APCP NEONATAL COMMITTEE

Writing a business case / collecting information for developing a new service

Points to Consider

Every Trust/PCT will have its own paperwork or proforma and the following can be adapted to fit the paperwork - the essence of the content will be the same. If your bid can tap into your Trusts priorities (e.g. reducing length of stay) then it may have more success. Not all of these headings may be necessary depending on the actual bid and the required paperwork used locally. Headings are usually very similar.

Introduction and Background

Be very clear and concise on the service development you are proposing. The salient points should be obvious throughout the business case, so ensure it is easy to read.

- **For example:**
  - **Respiratory Physiotherapy**

- Neonatal care is an evolving service, with massive developments in the medical care of these children, meaning that children are being born younger and sicker and surviving \(^1\). As in other developed countries, the number of babies born with low birth weight is increasing, along with a rise in overall births per year. In 2005, 8% of live births were born preterm and one in 10 newborn babies required admission to a neonatal unit \(^1\), \(^2\). Sophisticated medicine has now seen the survival rate for babies born at 25 weeks increase to 66% nationally \(^1\).
- The increasing survival that is demonstrated in nationwide research is reflected on the Neonatal Unit at (name of hospital).
- Data on the activity levels for the Intensive Care and High Dependency cots on (name of ward) has showed a steady rise in activity. In the last 10 years, to 2011, intensive care and high dependency activity on (name of ward) has risen by X %.
- In this extremely premature state, these infants’ lungs are extremely immature and their physiology is only just compatible with life. These babies require long periods of respiratory support while their lungs mature.
- Any patient who is ventilated for a long period of time is at high risk of respiratory complications \(^3\), \(^4\). This can take the form of collapse or consolidation of part of the lungs, chest infections, pneumonia or excessive amounts of secretions. All of these problems can, at worst, be life threatening for a young vulnerable infant, and at best increase the time that they spend in NICU.
- A long term consequence of extreme prematurity is Bronchopulmonary Dysplasia (BPD) or Chronic Lung Disease (CLD), where the lungs have been damaged as a direct result of not being mature enough, or as a secondary complication from needing a long period of time ventilated on high amounts of
Infants with BPD/CLD are also more likely than normal children to develop additional acute respiratory problems, which may benefit from chest physiotherapy. EPIcure 1 provides us with data showing that 51% of infants born <25 weeks were oxygen dependant at term corrected age, and at 11 years old 56% of patients have abnormal lung function.

Although chest physiotherapy cannot help with maturing infant’s lungs, the common additional complications from which these infants suffer can respond very well to physiotherapy treatment. This can have huge implications on the short and long term health of the child and the financial implications of potential shortened stay in the NICU.

Chest Physiotherapy techniques are utilised to improve the respiratory function of the ventilated and extubated neonate, particularly when respiratory function is compromised by excessive secretions and mucus plugging.

It is vital that respiratory physiotherapy is utilised selectively and appropriately with a high standard of handling, positioning, pacing and supporting the baby to minimise stress and potential discomfort in line with development care guidelines.

As there is no current funding for respiratory physiotherapy services on (name of ward), the demand for chest physiotherapy is unable to be met. Historically, the referrals for chest physiotherapy had been very low from NNU, and as such had been absorbed into existing staffing levels. As the patient caseload changed, and the number of referrals increased, this became unsustainable. As the demands on paediatric physiotherapy rise in other areas the ability to work flexibly and cover the caseload on the Neonatal Unit diminishes.

Neuro-Developmental Physiotherapy:

As younger babies survive, we are seeing increased morbidity in longer term outcomes. An extremely premature infant’s brain is not designed to withstand the environment in which they find themselves, and secondary complications such as intra-ventricular haemorrhages and periventricular leukomalacia are common.

A large study of >810 children born at 25 week gestation or under has given us an alarming insight into the scope of this problem. At one year of age, 18% of these infants had developmental problems and 17% had specific neurological problems. At 30 months of age (2 ½ years), even more problems were apparent, with 51% of infants having a disability of some kind, with 22% classed as ‘severe’.

With early and timely physiotherapy assessment and treatment, these patients can start preventative therapeutic intervention immediately to address the problems associated with an immature nervous system. Any specific neuro-developmental problems highlighted can then also be addressed to
optimise the potential for recovery which has been demonstrated in young babies, in order to improve their functional outcomes in later childhood \(^{17, 18}\).

