## 1. Population Needs

### 1.1 National/local context and evidence base

**Evidence base**

The 1995 Maher report states that there is no treatment that will reverse or change the natural history of Radiation Induced Axillary Tunnel Damage (RIATD) and that treatment for this condition should be “a collaborative multi-disciplinary approach” aimed at “optimising symptom control and function to maintain as good a quality of life as possible”. This team of healthcare professionals should:

- address the problems of chronic pain;
- improve function in daily living tasks;
- provide psychological support;
- inform and empower the patient to self-manage their symptoms where possible;
- have experts who can manage the secondary problems of radiation damage such as respiratory problems and osteoporosis.

Published evidence for the effectiveness of such an approach is lacking in this rare condition. This is compounded by the fact that the symptoms do not exist in isolation but are part of a complex interaction of inter-related problems. This means that published evidence for treatments that are effective for one isolated problem, may not necessarily be relevant in the context of multiple symptomatology.
There are international neuropathic pain guidelines (diagnosis and classification of neuropathic pain. Pain Clinical Updates. International Association for the Study of Pain (IASP) 2010; XV111(7):1-6) which would inform treatment approaches for the pharmacological management of the pain experienced in RI ATD but in someone with chronic pain, multiple behavioural changes also play a significant part so published efficacy data may not hold true in this population.

The Royal National Hospital for Rheumatic Diseases (RNHRD) Pain Services has published outcome data demonstrating the effectiveness of their approaches in the management of chronic pain in a wide range of conditions. These have been shown to reduce emotional distress, pain, medication use, disability and healthcare utilization (Vowles K, McCracken L. Acceptance and values-based action in chronic pain: a study of treatment effectiveness and process. Journal of Consulting and Clinical Psychology 2008;76(3):397-407). The same principles of treatment were successfully applied in the RNHRD pilot clinics and appeared to give benefits in the short-term.

Occupational and physiotherapy approaches are similarly based on published best practice, where available (Occupational Therapy in Oncology and Palliative Care. Cooper J (ed).,Whurr Publishers Ltd: London1997; Exercise and chronic disease, An evidence based approach. Saxton J (ed). Routledge 2011; Birkholtz. M et al. Activity pacing in chronic pain management: one aim, but which method? British Journal of Occupational Therapy, 2004; 67 (11):481-487). However, because this patient group have not accessed such services in the past, there is no knowledge of the long-term efficacy of these treatments in this particular condition.

It is well-recognised that the evaluation of complex interventions is a methodological challenge with a wide range of factors potentially influencing outcome data (Campbell et al. Framework for design and evaluation of complex interventions to improve health. British Medical Journal (BMJ) 2000; 321 (16):694-696; Developing and evaluating complex interventions: new guidance Medical Research Council (MRC) 2008). It is precisely because of these challenges and the lack of a cohesive approach to care in the past that the evidence base for effective treatments is so lacking in RI ATD. However, it is exactly this type of evaluation, as detailed in the MRC guidance, which is required for this multi-disciplinary service.

The proposed service model provides an opportunity to address the above problems so that an evidence base can start to be generated that will inform current and future care of patients who have complex rehabilitation needs within the cancer setting.

Two pilot services have run in recent years (Macmillan and RNHRD) that have adhered to the model set out in the Maher guidance document. These very short-term interventions were evaluated on primarily qualitative data though three month quantitative follow-up data from the RNHRD is due later this year. Patients provided strong positive feedback on their satisfaction with the service structure and their perception of the treatments received meeting their unique set of needs.
1. **Multi-disciplinary team (MDT) Assessment/care planning**: A 2008/09 Late Effect Pilot project was conducted by Macmillan Cancer Care UK in partnership with the National Cancer Action Team and Radiotherapy Action Group Exposure (RAGE). The aim of the pilot was:

- to explore how best to deliver effective integrated approaches to care for people living with the long-term effects of radiotherapy treatment for breast cancer;
- to test the efficacy of telephone triage and the short-term benefits of a single MDT assessment /care planning appointment.

