

A11/S/a

**2013/14 NHS STANDARD CONTRACT
FOR PULMONARY HYPERTENSION:CENTRES (ADULT)**

PARTICULARS, SCHEDULE 2- THE SERVICES, A- SERVICE SPECIFICATIONS

Service Specification No.	A11/S/a
Service	Pulmonary Hypertension: Centres (Adult)
Commissioner Lead	
Provider Lead	
Period	12 months
Date of Review	

1. Population Needs

1.1 National/local context and evidence base

Pulmonary hypertension (PH) is a rare disorder of the blood vessels in the lung defined as an increase in mean pulmonary artery pressure (PAP) of 25mmHg or greater at rest as assessed by right heart catheterisation. It can be found in a diverse range of clinical conditions, including connective tissue disease, congenital heart diseases, chronic pulmonary thromboembolism, sickle cell disease, HIV infection, use of an appetite suppressant, and liver disease. Prevalence is estimated at 15-50 cases per million population.

The second national audit for pulmonary hypertension reports 6,196 patients seen by designated UK pulmonary hypertension services in 2010/11. During the year of the audit, there were 2,089 new patients referred to a designated centre with a wide variation in referral rates across the country. Around a third of new referrals did not have pulmonary hypertension. In a minority of patients diagnosed with pulmonary hypertension, the condition was secondary to other diseases, particularly left heart disease or lung disease, which require specialist assessment but are not treated within the pulmonary hypertension service and do not require follow-up by the service.

Pulmonary arterial hypertension is characterised by raised pressure in the pulmonary artery in the absence of other causes of pre-capillary PH such as lung disease, chronic thromboembolism or other rare causes. If the cause is unknown

then it is referred to as idiopathic pulmonary arterial hypertension (IPAH). IPAH can occur sporadically or may be familial. Symptoms include breathlessness, fatigue, weakness, angina, syncope, and abdominal distension. Since many of these are shared with other common diseases and the signs of pulmonary hypertension are difficult to elicit, the delay between onset of symptoms and definitive diagnosis can be as long as two years.

The severity of symptoms is used to provide a functional classification for each patient (see table 1). In untreated patients, historical data suggests a median survival of 6 months in patients with the most severe disease (World Health Organisation-Functional Class (WHO-FC) IV), 2.5 years for those in WHO-FC III, and 6 years for WHO-FC I and II.

Table 1: Functional classification of Pulmonary Hypertension

Class I	Patients with pulmonary hypertension but without resulting limitation of physical activity. Ordinary physical activity does not cause undue dyspnoea or fatigue, chest pain, or near syncope.
Class II	Patients with pulmonary hypertension resulting in slight limitation of physical activity. They are comfortable at rest. Ordinary physical activity causes undue dyspnoea or fatigue, chest pain, or near syncope.
Class III	Patients with pulmonary hypertension resulting in marked limitation of physical activity. They are comfortable at rest. Less than ordinary activity causes undue dyspnoea, fatigue, and chest pain or near syncope.
Class IV	Patients with pulmonary hypertension with inability to carry out any physical activity without symptoms. These patients manifest signs of right heart failure. Dyspnoea and/or fatigue may be present even at rest. Discomfort is increased by any physical activity.

Six centres in England are designated to provide pulmonary hypertension services for adults (see section 5). The centres offer investigation and treatment of patients with idiopathic pulmonary hypertension, pulmonary hypertension complicating other diseases and assessment of response to treatment. The centres and staff also provide support for patients and their families.

Treatment is provided in accordance with the ***National commissioning policy for targeted therapies for the treatment of pulmonary hypertension in adults***.

This policy, developed by the Specialised Commissioning Groups in England, aims to support consistent access to high cost, disease-targeted therapies across England. Other key references for pulmonary hypertension services are:

- The Task Force for the Diagnosis and Treatment of Pulmonary Hypertension of the European Society of Cardiology (ESC) and the European Respiratory Society (ERS).
- Second annual report: Key findings from the National Audit of Pulmonary Hypertension or the United Kingdom, Channel Islands, Gibraltar and Isle of Man Report for the Audit Period April 2010 to March 2011.

2. Scope

2.1 Aims and objectives of service

The aim of the service is to provide high quality and consistent specialist diagnosis and management for patients with suspected pulmonary hypertension to improve morbidity and mortality, functional capacity and quality of life.