- There is currently no funded service to treat neuro-developmental infants within the neonatal unit. Urgent or severe cases are currently seen by the paediatric physiotherapy team, but are provided with assessments and advice only rather than the ongoing therapy they require.

- The Neuro-developmental follow up clinic from the NNU reviews vulnerable infants up to two years of age to monitor their developmental progress. This clinic has been historically been covered by (how and who) (or has not had any physiotherapy input)

- As many milder disabilities do not become evident until the child is older and ‘doing more’ \(^{15}\), it is imperative that physiotherapy continues to be (or should be) involved in Neuro-developmental follow up clinic to provide assessments, advice and referrals for infants in need. It is essential that developmental problems are picked up in a timely manner and not missed until the child starts school.

- Babies receiving specialist neonatal care have their health outcomes monitored \(^{23}\). This includes babies who had neonatal encephalopathy

**Description and proposed costs**

Give an outline of the service being proposed

E.g.” Neonatal Respiratory Physiotherapy Service” or “A screening service for treatment and referral to ongoing services of VLBW infants” (description of the group can come later)

State if this is a short term pilot, temporary or permanent post. This is normally set at the mid-point of the band you are proposing.

- **For example:**
  - “Previous benchmarking results from Ronan\(^ {19}\) considered the grades of staff working within the units. In 91% of NNUs the highest grade of staff was a band 7 or 8, to reflect the complexity and highly sub specialised skills that this work entails. Recently, the neonatal group of the Association of Paediatric Chartered Physiotherapists published a Competence Framework and Evidence Based Practice Guidance for physiotherapists working in Neonatal Units in the United Kingdom (2011)\(^ {20}\). The guidance states that:
    - ‘Neonatal physiotherapy is an advanced practice sub-speciality area within physiotherapy and the physiotherapist must possess advanced clinical competencies to manage vulnerable infants, with complex medical, physiological, and behavioural conditions, who may inadvertently be harmed through examination and intervention procedures.”
It is recommended that the neonatal physiotherapist has at least a Masters degree or appropriate professional experience to Masters level; Agenda for Change Bands 7 or 8 depending on the level of freedom to act autonomously and the knowledge, skill and experience required for the role.’

This underpins the requirements of physiotherapists within this area to have a highly complex set of skills for assessment, observation, intervention, evaluation and interpretation of findings for the extremely fragile preterm population in neonatal intensive care and intermediate care settings.

In response to the above information, a Band 7 physiotherapist is the minimum band appropriate to work within this role. This is in alignment with the British Association of Perinatal Medicine (BAPM) ‘Service standards for hospitals providing neonatal intensive and high dependency care’ which state that physiotherapists working within an NNU setting should be Band 7 or above.

Aim of the proposed post
Outline the aims of the proposed post/service

- E.g. To provide a safe and efficient evidence based respiratory service for the treatment of premature infants. This will involve setting up a comprehensive teaching and education framework for all staff on the neonatal unit to be safe and competent in this area of care.
- To establish clear guidelines and protocols in line with the evidence base for this group of infants, to ensure safe and effective treatment.

Benefits to patient care
Outline the perceived benefits
For example:
A screening service for treatment and referral to ongoing services of VLBW infants
- Identifies “at risk” infants
- Ensures timely referral to appropriate services
- Allows planning of appropriate intervention

- For example:
- To provide safe and efficient evidence based respiratory service for the treatment of premature infants
- To provide safe and effective means of managing clearance of secretions
- Provide short term improvements in ventilation, lung function and oxygenation
- Reduce the risk of complications associated with chest physiotherapy
- Improved competence of staff
- Improved confidence of parents
- Reduce number of complaints
Benefits to the Trust/ network

- Address Governance issues
- Align the service with National and International recommendations

Benefits for ongoing provision of care by Community Services

- For example:
  - Developmental Screening services:-
  - Will focus services for the ‘at-risk’ infant
  - Can initiate input in the neonatal unit to ensure seamless transition to community services
  - Can allay parental anxiety
  - Will align services with the National Service Framework and local guidance on standards of care (including the Neonatal Toolkit)

NB If you can tap into evidence, national guidance, benchmarking and safety/governance issues this will carry a lot of weighting.