The pilot demonstrated:

- telephone triage could effectively identify the needs of the patient;
- assessment and care planning can take place effectively at regional centres;
- direct referrals from specialist clinics are the most effective way to initiate local services and support;
- those experiencing extreme pain reduced by 14% post-intervention.

2. **Two day residential programme** was piloted in 2011, RNHRD:

- qualitative and quantitative data have been collected on 29 patients at baseline and on completion of the two-day residential programme; three month follow-up data is currently being collected;
- questionnaires covered patients’ physical and mental wellbeing, use of healthcare resources and personal evaluation of the service they experienced;
- patients’ written feedback on the experience of these clinics in general has been overwhelmingly positive with patients appreciating a tailored service that met their specific healthcare needs and the ability to talk to clinicians who understood their problems.

Although the long-term outcome of the three month data has not been reviewed to date, the two day service had been reported to have an immediate and profound impact for many of the women treated.

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**2. Scope**

**2.1 Aims and objectives of service**

The overall aim of the service is to provide the highest quality of assessment and rehabilitation for women and men with Radiation Induced Axillary Tunnel Damage following treatment for breast cancer and subsequent late effects from this condition. The service will enable people affected, to minimise the impact of this condition on their lives and optimise function and quality of life.

The nationally commissioned service will be provided by the Royal National Hospital for Rheumatic Diseases (RNHRD), Royal United Hospital, Bath (designated hub...
service) in conjunction with Oncology Centres at Barts Health, London, and The Christie NHS Foundation Trust, Manchester, as satellite units, to deliver specialised assessment and planning across England with the option of access to highly specialist, individualised rehabilitation as required. The designated hub at RNHRD will have oncology support from Royal United Hospital, Bath.

Specifically the Breast Radiotherapy Injury Rehabilitation Service for highly complex late effects aims to:

- optimise clinical outcomes and deliver appropriate care for this population across a wide geographical spread;
- monitor the long term surveillance following definitive treatment;
- bring together a highly specialised multi-disciplinary team who have a clear understanding of the healthcare needs associated with this rare condition;
- expand clinical expertise that will generate new knowledge of the course, cause and treatment of this condition and the symptoms that arise from it in order to inform future cancer care.

Objectives:

- to provide a comprehensive specialist rehabilitation service for the management of men and women with severe, chronic and complex conditions arising from radiation-induced injuries (RI ATD) following breast cancer treatment;
- to provide comprehensive assessment of the complex needs, management planning and long-term rehabilitation support, including specialist and highly specialist intensive therapies, for individuals with this very rare condition;
- to build a knowledge base about this rare condition in order to optimise clinical outcomes for this patient group and potentially, other late effects conditions in the cancer community;
- to improve function and quality of life in this population and gain greater knowledge of how to optimise function and quality of life in the future;
- to provide expert management of patients with confirmed RI ATD through the use of the most up-to-date clinical protocols and rehabilitation management;
- to provide clinically appropriate consideration and provision of rehabilitation within the RI ATD patient pathway;
- to effectively monitor patients to ensure optimal functioning for the patient with regards to their RI ATD;
- to operate a rolling programme of clinical audit to test current practice and inform the evolution of care in RI ATD;
- to provide care with a patient centred focus to maximise the patient experience of care within the nationally designated providers;
- to be seen as the leading clinical services and a source of expert advice for the diagnosis and management of RI ATD within the NHS;
- to educate and support local healthcare providers to identify and manage patients with RI ATD whenever it is clinically appropriate and safe to do so;
- to provide high quality information for patients, families and carers in appropriate and accessible formats and mediums;
• to develop the experience, knowledge and skills of the MDT to ensure high quality sustainable provision.

2.2 Service description/care pathway

The RNHRD will be the lead hub centre accepting clinical responsibility for the national caseload and be responsible for continuous monitoring of risk and governance to ensure that clinical treatment is safe and effective across all centres.

Activity will be sub-contracted to satellite units in Barts Health NHS Trust and the Christie NHS Foundation Trust, with MDT assessment and treatment conducted across the hub and satellite units; highly specialist inpatient rehabilitation will only be offered at the designated hub based at RNHRD.

