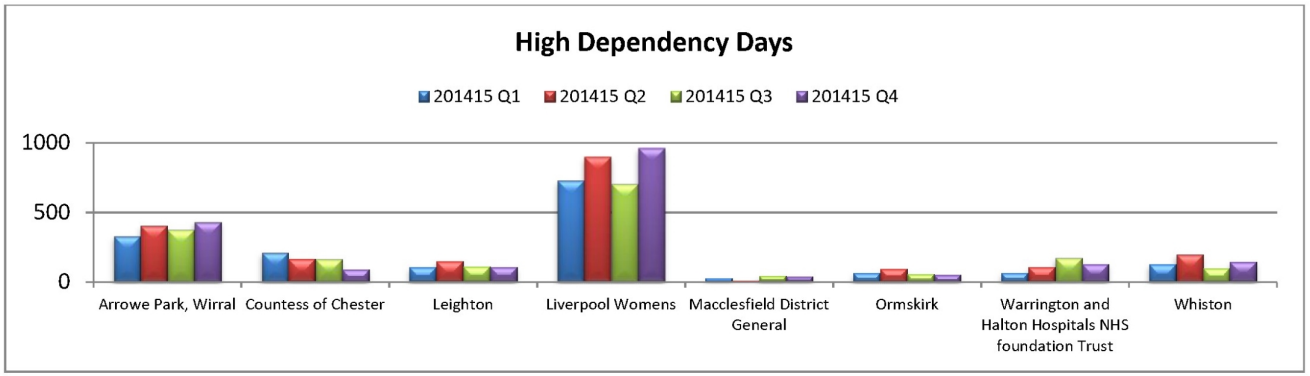


Chart 4

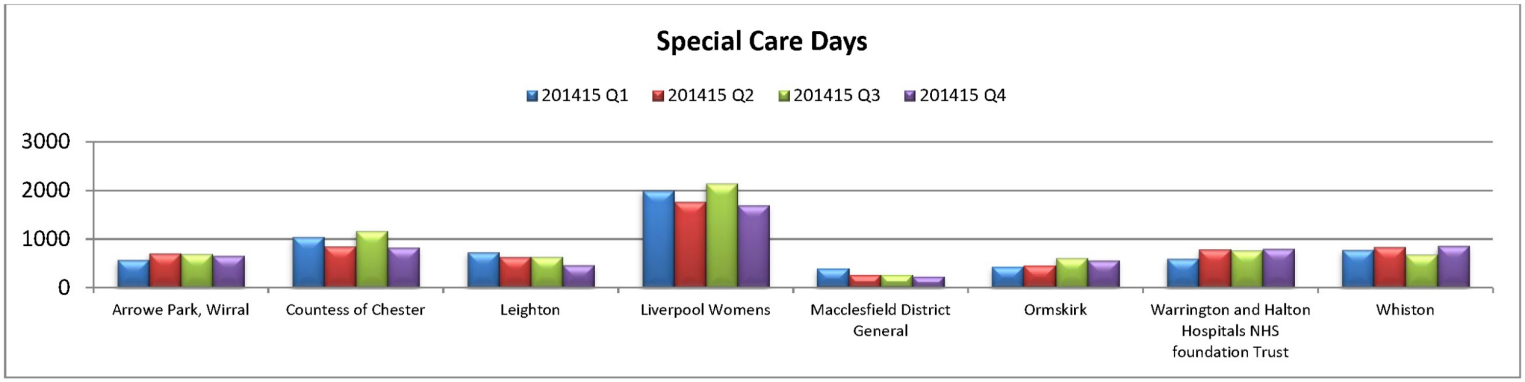


Chart 5

Chart 6

Neonatal Network Occupancy figures

All charts within this report are based on the following capacity figures. Capacity figures have been obtained from the document 'Cheshire & Merseyside Neonatal Network – Final Phase of MiB implementation' dated 29th June 2012.*Table 3*

Considerations

The numbers used to produce this report include all care level days within the BadgerNet system. This will result in a small number of duplicated occupancy counts