Impact on other Relationships

This is a really good point to tease out especially if it directly impacts on the support and empowerment colleagues;
- Supports and educates nursing colleagues
- Trains appropriate personnel
- Sets up a framework to assess competency, increase confidence and prevent risk
- Results in a safe practice

Evidence for the project/post/service development

Reference your points with the highest level of evidence available. Refer to recently published national documents – some are listed at the end of the document
For example: Neonatal standards of care, National Guidelines and Trust Objectives:

The Department of Health’s ‘Toolkit for High Quality Neonatal Services’, October 2009\textsuperscript{22}, state that:

All units caring for babies requiring intensive care and providing a chest clearance service should have access to a paediatric respiratory physiotherapist with experience in assessing and treating premature and sick newborn babies

Specialist neonatal physiotherapy services should be available across a network an accessible to all units for neurodevelopmental assessment and intervention and follow-up after discharge

Staff competent in neurodevelopmental assessment are available to follow up babies identified as being at high risk of neurodevelopmental problems, including babies with a birth weight of less than 1,000g and/or born at less than 31 weeks gestation

This has been built upon by the British Association of Perinatal Medicine (BAPM) Service Standards for hospitals providing neonatal care\textsuperscript{21}, who in addition to the above outline the respiratory, dietetic, speech and language, neuro-developmental and orthopaedic roles expected from neonatal therapists. Unfortunately, no guidance is available for benchmarking numbers of staffing per cots.

Specialist Care Quality Neonatal Standards recently published by National Institute of Clinical Excellence (NICE)\textsuperscript{23} state that a multidisciplinary service including therapist support who are trained and competent in the care of neonates is available.

For example “this business case fits with two of the main Trust priorities as below:

Maintaining the highest standards of safety
  o Neonatal respiratory physiotherapy is not without risks, and these have been shown to be higher when a lot of chest clearance is carried out by nursing staff without the appropriate teaching, training and support. Appropriate physiotherapy provision would minimise these risks and ensure patient safety.

Achieving world-class clinical outcomes
  o High calibre clinical outcomes for preterm infants are not achievable without the appropriate staffing levels available.
Present locally gathered evidence/data and outline the need for the service or the consequences if the bid is refused or the post not funded

- **E.g Impact of Non Approval:**
  - “Therapy input into neonatal follow up clinics is a local quality improvement goal which the (name of hospital) is currently not achieving.
  - If this business case is not approved, the neonatal unit will continue to receive sub-optimal level of physiotherapy input for their vulnerable patients. By continuing in our current situation, we are not meeting the requirements of national standards of care, current government initiatives and Trust objectives.
  - By not enabling patients to have access to early neuro-developmental intervention (to include physiotherapy), their long term neurological outcome cannot be optimised in the early ‘window of opportunity’, which will in turn have longer term cost implications for the Trust as their disability evolves”.
  - See Appendix 1 for SWOT Analysis

**Other Points to consider**

Before you put the request together it is worth auditing current practice against the evidence/ local guidance.

If you need to carry out a pilot study to prove your case make sure your time frame is realistic and what you want to achieve is specific.

Consider bench marking with other units/ colleagues to see if there is a shortfall in quality of evidence based practice (see benchmarking article by Christa Ronan, APCP Journal 2012).

You can expand and emphasize certain points as required – this needs to be done taking into consideration the target audience. Remember, medical terminology/language is not necessarily understood by those reading the business case!

Please ensure you update the references as required.

Finally be very realistic about what you can provide if limited funding is available.

If you get two days worth, then the focus has to be around teaching i.e. train the trainer type approach or a screening service.

June 2013
References:

1. EPICure 1 Study, miscellaneous publications 2000-2008, (www.EPICure.ac.uk)
2. Kuriakose, S, 29th Nov 2007, ‘Preliminary data from the TRPG/SEND Two Year Neonatal Outcomes Programme’, Presented at the North East London Perinatal Network Annual Meeting (contact address for correspondence: 4th Floor, Imperial College London, Chelsea & Westminster Hospital, London SW10 9NH)
(Cochrane Review)’. The Cochrane Database of Systematic Reviews, 4:CD001814.