The oncology expertise of Barts and the Christie will ensure this service is embedded within the Cancer Networks and that knowledge gained from this service will inform future cancer care. The designated hub and satellite units will work closely with healthcare colleagues at the local, regional and national level to ensure these populations’ needs are met at the routine to highly specialist levels.

The MDT will consist of clinical oncologists, nursing and therapy specialists, respiratory physicians, dermatologists, rheumatologists, psychologists and social services advice and support. The lead clinical team based at Bath will provide profession specific training and on-going professional support in rehabilitation assessment and therapeutic techniques across the service. Each patient will receive specialist assessment and tailored management plans with the option of access to highly specialist, individualised residential rehabilitation at the RNHRD as required. On completion of the care pathway patients will be discharged back to local services with an option of self or medical re-referral as required. It is envisaged that the majority of on-going care will be provided within local services and that the highly specialised service will only be re-accessed when specialist or highly specialist care is required which is not available within local teams. This highly specialised service is provided for the lifetime of this cohort of patients and can be accessed as required throughout their life span.

Caseload:
• the expected national caseload is approximately 250 individuals, with 80-85 patients assessed and treated in each centre;
• it is expected that 8 clinics per centre (total of 24 clinics) will run per year with 7-8 new patients seen in each clinic;
• all new patients that were part of the national pilot clinics will have been seen within the first two years. Additional new referrals will be accepted into the service during and beyond this time.
**Training of local healthcare professionals** – The provider will closely liaise with, and provide education of local healthcare teams in order for the service to make a long-term positive impact on the health and quality of life of this client group. Educational workshops are to be run by the designated hub and satellite units to enable community practitioners to recognise the symptoms of breast cancer late effects, follow advice from the specialists at the three centres in order to implement the patient management plans, and know what symptoms or concerns would warrant referral back to the service.

**Details of service model**
This service model provides individualised assessment and treatment that is tailored to each person’s particular needs and focused on their key priorities. Each patient will follow the pathway of care detailed below:

1. **Referral to the service.** Referrals will be accepted from patients, GP’s, secondary care consultants or other appropriate health care professionals. A new referral from a patient will be validated against GP held healthcare records to ensure they meet the inclusion criteria of the service. All new referrals will be directed to the RNHRD, Bath.

2. **Clinical nurse specialist telephone triage.** Approximately 190 x1 hour consultations. New referral rate in the current pilot programmes suggests 5-6 per week. This may need to be revised if referral rate is higher than anticipated or patients’ needs change.

   This hour-long assessment details previous and current medical problems with the completed document available to all clinicians on the MDT Assessment day; this enables the appointment to be focused effectively on the patients’ current medical problems. Potential outcomes include:
   - referral back to local services as not eligible for the programme;
   - referral back to local services as current health needs already being met or can be met by referral to relevant local service/s
   - progression to MDT Assessment day at one of the three centres (patients may choose either the centre closest to them or the next available clinic across the three centres) and appointments made with clinicians relevant to current health needs
   - progression to 2-day residential programme (one overnight stay if required) to include MDT Assessment day and one day Late Effects Therapy Group Rehabilitation Programme. Again, patients may choose either the centre closest to them or the next available programme.

3. **MDT assessment day** Highly specialist care provided as a ‘one stop shop’. Twenty four clinics divided across the three centres over two years with a maximum of eight patients per clinic is deemed sufficient to cover the anticipated caseload. This figure may need to be revised for recurring years subject to actual number of referrals and patient need.

Patients attend multiple appointments throughout the day as determined by the
triage assessment. Crucially, each appointment includes an educational component to help understanding of current symptoms, past experiences and on-going self-management:

- **Pain physician and consultant nurse in pain.** Current pain history taken, including extent, intensity of pain and interference in daily activities. Review of previous pharma- and non-pharmacological interventions. The population in the pilot clinics had been offered/tried remarkably few neuropathic pain medications. Recommendations made to GP for changes in prescription. Assessment of sensory and motor impairments due to pain and advice given on techniques to improve sensory perception and the use of novel interventions to enhance sensory and motor integration for the relief of pain. In particular, stress the importance of retaining any residual function in an affected limb and how to optimise this function to limit or reduce pain.