Countess of Chester Hospital

Month	IC Days	HD Days	SC Days	NC Days	IC Capacity	HD Capacity	SC Capacity	IC Occupancy %	HD Occupancy %	SC+NC Occupancy %	Total Occupancy %
APR	39	63	273		90	90	420	43%	70%	65%	63%
MAY	59	72	422		93	93	434	63%	77%	97%	89%
JUN	52	76	354		90	90	420	58%	84%	84%	80%
JUL	20	47	283		93	93	434	22%	51%	65%	56%
AUG	17	39	292		93	93	434	18%	42%	67%	56%
SEP	21	77	288		90	90	420	23%	86%	69%	64%
OCT	14	75	279		93	93	434	15%	81%	64%	59%
NOV	72	49	353		90	90	420	80%	54%	84%	79%
DEC	28	39	539		93	93	434	30%	42%	124%	98%
JAN	12	33	224	19	93	93	434	13%	35%	56%	46%
FEB	37	32	283	16	84	84	392	44%	38%	76%	66%
MAR	32	22	327	33	93	93	434	34%	24%	83%	67%
Grand Total	**403**	**624**	**3917**	**68**	**1095**	**1095**	**5110**	**37%**	**57%**	**78%**	**69%**

ODN Mortality

Number of deaths as a % of live births for Q1 – Q4 2014/15

Tables 14 & 15 show network and locality mortality as a % of live births.

Quarter	Live Births	Deaths	Mortality %
201415 Q1	20350	51	0.25%
201415 Q2	21920	44	0.20%
201415 Q3	20973	30	0.14%
201415 Q4	19974	53	0.27%
Grand Total	**83217**	**178**	**0.21%**

Table 14

Cheshire & Merseyside Mortality

Quarter	Live Births	Deaths	Mortality %
201415 Q1	7004	18	0.26%
201415 Q2	7322	18	0.25%
201415 Q3	7102	9	0.13%
201415 Q4	6802	16	0.24%
Grand Total	**28230**	**61**	**0.22%**

An updated version has been shared by the Network – however there are a few amendments that are required. They had inadvertently stated that we had 24 cots as opposed to a total of 20 cots. This may have an impact on some of their percentages – however the current data will reflect our activity and demand within the given time frame.


capacity and demand 2014 15.docx

It is interesting to note that the staffing levels continue to decline and we are currently 21% of our clinical staff understaffed in relation to our activity. This is before we consider the skill mix within the staffing on the Neonatal Unit.

4 – Case for change

A skill mix review was undertaken by the North West ODN which highlighted that we were significantly understaffed with registered nurses when compared with the standards (2014).
The North West ODN Report in relation to nurse staffing across the region highlighted difficulties in staffing, including the Countess of Chester Hospital NHS Foundation Trust.


Neonatal Unit Nursing Numbers bus

Currently at COCH we have 74.29% of staff that are registered versus 25.70% unregistered; **this is the lowest proportion of NMC registered nurses in the North West Operational Delivery Network** (Cheshire & Merseyside Network). The impact to patient care may be catastrophic leading to a multifactorial negative impact to the baby and the family. Patient safety and staff wellbeing may be compromised in the attempt to remain open to the detriment of all concerned thereby increasing the amount of times that the unit will have to close impacting on the maternity service as a whole.

The shift leader should be supernumerary and not rostered to deliver direct patient care. Due to our staffing this is not always possible and in order to achieve this standard the shift leader may allocate themselves a special care baby.

We currently do not have a member of staff who is supernumerary and responsible for the co-ordination of discharge planning as detailed in the standards from The North West Neonatal Operational Delivery Network. The shift leader has taken on this additional responsibility and as detailed above the shift leader is not always supernumerary as per the standards and therefore this can be less efficient and affect patient pathways.

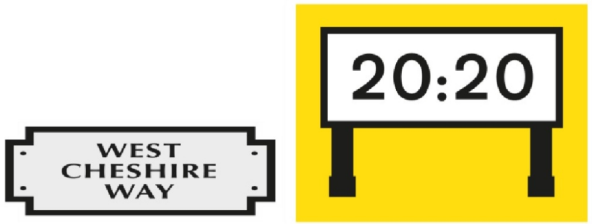
In response to the staffing issues it was necessary to change the transitional care criteria from 34 weeks gestation to 36 weeks gestation as a patient safety measure. This means more mothers are being separated from their babies unnecessarily.

In addition the most junior nursing and medical staff are caring for the infants in transitional care and may not always be experienced enough to respond to clinical deterioration as quickly as registered staff.

The administration of Intravenous antibiotics to babies on another unit (post-natal ward) due to neonatal sepsis have a huge impact on our already limited skill mix resources in addition to our limited staffing levels. This workload has increased and evolved primarily due to standards especially the NICE standards.

I have embedded a SBAR document to highlight the issues.