Other useful sources of information:

"Making the business case: It’s your business” – an information paper from the Chartered Society of Physiotherapy July 2012

Relevant evidence including Cochrane reviews are available www.evidence.nhs.uk

EPIcure 2 data www.epicure.ac.uk/publications

www.bliss.org.uk
Appendix 1  SWOT analyses for current and potential future service provision

a) Current therapy service provision:

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very urgent cases seen by all therapy disciplines (however only a limited service provided to these patients)</td>
<td>Minimal availability of physiotherapy, not adequate to meet the needs of the infants</td>
</tr>
<tr>
<td></td>
<td>Lack of specialist neonatal skills available in general paediatric therapy team</td>
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<tr>
<td></td>
<td>Patients receive sub optimal respiratory and developmental input</td>
</tr>
<tr>
<td></td>
<td>X NNU does not meet national guidelines and frameworks for therapy provision</td>
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<tr>
<td></td>
<td>X NNU falls behind comparative NNUs in terms of therapy provision</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Opportunities</th>
<th>Threats</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit business case allows us to state the need for more robust physiotherapy input and secure ongoing funding for a service</td>
<td>Therapy staff are stretched across all paediatric areas with high caseloads limiting ability to provide an unfunded service to NNU</td>
</tr>
<tr>
<td></td>
<td>Unfunded services (such as the NNU) are first to be prioritised out when caseloads rise in other areas</td>
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</table>

b) Potential future therapy service provision:

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>An adequate physiotherapy service will be provided to all infants which meets or partially serves to meet national guidelines and frameworks</td>
<td>Staffing levels (as stated in this business case) will still not fully address the provision required for an optimal service</td>
</tr>
<tr>
<td>Discharge will not be delayed by inadequate therapy input</td>
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<tr>
<td>Adequate staffing levels will allow physiotherapy input when it is appropriate for the patient rather than when there is a 'gap' between patients on other wards</td>
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<tr>
<td>Parental involvement and education will be improved by increased time available on the NNU</td>
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<tr>
<td>Improved patient and parental experience will be facilitated with enhanced seamless care between in and out patient services with therapy input into NNU follow up clinics</td>
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</tr>
<tr>
<td>Improved discharge planning for complex patients</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Opportunities</th>
<th>Threats</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased therapy staffing levels allow teaching of the MDT to allow greater 24hr therapy care of infants</td>
<td>Planned future unit expansion without securing further therapy funding will regress and dilute the service provided</td>
</tr>
<tr>
<td>Adequate therapy staff may allow the unit to become a source of expertise for other units within the neonatal network</td>
<td></td>
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</tbody>
</table>
EXAMPLE 1

1. All bids against Network funding must be completed using this pro-forma.
2. Bids for equipment must be accompanied with official quotes.
3. Bids to create new professional roles or increases in staffing must be accompanied by a job description, including accurate estimate of salary.
4. All bids to be sent electronically in the first instance followed by signed hard copies.

<table>
<thead>
<tr>
<th>Proposal completed by (names)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Signatures:</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name of Organisation</th>
<th>X Hospital NHS Trust</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Description and proposed cost of bid</th>
<th>Neonatal respiratory physiotherapy advice service</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.6 WTE Band 7 = £X + on-costs (X%) = £X</td>
<td>Non-pay expenses (incl. travel) = £X</td>
</tr>
<tr>
<td>Overheads = £X</td>
<td>Total cost = £X</td>
</tr>
</tbody>
</table>

This bid is for recurrent funding.

Outline of Proposal

1. **Aim**
   To provide expert advice and teaching on the assessment and physiotherapy management of newborn infants with respiratory problems in Level 2 and 3 Units in X.

2. **Benefit to the patient care**
   Direct benefits to patient care are:
   - Improved respiratory function of the ventilated and extubated neonate, particularly when respiratory function is compromised by excessive secretions and mucus plugging.
   - Respiratory physiotherapy will be provided on the basis of assessment and not as a matter of routine.
   - Reduction in untoward incidents due to poor technique and/or inappropriate frequency of physiotherapy.

3. **Benefit to the Network**
   Units will have appropriately trained staff working in accordance with agreed guidelines and protocols
   - Consistency in physiotherapy intervention across X
   - Joint working and shared guidelines and procedures
   - Addresses clinical governance issues

4. **Impact on partner relationships (e.g. maternity services)**
   None
Consequences if bid refused to:-

1. Organisation / patient care
   X years ago X staff were invited to carry out an audit of physiotherapy treatment in a neonatal unit. The subsequent report ‘Current Practice and Recommendations for Respiratory Physiotherapy on NNU’ highlighted areas of poor practice due to nursing staff carrying out physiotherapy techniques in which they had not been trained. The risk to patient care was significant and, indeed, questions had been raised about whether certain physiotherapy techniques (face mask percussion carried out without supporting the infant’s head) contributed towards the incidence of encephaloclastic porencephaly. Following the audit, all staff on the neonatal unit received on-going training and assessment in the appropriateness and application of physiotherapy techniques and this resulted in improved patient care and more evidence-based practice.