The service will deliver these aims for adults with pulmonary hypertension by:

- undertaking timely, accurate and specialist diagnostic procedures to establish the presence, the cause and the severity of PH,
- providing patient-centred care with appropriate support for patients and their families,
- supporting care closer to the patient's home by delivering care through shared-care centres where appropriate,
- ensuring effective communication with patients, their families and carers, as well as with referring clinicians and other services,
- providing timely identification and referral for patients requiring surgical intervention,
- initiating appropriate treatment with disease-targeted therapies and providing continued prescribing and efficient management of homecare supplies in line with national policy,
- ensuring smooth and managed transition between services, including shared care centres, congenital heart disease services and children's services.

2.2 Service description/care pathway

All patients with PH will receive structured care and follow up as recommended by the ERS/ESC guidelines. As appropriate, disease targeted therapy will be initiated and escalated in accordance with commissioning policy for England.

The service for patients with suspected pulmonary hypertension comprises the following elements:

Referral

Referral to PH service from consultant physician (typically cardiology or respiratory but also from other services including haematology, rheumatology, infectious disease) via fax/letter for patients where PH is suspected as a cause of symptoms.

Occasionally, a patient may require urgent referral following a telephone conversation or urgent fax. This may require the patient to be admitted to the PH centre from home or from another hospital. Otherwise, an outpatient or day case review will be arranged for the next available clinic.

Response to referral by either requesting additional information if inadequate,

excluding a diagnosis of PH if sufficient detail is available, or confirming the possibility of PH and the need for further investigation

If PH is suspected, a day case/outpatient appointment is required to include clinical examination and history, blood tests, simple imaging, exercise test, electrocardiogram (ECG), echocardiogram (ECHO), simple lung function.

There will be minimal delay between referral to a designated PH centre and an outpatient consultant appointment. All patients referred urgently will be able to see a specialist within one month of the PH centre receiving their referral and those who are severely symptomatic will be seen within 2 weeks.

There will be minimal delay in inter-hospital transfers of critically ill patients.

Those with unexplained pulmonary hypertension, who are critically sick and clinically appropriate for therapy, will have a bed made available at the designated PH centre and the referring hospital will be offered the bed within 72 hours of the accepting clinician receiving all necessary and appropriate information about the patient. Those with known pulmonary hypertension, where clinically appropriate, will have a bed made available at the PH centre and the referring hospital be offered the bed within 5 days of the accepting clinician receiving all necessary and appropriate information about the patient.

Investigations

If other causes for symptoms cannot be identified, the patient will need confirmation of PH by right heart catheterisation with vasodilator testing when appropriate and full diagnostic work up. This will require admission to hospital.

Diagnostic work includes more complex studies such as computerized tomography (CT) , magnetic resonance imaging (MRI), perfusion scanning, complex lung function, cardiopulmonary exercise testing, and second line bloods

All new patients will complete all investigations required to make a diagnosis and to determine a treatment plan and commence drug therapy within 12 weeks of the referral being received by the designated PH centre. Evidence shows that waiting beyond 12 weeks can compromise survival.

Diagnosis

Multi-disciplinary team discussion of data for each patient and development of an individualised management plan.

Where possible a member of the multi-disciplinary team (e.g. specialist nurse, trained counsellor or social worker) will be present with the patient when the final diagnosis is discussed.

The full diagnosis will be communicated to the referring consultant(s) and the GP

within 5 working days of the diagnosis and treatment plan being made.

Treatment

If appropriate, disease-targeted therapy may only be initiated by the PH centre, which is responsible for monitoring and ensuring the safe, long-term prescribing of continuing treatments, where required. Typically, any new therapy or change in regimen is reviewed at 3 months and then, typically, every 3-6 months as an outpatient.

Designated centres (or their designated shared care centre) may not delegate prescribing to non designated centres or to the patient's GP.

Supplies of targeted therapies will be managed by the designated centre in accordance with national arrangements for homecare delivery and local clinical and financial governance procedures.

The supportive care needs of all patients on disease targeted therapy will be assessed, taking into account any requirements for home care delivery and support.