- **Oncology** History of previous interventions for breast cancer and duration and intensity of radiotherapy dose obtained. Examination of affected site and history taken of any current concerns. Time to talk about previous experience and reassurance, advice and referral to local services as required.

- **Respiratory physician** Review of respiratory symptoms, examination of the patient and consideration of lung function results, chest x-rays and scans which maybe sent by the GP. Based on these findings a more detailed respiratory assessment maybe requested or referral via GP to a chest physiotherapist or pulmonary rehabilitation programme in the patient’s local area.

- **Psychology** Patients are able to speak openly and in confidence about the impact of late effects on their quality of life and the quality of their relationships with others. Commonly their lives have become constricted and contracted as a result of the disabilities they have been left with. Time to take stock of what they have been through and an opportunity to recognise their achievements as well as consider their options for improving their current situation. Assessment of mood to establish if treatment is required for anxiety and depression.

- **Rheumatology** Assessment of osteoporosis and fracture risk through enquiry about relevant risk factors and referral for additional tests via GP as required. Many of these patients have more widespread musculoskeletal problems due to altered gait and posture from an immobile limb and age related decline. Recommendation for pharmacological interventions and general musculoskeletal examination as required.

- **Occupational and physiotherapy** Assess the impact of late effects and secondary problems on movement and function in everyday life. Advice given regarding posture, exercise, mobility, sleeps and pain management. Specific advice may be given for exercise for osteoporosis or managing breathlessness. Brief assessment of hand function and introduction to aids and adaptive equipment. Education on dressing techniques and other activities of daily living, as required. Consideration of home environment and referral to Social Services local Occupational Therapy if adaptations are recommended. More detailed advice on sensory discrimination techniques as required from earlier pain assessment. Referrals to external agencies- such as Social Services OT, Physiotherapy or more intensive hand therapy advice if identified.
• **Lymphoedema specialist nurse.** Provides education and guidance on optimal management of gross lymphoedema in the context of these specific radiotherapy late effects. It is this latter aspect, of condition specific education, that many patients will not have received within any previous routine local care. Referral, via the GP, to local lymphoedema services as required.

• **Social assessment.** At triage, the nurse will investigate any current social care needs and benefit entitlements. Advice will be given accordingly and along with on-going advice and support as required to ensure local services meet identified needs.

The rarity and complexity of this condition means that the service requires staff with highly specialist clinical expertise to meet the needs of this client group. This service will operate under a named clinician basis (as oppose to generic, rotational personnel) to ensure the service is delivered by staff whom are sufficiently qualified to meet the objectives and expected outcomes outlined in this service specification.

4. **Individualised management plan** A written summary of the outcome of each of the clinical assessments will be sent to the patient, their GP and a copy to the patient’s closest geographical centre if a different centre attended, along with advice and guidance on continuing self-management and follow-up interventions.

5. **Late Effects Therapy Group Rehabilitation (1 day) programme** Twenty four clinics divided across the three centres over a two-year period with a maximum of eight patients per programme is deemed sufficient to cover the anticipated caseload. This figure may need to be revised for recurring years subject to actual number of referrals and patient need.

Although these are delivered as group sessions, the small size of the group enables tailoring of the sessions to meet particular group members’ needs as informed by the previous day’s assessments. Group treatment is a cost effective intervention but also provides participants with contact with others who have struggled in similar ways, with similar symptoms and thus reduces isolation and increases effectiveness of treatment. The programme consists of the following sessions:

• **Therapy session (Occupational Therapist (OT) and Physiotherapy (PT))** Understand how to approach exercise, avoid the deconditioning cycle and how to improve posture in the context of late effects and chronic pain. Consider what activity means to each individual and mind-map the activity domains of leisure, productivity and self-care. Introduction to an activity diary to help fatigue management. Example of aids and equipment provided and ways to access these via catalogues and websites. Practice a gentle seated exercise programme to maintain neck, upper body and arm movement. Understand how muscle tension and stress exacerbate pain and rehearse a diaphragmatic breathing relaxation technique and visualisation script.