   It is highly likely that infants in other neonatal units in X are receiving physiotherapy given by nursing staff untrained in the technique. There is a significant risk to patient care. High staff turnover rates of 25% exacerbate the risk which is why this request is for recurrent funding.

2. Network
   Of the 4 neonatal units in X, only 1 unit has regular input from a respiratory physiotherapist, and that service is severely under-resourced. In the other 3 neonatal units, nursing staff carry out respiratory physiotherapy but have not been trained by a physiotherapist. This risk cannot continue to be ignored, but neither should the amount of time, effort and commitment to bring about change be under-estimated. X has the expertise and experience to manage this neonatal respiratory physiotherapy advice service.

Will the organisation accept:-

| 1. Maintenance responsibilities | Yes | (N/A) | No | (N/A) |
| 2. Replacement responsibilities | Yes | (N/A) | No | (N/A) |

Business proposal agreed by Senior Organisation Manager

Name:

e-mail address:

Signature:  

Date:

Does the proposal meet the strategic priorities identified by the Network Strategy Group? | Yes | √ | No |

1. If yes, how will this bid meet the overall service strategy set by the Network?

- Physiotherapy intervention will be provided by appropriately trained staff
- Access to specialist respiratory physiotherapy advice
| Addresses clinical governance issues and minimises risks to patients |
| Involvement in development of clinical guidelines and procedures |
| Promotes high standards of physiotherapy |
| Follows the principles of developmental care |
| Responsive to the needs of babies and families |
| Involves parents in development of information leaflets |

### 2. How would the effectiveness of this bid be measured/quality controlled?

| Numbers of nursing staff trained in physiotherapy assessment and intervention |
| Staff satisfaction with training |
| Production of guidelines for carrying out respiratory physiotherapy |
| Improved clinical practice which is evidence based (measured by clinical audit) |
| Reduction of untoward incidents during physiotherapy treatment |

**Business plan approved by Network Strategy Implementation sub-group:**

X Chief Executive ____________________________

X Clinical Lead ______________________________

X Network Manager ____________________________

**Business plan declined by Network Strategy Implementation sub-group:**

X Chief Executive ____________________________

X Clinical Lead ______________________________

X Network Manager ____________________________

**Reasons for decline:**
**EXAMPLE 2 Business case template (actual worked example)**

<table>
<thead>
<tr>
<th>1. Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1.1 Title of business case:</strong></td>
</tr>
<tr>
<td>Business case for the provision of Respiratory Physiotherapy on the Neonatal Unit X Hospital</td>
</tr>
<tr>
<td><strong>1.2 CAU:</strong></td>
</tr>
<tr>
<td>Paediatrics</td>
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<tr>
<td><strong>1.3 Job Title/Person responsible for delivering the business case:</strong></td>
</tr>
<tr>
<td>X</td>
</tr>
<tr>
<td><strong>1.4 Finance</strong></td>
</tr>
<tr>
<td><strong>Cost of Business Case:</strong></td>
</tr>
<tr>
<td>1 WTE Band 7 physiotherapist</td>
</tr>
<tr>
<td><strong>Proposed Funding Source:</strong></td>
</tr>
<tr>
<td>X Trust</td>
</tr>
<tr>
<td><strong>1.5 Executive summary:</strong></td>
</tr>
<tr>
<td>Currently, no specific funding exists for physiotherapy provision within the 32 cot Neonatal Unit at the X Hospital. Advances in medical care have meant that the neonatal population has changed, and as younger and smaller patients survive, the likelihood of respiratory and neurological sequelae increases. Consequently, more patients are now getting referred for chest physiotherapy, the demand for which cannot be met by existing staffing levels. This business case will discuss the need for a respiratory physiotherapist within the neonatal unit setting, in relation to neonatal standards of care, recent literature, government initiatives and Trust objectives.</td>
</tr>
<tr>
<td>This is a proposal for 1 WTE Band 7 Physiotherapist to cover the respiratory caseload on the unit. This would be required as a recurrent post, and the role that this physiotherapist would undertake is explained in detail in the full business case justification.</td>
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</tbody>
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<table>
<thead>
<tr>
<th>2. Priority Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2.1 Classification of Business Case</strong></td>
</tr>
<tr>
<td>Unavoidable cost pressure</td>
</tr>
<tr>
<td>Service Development</td>
</tr>
<tr>
<td>Initiative which requires pump priming to deliver efficiency savings</td>
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2.2 Reference to Trust Corporate Objectives