If the patient has chronic thromboembolic pulmonary hypertension, further imaging will be undertaken and a referral letter sent to Papworth Hospital for consideration of endarterectomy within 2 weeks of completion of all appropriate investigations:

- on receipt of all information on appropriate investigations, all patients who are eligible for pulmonary endarterectomy (PEA) and who would consider surgery, will receive surgery within 18 weeks (in line with the national referral to treatment pathway). However, the average waiting time will be less than 3 months and patients with a deteriorating condition will need an earlier operation. For Papworth patients the 18 week pathway starts once the patient has been assessed as suitable for surgery. For patients referred from external pulmonary hypertension centres the PEA 18 week pathway starts on the MDT acceptance of suitability for listing. The clock stops once the patient has been admitted for PEA surgery.
- If endarterectomy is possible, the patient will undergo coronary angiography and insertion of inferior vena cava (IVC) filter at the referring PH centre with outpatient review until surgery at Papworth Hospital. Following surgery, the patient is reviewed at Papworth Hospital on one occasion with all other follow-up at the referring PH centre.
- If endarterectomy is not possible, disease targeted therapy may be commenced (if appropriate)

For those patients who are eligible for lung transplantation, referral will be sent, using the nationally agreed proforma, to the lung transplant centre within 5 working days of the clinician's decision.

Follow-up and discharge from specialised service

The focus of ongoing management by the PH centre is the need for disease targeted therapy; patients who do not have PH or who are not likely to require targeted therapy will be referred back to their referring consultant and CCG funded care.

Patients treated with disease targeted therapy will have lifelong follow up within the PH service.

The PH centre will identify those patients suitable for shared care and ensure effective communication with shared care centres to plan patient reviews. All such patients will be reviewed at least once each year by the visiting PH specialist or at the PH centre.

Further work is needed to identify those patients with lung/heart disease with 'out of proportion' PH who are likely to benefit from care within a PH centre, but PH services will not care for patients with routine cor pulmonale.

Shared-care

A separate service specification for shared-care centres (A11/S/b) is available.

Designated PH centres will work with shared care centres to deliver specialist care closer to the patient's home where appropriate.

The PH centres will work with commissioners to identify appropriate shared care centres and establish suitable arrangements.

Since the clinical relationship between PH centres and shared care centres will vary, the responsibilities and governance arrangements will be determined locally in collaboration with commissioners.

PH centres and their shared care partners will provide commissioners with evidence of service-level agreements, protocols and governance arrangements to confirm that safe and effective arrangements are in place.

Patient centred care

The service will be able to demonstrate the informed participation of patients, carers and advocates with provision, where necessary, for patients with communication difficulties and for children.

At every stage, patients will be offered clear, objective, full and prompt information in both written and verbal form. Each patient will receive information relevant to their case concerning the disease, diagnostic procedures, treatment options and effectiveness.

The patient's contact with the unit in terms of attendance for day care and local

shared care will be planned in consultation with the patient. The care plan will include the likely timescale for treatment.

A clearly defined long-term follow-up programme will be developed with the patient and the referring provider unit.

All patients will be provided with information about the Pulmonary Hypertension Association UK.

There will be written guidelines for shared care between the designated centre, recognised shared care unit, the patient's referring physician, and general practitioners.

Patients and carers will have a point of contact with a member of the pulmonary hypertension team and will receive clear advice about who they will contact in case of emergency. Out of normal working hours, a clinician will be available for advice.

The centre will have a policy on death and bereavement which is culturally sensitive and considers the needs of staff as well as patients.

All staff in the multi-disciplinary team will be trained in advanced communication skills and there will be a policy for breaking bad news.

Patient satisfaction with the quality of the service delivered will be monitored at regular intervals and patients will be offered the opportunity to comment on hospital stays or other contact with the service.

There will be formal arrangements for addressing complaints and other comments by patients, families and staff.

Patients who are dissatisfied with their treatment plan will be informed of their right to a second opinion at another centre.

Specialist team

Patients will be managed by a specialist team with clear clinical leadership.

The lead clinician will have a sub-specialty interest in PH with specific training in PH.

Specialist nurses will have specific training in PH.

Designated centres will provide care by a multidisciplinary team which will be made up of representatives of the constituent groups and with a named physician as director accountable to the Trust Medical Director. The team will include a minimum of 2 consultant physicians with a specialist interest in pulmonary hypertension, providing the equivalent of one whole time pulmonary hypertension consultant; clinical nurse specialist (specialist nurse time will at a minimum, be equivalent to 2

whole time equivalents for a pulmonary hypertension service managing 200 patients per year); named radiologist with expertise in pulmonary hypertension imaging; cardiologist with expertise in echocardiography and pulmonary hypertension, access to clinical pharmacy, psychological and social work support.