SBAR Additional workload that is hidd



Countess 20:20 Strategy

*Understanding the experience of our patients

*Promoting sustainable partnerships

*Understanding the experience of our patients

Levels	10 Clinical Standards	Please Tick
1	Patient experience	X
2	Time to first consultant review	
3	MDT review	
4	Shift handover	X
5	Diagnostics	X
6	Intervention/key services	X
7	Mental health	X

8	On-going review	X
9	transfer community, primary and social care	X
10	Quality improvement	X

Levels		Please Tick
1	Services only provided Monday to Friday, 9am - 5pm or 8am to 4pm	
2	Monday to Friday with some extended hours e.g. 8am - 8pm (in some departments)	
3	Services provided across seven days but limited on Saturdays and Sundays	X
4	Services provided across seven days in several departments across the organisation	
5	Fully integrated seven day services across the organisation	

5 – Options

Option	Advantages	Disadvantages

Option 1 Do Nothing	• No advantages	• Standards/KPI's – will not be met • Impact on the quality of care to patients and relatives and significant risk of increased complaints and legal action • Implementation/maintaining of the standards and other KPI's will not be achieved • Catastrophic risk to patient safety and staff well being • More babies transferred out of the unit • Unable to repatriate babies back to the unit • Additional closures which will include maternity • Increased financial penalties for not meeting the standards
Option 2 Employ additional nursing staff (x10 band 5)	• Standards/KPI's – will be met • Reduced infant mortality and morbidity • Improved quality care and staff well being • Utilising registered staff care react more appropriately to the acuity – as in they are able to care for all the clients on the unit (drugs/acuity/admissions/family communication/transfers etc.) • Improving practice that is evidenced based	• Additional cost to the Trust • Redeploying some of the band 4's

	• Participation of more audit/research projects	
Option 3 Employ an advanced neonatal practitioner band 8a x 2 – Progressing to 4	• Standards/KPI's – will be met • Reduction in costs as this will reduce the need for SHO/Agency sessions. • Help to counteract the medical shortages. • Increased staff progression • Improved lifelong learning opportunities • Assist in filling the gap with regards to the National junior doctor reduction programme	• The gap in the medical staffing will impact in provision of care • Higher cost than option 2 • Initial additional Cost to the Trust (training)
Option 4 Close the Transitional Care Unit	• No advantages to this due to the capacity issues on the Neonatal Unit.	• Increased transfers out of the unit and the Trust • Increase in NNU admissions which will require additional staffing. • Increase in mother and Baby separation. • Maternal mental well being • Increased unit closures due to full occupancy or/and staffing shortages. • Length of stay on the maternity ward increased

6 – Shortlisted Options

- **Option 1** - Do nothing has been discounted at this stage as there is clearly a need to address the non-compliancy of the professional bodies' standards. There is a significant risk to patient safety and the wellbeing of the family and staff.

- **Option 2** – Need to recruit 10 band 5 additional registered nursing staff which will allow continuing service delivery. However a reduction in some of the band 4's will be necessary to accommodate the additional band 5's. Some of the remaining band 4's may need to be redeployed. There is one band 4 who will retire in June 2016 thereby reducing the amount of band 4's that may need redeploying within the Trust. This has so many advantages with regards to the baby/family and staff which will reflect in the standards being met and the improvement in the service. The risks will have catastrophic consequences to patient safety and the wellbeing of staff. The subsequent consequences within the medico-legal environment will incur additional stress and anxiety to staff with the risk to the retention of staff and the possible burnout.

- **Option 3** – Employ an ANNP x2 (band 8a) A reduction in costs as this would be a positive financial impact as opposed to utilising an SHO/Agency. This will also assist in the adverse medical shortages that are about to commence from March 2016 throughout the UK. If this works well then it may be necessary to increase to 4. However there will be an initial cost of training which will be offset by the agency fees. However this can be negated if the Trust employs ANNP's directly from external candidates as opposed to training our own staff (professional development). This is a financial advantage but not necessarily a positive pathway for the staff who have been loyal to the Trust in their flexibility to changes their shifts at short notice in order to cover the unit.

- **Option 4** – Close the Transitional Care Unit. This will have an adverse negative impact due to the increase in NNU admissions which will lead to a requirement for extra staff, in addition it will add to the amount of mother baby separation. Also there will be an increase in regular NNU closures due to being full/staffing issues as a consequence of Transitional Care Unit being closed. There is no capacity for 4 additional cots to be included within the Neonatal Unit and therefore without an investment of temporary accommodation this will not be possible.