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<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>A</td>
<td>Achieve best value from our investments and resources</td>
<td>✓</td>
</tr>
<tr>
<td>B</td>
<td>Treat our patients on time every time and in the most appropriate setting</td>
<td>✓</td>
</tr>
<tr>
<td>C</td>
<td>Be the healthcare provider of choice for our local population</td>
<td>✓</td>
</tr>
<tr>
<td>D</td>
<td>Develop an efficient, skilled and adaptable workforce</td>
<td>✓</td>
</tr>
<tr>
<td>E</td>
<td>Achieve excellence in healthcare delivery, education and research</td>
<td>✓</td>
</tr>
</tbody>
</table>

2.3 Risk Rating

<p>| | |</p>
<table>
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<tbody>
<tr>
<td>Is the Business Case related to a risk currently recorded on the CAU’s / Trust’s risk register?</td>
<td>If yes, what is the Risk Rating score?</td>
</tr>
<tr>
<td>No</td>
<td>N/A</td>
</tr>
</tbody>
</table>

2.3 Impact of Non Approval:

If this business case is not approved, the neonatal unit will continue to receive a sub-optimal level of respiratory physiotherapy input for their vulnerable patients. By continuing in our current situation, we are not meeting the requirements of national standards of care, current government initiatives and Trust objectives.

By not giving adequate respiratory physiotherapy cover to the unit, length of stay and days on a ventilator may be increased. It has already been highlighted on a recent ‘lean’ event that patients are bottlenecking in the NICU/HDU phase of their neonatal stay, often due to respiratory complications. This could be aided by an effective chest physiotherapy service, with the improved financial and health implications that would result.

2.4 Other options considered:

**Training of nursing staff:** Nursing staff should be taught very basic chest physiotherapy techniques, but not to an expert level, which would have an implication for the quality of care delivered. As the nursing staff work on a 24 hour basis (some of which only do night shifts), physiotherapy would not be able to target all the staff for training. The NNU at the X Hospital has a large problem with recruitment and retention of nursing staff, meaning that this would need to be a rolling training programme. As a result this would require ongoing expert input from a physiotherapist— the demand for which cannot be met by existing staffing levels. By employing a permanent respiratory physiotherapist, the workload imposed on nursing staff would be reduced. Training of nursing staff is an unfeasible option in isolation, but will form part of the role of the proposed post.

2.5 Has the Business Case previously been proposed? If not approved why?

Yes, a joint business case for respiratory and neuro-developmental physiotherapy was submitted in X (year), however no feedback was received.
3. Activity Assumptions

3.1 If Business Case Activity Related – Activity Assumptions by HRG (information provided by Information Team):

By treating the patient’s respiratory problems promptly, the length of stay may be reduced. This would increase turnover and the number of patients seen. Improved care would also lessen the risk of long term neuro-developmental and respiratory complications and therefore the long term healthcare costs for the PCTs.

3.2 If Business Case Activity Related – How Does Projected Activity Relate to LDP?

4. Finance

4.1 Total revenue cost FYE
4.2 Capital Cost FYE
4.3 Capital Charges FYE

4.4 Proposed funding

Cost pressure funded by CAU savings
Cost pressure funded by Trust savings

Other source of funding (please specify): Possible to be incorporated in the NNU payroll.

4.5 Finance manager who has validated business case

5. Consultation

5.1 Will staff, patient and public consultation be required? No
Details (if relevant):
Justification for Business Case

Introduction and Background:

Neonatal care is an evolving service, with massive developments in the medical care of these children, meaning that children are being born younger and sicker and surviving (Epicure 1). As in other developed countries, the number of babies born with low birth weight is increasing, along with a rise in overall births per year. In 2005, 8% of live births were born preterm and one in 10 newborn babies required admission to a neonatal unit (Epicure 1, TRPG/SEND). Sophisticated medicine has now seen the survival rate for babies born at 25 weeks increase to 75% (Epicure 1).