• **Clinical psychology** Focuses on evidence-based goal-setting methods that include making specific goals, identifying steps to take, and recognising barriers to goal pursuit, planning methods to deal with barriers, and using public commitments. The chronicity of pain and other symptoms has commonly led
patients to be fearful of change or even open to the concept that they could change. The session also briefly addresses psychological barriers to goals-based action, including emotional avoidance and entanglement with thoughts and judgements. The session includes experiential exercises designed to increase processes of acceptance and mindfulness.

- **Question and answer session with the oncologist** This includes education on current treatment for breast cancer and lessons learned from the past. This session allows patients to share experiences and vent feelings of frustration about previous care but also provide reassurance that treatments have changed.

- **Review of the two-day experience as a group** This is an opportunity to ask further questions, share stories and consider how the information gained and skills learnt will be implemented in the future.

6. **Three month telephone follow-up by local centre clinical nurse specialist** 60-70 patient calls per centre over the first two years plus an extra 50-60 calls at the RNHRD in the first three months for those patients seen in the 2010/11 pilot clinics who had no follow-up.

All patients who attend the MDT Assessment day will be contacted by telephone by their centre specific specialist nurse. The aims of this call are to check on the patient’s progress as regards implementation of suggested self-management strategies and to verify if the care plans have been actioned by primary care services. Any problems with this will be followed-up and local services contacted as required.

7. **Individualised 1-2 week inpatient rehabilitation at the RNHRD** It is anticipated 5-10% (n= 20-25) of the population who access the service may require this in the first year based on our pilot clinics where 3/29 patients would have benefited from this care. However, this is an elderly population and over time it is expected their need for more individualised inpatient care to increase (Y2= 30-35, Y3=35-40).

A potential outcome after the MDT assessment day is referral of a patient for more intensive, individualised rehabilitation. The criteria for this treatment are

- a patient has highly complex rehabilitation needs AND
- these cannot be met as a routine outpatient either in terms of lack of sufficient expertise at the local level or poor health that inhibits travel to receive therapy on a daily basis
- clinical opinion that significant health gains in terms of physical function and/or speed of rehabilitation could be achieved by daily, intensive treatments greater than those from an outpatient course of routine local care (usually therapy one day per week for six weeks).

This in-patient package of care has been informed by existing chronic pain rehabilitation programmes that run at the RNHRD but has been tailored for the specific needs of this patient group. It is likely to comprise individualised land based physiotherapy, hydrotherapy, occupational therapy and psychological therapy (individual and/or group). The programme will be tailored to meet each patient’s
particular needs. It is not possible to provide this highly specialised care at all three centres but it is routine practice for the RNHRD to admit patients from across the UK to access these types of treatments. Specialist transport will be considered as required and the options for provision of this explored.

8. Discharge back to local services with centre telephone advice line support
The service will not provide continuous routine follow-up care as this should be covered within local services. However, this patient group have highly complex healthcare needs and it is recognised that these may increase as the population ages so access to specialist and highly specialist services will be required for the duration of this cohort’s life-span.

A clinical nurse specialist-led telephone advice line will be run by the designate hub and satellite units for patients, or their GPs to contact if new healthcare problems arise or advice from the national service is required. Via this line, patients can be referred back to see specific clinicians within the national service or for a period of individualised in-patient rehabilitation at the RNHRD.

9. Re-referral back to service
It is assumed that a re-referral rate of only 10-15% across the total population of 250 (n=30) in the first year as many patients will be going through the new assessment process at this stage. However, in later years an increase in numbers (Y2 = 55, Y3 = 75) is assumed to account for an expected decline in general health in this ageing group. These figures may need to be revised for recurring years subject to actual number of referrals and patient need.