The multi-disciplinary team will meet weekly to discuss each patient during diagnostic and treatment phases of the care pathway. Multidisciplinary team meetings will be minuted.

The specialist team and providers of shared care will be supported by dedicated administrative support to ensure good communication with referring hospitals, GPs and patients and to ensure the pulmonary hypertension standards are fulfilled.

Designated PH centres will provide dedicated beds in designated wards where staff have special expertise in pulmonary hypertension.

Designated PH centres will have facilities for diagnostic investigations including echocardiography, CT scanning, nuclear imaging, MRI, selective pulmonary angiography, right heart catheterisation, ultrasound, exercise testing, and lung function testing.

Other facilities within the designated centres will include specialist outpatient/day-case clinics held at least weekly, an intensive therapy unit with relevant experience, access to the full range of drug therapies licensed for pulmonary hypertension and access to an experienced coronary care unit and /or high dependency unit.

There will be established links (e.g. referral criteria, patient pathway and clinical management protocols) to other services which may not necessarily be on the same site. These will include maternity services, genetic services, connective tissue disease service, family planning service, pulmonary endarterectomy service, lung transplantation services, grown-up congenital heart disease service, human immunodeficiency virus (HIV) and liver diseases.

Designated centres will have input to the National Pulmonary Hypertension Physicians Committee which meets bi-annually and:

- provides a forum to support the provision of a high quality clinical service
- develops and maintains consensus and guideline documents and ensures an up to date protocol is always available.

There is a National Pulmonary Hypertension Nurse and Pharmacists Forum. The role of this group is to provide opportunity to discuss education, service and business items and to provide an environment for sharing of good practice and ideas.

Designated centres must provide appropriate 24-hour on-call cover and expertise. There will be appropriately trained specialised medical and nursing staff available

Palliative care

Patients and their carers will receive a palliative approach, involving symptom control, psychological, social and spiritual support throughout the course of the illness, regardless of whether they wish to receive active treatment.

Patients with exceptional palliative care needs will, in agreement with their GP, be referred to specialists in palliative care.

Pulmonary hypertension patients will be managed in accordance with the national End of Life Strategy.

Management and organisation of the pulmonary hypertension programme

Commissioners will require evidence that each designated centre meets the minimum standards and will monitor performance.

Guidelines will be in place to ensure that the same clinical management protocols apply to all designated centres.

Each designated centre will manage at least 300 patients per year to encourage a high standard of care in investigation, treatment and follow-up of patients. Each centre will also receive at least two new referrals per week with suspected pulmonary arterial hypertension or chronic thromboembolic pulmonary hypertension (CTEPH).

Each centre will have a named designated person acting as lead clinician who is responsible for ensuring that staff are:

- aware of the standards against which the centre will be assessed and that mechanisms are in place to comply with these standards and the policies relating to commissioning of the service and adherence to this.
- involved in regular audit of the pulmonary hypertension service.

Job plans for all members of the multi-disciplinary team will include adequate time to perform their roles.

Evidence-based protocols will be developed and maintained and will form part of a formal induction for all new staff joining the service.

Centres will participate in clinical governance activities within the Trust that are relevant to the pulmonary hypertension service.

There will be effective and sustainable workforce planning covering all professional disciplines included in the multi-disciplinary team.

All staff will have regular appraisal and agreed professional development plans.

There will be regular service development meetings to address issues specific to the pulmonary hypertension service including financial reports, activity reports, education, audit, clinical governance and research.

The lead clinician is responsible for the reporting of complete, timely and accurate data to the National Pulmonary Hypertension Audit.

Communication with general practitioners and referring physicians

The consultant from the designated centre must report back to the referring consultant, satellite centre and GP on the progress of the patient. The quality of communication between the designated centre and referring consultants will be monitored.

When patients are discharged from hospital, general practitioners and the referring clinician must be provided with an information pack detailing medication, potential side effects and drug interactions.

After each visit to the follow-up clinic, a letter detailing results of investigations and changes in medication must be sent within five working days to the general practitioner.

A member of the multidisciplinary team at the designated centres will be available to answer calls from General Practitioners and others caring for pulmonary hypertension patients.

Education and training

All members of the multidisciplinary team are expected to participate in continuing professional development by attending appropriate courses and meetings.