The increasing survival that is demonstrated in nationwide research is reflected on the Neonatal Unit at the X Hospital. Data on the activity levels for the Intensive Care and High Dependency cots on X ward have showed that there has been an almost 30% rise in activity on the unit between 2005 and 2008, with occupied bed days rising from 3749 per year to 4760.

In this extremely premature state, these infants’ lungs are extremely immature and their physiology is only just compatible with life. These babies require long periods of respiratory support while their lungs mature.

Any patient who is ventilated for a long period of time is at high risk of respiratory complications (Greenough, 2003, Prasad, 1995). This can take the form of collapse or consolidation of part of the lungs, chest infections, pneumonia or excessive amounts of secretions. All of these problems can, at worst, be life threatening for a young vulnerable infant, and at best increase the time that they spend in NICU.

A long term consequence of extreme prematurity is Bronchopulmonary Dysplasia (BPD). This is where the lungs have been damaged as a direct result of not being mature enough, or as a secondary complication from needing a long period of time ventilated on high amounts of oxygen (Rozycki, 2002, Greenough, 2003). Infants with BPD are also more likely than normal children to develop additional acute respiratory problems.

Although chest physiotherapy cannot help with maturing infant’s lungs, the common additional complications (as described above) can respond very well to physiotherapy treatment (Bagley, 2005, Demont, 2007, Fenady, 2001, Hudson, 2003). This can have huge implications on the long term health of the child and the financial implications of potential shortened stay in the NICU.

As there is no current funding for Physiotherapy services on X Wards, the demand for chest physiotherapy is unable to be met. Historically, the referrals for chest physiotherapy had been very low from NNU, and as such had been absorbed into existing staffing levels. As the patient caseload changed, and therefore the number of referrals increased, this became unsustainable. In X a memorandum was issued to all consultants working on the unit. This set the background of the current problem and advised that very limited referrals would be accepted from this point onwards. Although this did succeed in reducing the number of referrals, it did compromise patient care as many patients that were appropriate to be seen were no longer eligible for the service. Despite these criteria, the number of referrals has continued to rise, and even working within this guidance we are once again struggling to meet the demand.
Benchmarking and staffing calculations:

The following table shows a comparison between critical care areas within the X Hospital:

<table>
<thead>
<tr>
<th>Clinical Area</th>
<th>No. Beds/Cots (ITU +HDU)</th>
<th>No. of WTE Physiotherapists</th>
</tr>
</thead>
<tbody>
<tr>
<td>NNU: IC and HDU cots</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PICU</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AICU</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

This demonstrates that the neonatal unit is significantly falling behind other critical care areas with respect to the respiratory physiotherapy service that can be offered to its infants.

The ‘Allied Health Professionals (AHP) and Healthcare Scientists (HCS) Critical Care Staffing Guidance’ gives detailed information for working out respiratory physiotherapy staffing within critical care areas. This is based on the assumption that 1WTE physiotherapist will be available for 1058 patient contact hours per year once all leave has been subtracted.

November 2008 was the month prior to withdrawal of some respiratory physiotherapy services to the NNU. This should therefore provide a basis for the number of referrals and treatments carried out. During this month an average of 45 respiratory treatments per week were carried out within the NNU (numbers per week over a four week period: 70, 40, 31, 39). Even working within our new referral criteria, the physiotherapists have carried out 37 treatments in the first week of August 2009 (one week audit prior to writing of business case). Additional appropriate referrals in addition to these patients have been refused due to staffing and lack of funding.

The following is a calculation of respiratory physiotherapy staffing levels on NICU/HDU using November 2008 statistics and the AHP Critical Care Staffing Guidance:

- Average treatment length is 30 mins: 45 x 30mins = 22.5 hours per week
  = 1170 hours per year
- = 1.1WTE physiotherapist based on the assumption of the guidance that one physiotherapist is available for 1058 patient contact hours.
- = 1 WTE for the business case

This is likely to be an underestimate of the staffing requirements, as the consultants are aware that staffing is limited, and many more patients would be referred if physiotherapy was readily available.

A survey of the chest X-rays of inpatients on the NNU was carried out on 10th August 2009. This showed that 8 patients had acute CXR changes (5 Right UL, 1 Right UL/ML, 1 Left UL, 1 bi-basal atelectasis). These patients may benefit from chest physiotherapy, and shows that the figures above are an underestimate of the need as treating all of these patients adequately would far exceed 45 treatments a week. If these patients were seen twice a day, this would equate to 112 treatments per week, which is beyond the scope of 1WTE physiotherapist. As part of this role, the physiotherapist would therefore also initiate a comprehensive training programme for nursing staff in respiratory assessments and treatments. This would improve the general level of 24hour patient care on the unit, and allow the nursing staff to continue with effective chest clearance.
Should the physiotherapist have any additional time during quiet periods, neuro-developmental assessments and treatments could be carried out.