Risk management
Care delivered by the RI ATD service provider must be of a nature and quality to meet the care standards, specification and agreement for the service. It is the trust’s responsibility to notify the commissioner on an exceptional basis should there be any breaches of the care standards. Where there are breaches any consequences will be deemed as being the trust’s responsibility.

Patients must be managed in line with the specification and care standards. Any deviation from these that has not been approved by NHS England is at the trust’s risk both clinically and financially. It is the trust’s responsibility to inform the commissioners of any such non-approved deviations on an exceptional basis.

Discharge Planning: criteria for discharge from national service:
- no further investigation required;
- no adverse outcomes anticipated;
- clinically appropriate arrangements for local care and RI ATD service follow-up have been discussed and agreed by all relevant parties;
- parents/carers have demonstrated competence in any care they will be required to provide in relation to RI ATD;
- patients/carers understand and have the necessary information to contact their
All discharge planning will be managed by the clinical lead that are in charge of the case at the centre the patient last attended (RNHRD, Christie or Barts) with local health and social care providers being fully informed of the patient’s care plan and any responsibilities they will have to assume. This will be formalised in written communication to the patient’s GP and all other relevant parties.

The clinics will operate in standard office hours Monday to Friday 0900 – 1700 hours for secondary care services.

The residential in-patient rehabilitation provided in Bath will operate 24 hours a day, seven days a week.

2.3 Population covered

This service covers patients registered with a General Practitioner in England and those residents in the European Union who are eligible for treatment in the NHS under reciprocal arrangements. Patients from Scotland, Wales and Northern Ireland are not part of this commissioned service and the trust must have separate arrangements in place.

2.4 Any acceptance and exclusion criteria

All referrals to be sent to the national provider and they will be accepted from patients, GP or secondary care specialists where patients meet the inclusion criteria. A new referral from a patient will be validated against GP held healthcare records to ensure they meet the inclusion criteria of the service. Previous and current medical records (including list of current medications) will be requested from the individuals GP and should be sent at the time of referral with any relevant imaging data.

Inclusion criteria: Axillary tunnel damage following radiotherapy for breast cancer.

All referrals that meet the inclusion criteria will go through the telephone triage process. See Section 2 for details of this process and potential outcomes. These outcomes may be influenced by the ability of the patient to travel from home and their specific health needs at the time of the consultation. Every effort will be made to engage primary care services to meet the patient’s needs if they are not able to proceed down the pathway of care outlined in this specification.

Exclusion criteria: Axillary tunnel damage or brachial plexus nerve damage due to other causes (e.g. trauma, surgery, re-occurrence of malignancy) as confirmed by oncology review, Electromyography (EMG) and magnetic resonance imaging (MRI) / positron emission tomography (PET) as required.

Response time & detail and prioritisation
The national service is required to begin the assessment process within 18 weeks of referral.

**Accessibility/acceptability**

The service is accessible to all patients with a suspected RI ATD regardless of sex, race, or gender. The provider is required to ensure that all staff attends mandatory training on equality and diversity and the facilities provided offer appropriate disabled access for patients, family and carers. When required the providers will use translators and ensure printed information is available in multiple languages.

The provider has a duty to co-operate with the commissioner in undertaking Equality Impact Assessments as a requirement of race, gender, sexual orientation, religion and disability equality legislation.

### 2.5 Interdependencies with other services

The national service providers are the leaders in the NHS for patient care in this area. They provide a direct source of advice and support when other clinicians and oncology services refer patients into the service. This support will continue until the patient is transferred into the nationally designated provider or it becomes apparent that the patient does not have RI ATD.

The nationally designated provider will also provide education within the NHS to raise and maintain awareness of RI ATD and its management.

The national provider will form a relationship with local health and social care providers to help optimise any care for RI ATD provided locally for the patient. This may include liaison with consultants, GPs, community nurses or social workers etc.

### 3. Applicable Service Standards

#### 3.1 Applicable national standards e.g. NICE, Royal College

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The nationally designated provider will also provide education within the NHS to raise and maintain awareness of RI ATD and its management.