7 – Income & Cost Analysis of Shortlisted Options including Risks & benefits

I have costed the below up for you and the numbers provided you would need 10.98 wte additional band 5 at a recurrent cost £ I&S and we would need to reduce our band 4 staff by (4.87wte) (£ I&S) total funding required would be £ I&S

		Long day	Early	Late	Night	Total	WTE inc cover	Current recurrent Budget	Current Recurrent WTE	Increase £	Increase WTE
Band 6	XR06:03										
Band 5	XR05:05										
Band 4	XR04:04										

Irrelevant & Sensitive

Sarah – Claire has already done these figures but maybe needs refreshing?

Benefits

- Patient Safety
- Improvement in care reducing morbidity and mortality
- Fewer NNU closures
- Reduced need to transfer babies to other NNU units
- Reduced risk of nosocomial infection outbreaks
- LOS is likely to be reduced
- Long term implications of neonatal morbidity make it very important in getting it right first time
- Improved staff retention and recruitment
- Improved patient and family experience, with potentially fewer complaints.
- Well established team, with sound knowledge, expertise and skill based practice.
- Improve the Trust reputation in relation to patient/carer satisfaction.
- Patient Safety

Risks

- Patients and those who are identified as important to them will have a negative experience and complain about their care.
- Delays in treatment
- Lack of trained staff (especially during emergencies)
- The need to transfer sick babies to other units due to lack of appropriately trained personnel
- Lack of staff moral and mental and physical wellbeing as constantly required to change shifts at very short notice
- Morbidity and mortality rates increase
- Lack of Service improvement due to constant fire fighting
- Reduction in compliancy with infection control due to the strains on staff

8 - Preferred Option

Following a benefits analysis, the preferred option would be:

Option 2: -

1. To recruit and additional 10 band 5 (taking into account the reduction of some of the band 4's)
2. Care packages are currently looking to recruit band 4 staff to future contracts which could assist in the redeployment of band 4 staff.

3. There is a potential for some of the band 4's to retire – a possible 0.92WTE in June 2016 with a further 0.69 and 1.00 the following year.
4. A graduated reduction would be preferable after the band 5 hires (x5WTE). There is a potential for additional registered staff (band5) to retire in 2016 (0.61)

This option would facilitate the appropriate resource required to deliver a service in a safe and appropriate manner whilst complying with all key standards.

9 - Implications for Support Services

- Admin support – already in place
- IT – already in place
- Facilities – already in place
- HR – None above the usual employee service
- Estates – No further requirements
- Finance – Costs to be worked up
- IM&T – Kit already set up and available for use
- DT&P – already in place

10 - Monitoring and Review

- Measures, targets & KPIs – NNAP/neonatal dashboards/BFI level 3/CQC/CQUIN/NDAU/Network standards/Neonatal toolkit/service specification/bliss audit
- What does success look like – Improved patient/carer experience, more staff trained at the appropriate level to maintain standards and avert the need for the unit to close more frequently in the future. Improvement in staff moral thereby having a positive effect on the wellbeing of all who are on the neonatal unit. The Neonatal environment is also difficult for all concerned and a new build fundraising project is currently underway, however with the additional staff shortages and skill mix shortages compromises the difficult working conditions that the staff are expected to work. The physical and mental wellbeing of the staff will be reflected in the reduction of the overall sickness level.
- Success or failure of the additional measures will be reflected in sustaining the high level of standards achieved. HR will be able to report any changes within the sickness levels. There will be no need for an outlier report and action plans as standards will be met.

Standards will be reported throughout the network with regards to adhering to the Neonatal toolkit and attempting to achieve the minimum BAPM standards (70%) this is not ideal however it is probably realistic.

11 – Recommendation

The recommendation by the Urgent Care Division is for the Exec board to fund? X10 WTE band 5 will be need to be recruited and the reshuffle of the band 4's to accommodate some of the changes required to meet the staffing standards.

The drivers that dictate the staffing required for the Neonatal Unit.

1. BAPM STANDARDS
2. Neonatal Toolkit
3. Neonatal Standards
4. Network Standards
5. Bliss

The Professional bodies that dictate the staffing requirements.

1. MORECAMBE Bay inquiry
2. Kirkup Report
3. RCN

These are performance indicators and outcomes that reflect the standards and staffing

1. Mortality rates
2. Morbidity rates
3. 2 year follow ups
4. Performance standards
5. Network standards
6. NHS dashboards

7. Sickness rates