In a recent benchmarking project, 77% of physiotherapists working with Neonatal units were a band 7 or higher. The units that had a band 6 physiotherapist employed them as part of a team which also included a higher grade of staff for supervision and training. If the NU at the X is to employ only one WTE physiotherapist, this should therefore be at a senior grade of at least a Band 7.

**Neonatal standards of care, National Guidelines and Trust Objectives:**

The British Association of Perinatal Medicine Guidelines (BAPM, 2001) state that Neonatal units must have adequate access to physiotherapists with specialist neonatal experience in order to support the needs of sick newborn infants and their parents. In the draft version of their 3rd Edition (expected to be published 2009), they have now expanded this specification to say that ‘All units caring for babies requiring intensive care and providing a chest clearance service should have access to a paediatric respiratory physiotherapist with experience in assessing and treating premature and newborn babies’ (BAPM Draft Guidelines, 2009).

‘The Neonatal Taskforce’ was set up in February 2008 as a result of a report by the National Audit Office Called ‘Caring for Vulnerable Babies: The reorganisation of neonatal services in England’. One of the criticisms of current neonatal care was the staffing levels and mix. The Neonatal Taskforce has now produced a draft version of Standards for neonatal care, which again states the need for a respiratory physiotherapist. The consultation period for this has ended, and the final standards are expected to be released imminently. This standard will not be being met within the NNU at X Hospital.

Professor Lord Darzi’s consultation document ‘Healthcare for London’ aimed to identify service developments that have the potential to improve pathways. In the ‘Healthcare for London Neonatal Research Project Interim report’ (May 2009), the above sentiment is again echoed, stating that a respiratory physiotherapist is a vital part of the staffing mix on a Neonatal unit.

A press release in August 2009 also states that Neonatal care is one of the next four clinical areas for which NICE guidelines will be developed. Undoubtedly, this will include recommendation on the need for respiratory Physiotherapy.

This business case fits into many of the current Trust goals, as below:

- **The patient’s choice** – Benchmarking has identified other NHS Trusts across X have comprehensive MDT services to their NNU, highlighting an inequality in access to neonatal care within the London area.
- **Speeding access to new cures and treatments** – By allowing early intervention of these children, treatments are received in a more timely way. By employing specialist physiotherapy staff they will be able to keep up to date with the most recent evidence based practice to provide high quality care.
- **Fast and easy access** – Allowing adequate physiotherapy cover to the NNU would give access to these services for all appropriate patients, in the most appropriate area.
- **Model employer** – By having the scope to train staff on the unit this post would be promoting staff development, continuing professional development and helping to meet the KSF needs of the wider team.
Making the most of every pound we spend – By implementing respiratory physiotherapy input, number of ventilator days and length of stay should be reduced, saving money for the Trust.

In addition to these goals, the five year ‘pathfinder strategy’ for the Trust outlines patient experience, clinical quality and efficiency as the core areas working in partnership to achieve excellence. This proposed project would address each of these three areas.

As a level three perinatal centre we should have the resources to be able to provide expert advice to other hospitals within our network. Having a physiotherapist within the team would allow us to be able to fill this advisory role.

Summary:

The X Hospital has a large NNU, currently providing secondary and tertiary level care for 25 medical cots and 7 surgical cots. The Private Finance Initiative for the X Hospital new build reflects the demand for neonatal services on this site by increasing this number dramatically to 44 cots plus 2 isolation cots. With the move towards centralisation of services in networks led by a tertiary centre, the smallest and sickest babies with the most risk of a poor outcome are seen in specialist tertiary centres, such as the X. It is therefore our responsibility to respond to our own changing patient group with adequate physiotherapy staff, and to lead the way for neonatal services within our network.

This business case has discussed the need for a respiratory physiotherapist, calculated staffing levels required and demonstrated how we are not meeting national guidelines, as well as comparing the cost of the post against potential cost savings.

Should this business case be accepted, the post will be established in time for neonatal services to move over to the establishment of a world class children’s hospital.

This business case has the full support of both the Matron and the medical team within X NNU.

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