The national provider will form a relationship with local health and social care providers to help optimise any care for RI ATD provided locally for the patient. This
may include liaison with consultants, GPs, community nurses or social workers etc.

The nationally designated RI ATD provider must be fully integrated into their trust’s corporate and clinical governance arrangements.

There is an expectation that practitioners will participate in continuous professional development and networking. The designated centre will be responsible for the training and clinical competency of the clinical teams covered in the sub-contract arrangements.

4. Key Service Outcomes

Outcomes

- improvement in pain management;
- improvement in daily function;
- improvement in Quality of Life.

Outcome Measurement Tools:

- The Brief Pain Inventory for the impact and severity of pain;
- Acceptance and Action Questionnaire (AAQ-II) to assess mental health and behavioural effectiveness;
- Upper Extremity Functional Index to evaluate limb function;
- Short-Form Health Questionnaire to measure quality of life;
- Patient Health Questionnaire (PHQ-9) to assess for depression;
- current medication and use of healthcare resources to provide simple health economics data;
- MYCAW (Measure Yourself Concerns and Wellbeing) to evaluate changes in patient specific concerns;
- post treatment ratings to capture generic feedback on change over time and the impact of the clinical intervention.

Data will be collected at baseline (post-triage), immediately post-intervention, three months and one-year follow-up.

The above will be complemented by qualitative data collection tools used to evaluate the patients’ experience of the MDT Assessment day and one-day Therapy Group Rehabilitation programme. Patients will also participate in the national out-patient and in-patient surveys.

Governance and quality standards

As the lead centre for the national caseload, it will be the responsibility of the RNHRD to ensure all centres are compliant with governance and quality standards. This will be achieved via:
• Service Level Agreements between the Commissioner (the RNHRD) and the two providers (the Christie NHS Foundation Trust and Barts Health NHS Trust)
• The providers being responsible for governance and quality standards are met as defined by their own internal systems and the commissioner will monitor quality and performance across the service via:
  - annual audits across the service;
  - regular case conferences to discuss individual cases to share best practice and ensure there is a uniformity of practice across the three centre;
  - excellent communication between the three centres facilitated by teleconferences, face to face meetings and email as required/appropriate;
  - cross centre staff training to ensure quality, patient safety and clinical excellence are replicated and maintained at a high level at each centre;
  - in order that standards are maintained, staff will have regular supervision that will be both uni and interdisciplinary;
  - adherence to profession specific standards is a requirement for all staff employed within the NHS and will be monitored via annual appraisal and profession specific clinical leads;
  - recruitment into specialty posts will be defined via job description and person specification that require evidence of experience, skills and knowledge over and above general professional skills;
  - the RNHRD will provide education and training in complex rehabilitation from amongst the specialist team, using experience from the management of other complex conditions such as complex regional pain syndrome (CRPS) and chronic pain to inform the treatment approach;
  - teams from the two oncology centres will provide reciprocal education and training from their respective specialists;
  - there will be provision within the lead service team (RNHRD) to collect and analyse outcome data. This will be used to inform the treatment approach and to identify areas that require additional focus.

Patient satisfaction data will likewise be used to inform areas that may require education and training, or where best practice can be implemented across all three centres.

A general manager will be employed to take operational responsibility for the management and delivery of the service and, under the direction of the director of governance, ensure compliance with quality and governance standards across the three centres. This manager will report directly to the service lead and to NHS England, as appropriate.

5. Location of Provider Premises

The service is delivered across England by one designated centre that provides
cover across all regions in England for the national caseload. Designated service will provide clinics based at:
- The Royal National Hospital for Rheumatic Diseases NHS Foundation Trust, Bath
- Barts Health NHS Trust, London
- The Christie Hospital NHS Foundation Trust, Manchester

Sub-contract arrangements will be developed with the following oncology services:
- Barts Health NHS Trust, London
- The Christie Hospital NHS Foundation Trust, Manchester
- Royal United Hospital Bath NHS Trust
End.