Consultant members of the pulmonary hypertension multi-disciplinary team will attend at least two specialist national or international meetings per year.

Trainees will be encouraged to participate in clinical research projects and submit papers at presentations at local, national and international meetings.

Nursing staff will attend at least four relevant study days per year.

Referral centres will provide regular education about all clinical aspects of pulmonary hypertension to appropriate healthcare professionals.

Designated centres will offer Special Registrar's (SpRs) the opportunity to have a period of their rotation working within the pulmonary hypertension service.

Research and development

Each centre will have a research strategy that documents current and planned activity, staff and other resources that support this activity, and objectives for development.

Centres will have sufficient staff, space and facilities to support the research strategy and a well-regulated funding system to support pilot/preliminary projects.

Trusts must have a Research Governance Implementation Plan in place in line with government policy for all NHS Trusts.

All clinical studies must have Research Ethics Committee approval and patients must give fully informed consent before participating in research studies.

The commissioners will not pick up the funding of patients coming off drug company sponsored drug trials/extended access programmes or compassionate funding unless prior arrangements have been made. It is the responsibility of those initiating therapy to ensure that there is either an exit strategy or that ongoing treatment is provided. Patients will be fully informed. Commissioners will fund patients once the service development has been agreed.

Designated centres will participate in clinical research in pulmonary hypertension which includes phase II and phase III clinical trials.

Centres are expected to present the results of their research projects at national and international conferences and to publish them in peer reviewed publications.

Clinical practice will be influenced by regular review of research evidence derived from local, national and international research activity.

Eligible patients will be encouraged to become part of nationally/ internationally coordinated randomised trials.

Audit

Designated centres will hold quarterly audit meetings, attended by all members of the multidisciplinary team, to identify good practice and to identify and rectify deficiencies in patient care, inefficient processes and poor communications. Minutes of audit meetings will be recorded.

Outcomes will be monitored. This requires routine audit and a proper infrastructure for data collection.

The National Audit of Pulmonary Hypertension (NAPH) will be used to measure quality of care, activity levels, access rates and patient outcomes at designated centres.

The NHS Information Centre will support the development and audit of the National

Audit of Pulmonary Hypertension.

All designated centres will be required to submit data to the National Pulmonary Hypertension Service including information from the attached recognised shared care units.

Data recorded for the national audit will be accurate, complete and transmitted on time to the NAPH database.

There will be a mechanism for checking accuracy and completeness of the audit data.

The National Audit of Pulmonary Hypertension Project Board will be responsible for the analysis of the dataset.

The National Audit of Pulmonary Hypertension will be accountable to the specialised commissioners.

Reports from the National Audit of Pulmonary Hypertension will be distributed to all members of the multi-disciplinary team and to the Trust Management. Centres will review their results in comparison with other centres to identify areas for improvement.

The specialised commissioners are responsible for ensuring the National designated centres meet the service standards.

The lead purchaser will monitor with support from referring clinicians' activity and the outcomes.

The outcome measures (not in priority order) are:

- exercise test (including type of test e.g. six minute walk (distance in metres)),
- quality of life measures – Cambridge Pulmonary Hypertension Outcome Review (CAMPHOR),
- survival on disease targeted therapy,
- changes in WHO functional class.

Regular and documented clinical audit will be carried out and results reported to the lead commissioners.

Centres will have a clinical database with written protocols for data entry and quality assurance and a dedicated data clerk.

Transition

Children (aged 16 years and under) with pulmonary hypertension are managed under the care of the pulmonary hypertension team at Great Ormond Street Hospital (GOSH) in accordance with the national service specification for the paediatric pulmonary hypertension service.

The transition from the children's pulmonary hypertension service to the adult service will be planned and agreed with all parties.

Most patients will be transferred to the appropriate adult PH services (idiopathic, congenital heart disease, connective tissue disease) based on diagnosis and place of residence, when they are 16 years old. In those cases where there remain a significant number of truly paediatric issues, this time could be extended to the 18th year of age, and in very rare cases (1-3 in the UK) even longer. Typical patients for this are those with trisomy 21. The transition process is formal including prepared and filled-out hand-over forms, and an outpatient visit where the paediatric PH consultant joins his patient and attends together the first outpatient clinic of the adult PH service. On these occasions, a small number of PH patients may have been 'bundled' and are transferred at the same time.

2.3 Population covered

The service outlined in this specification is for patients ordinarily resident in England; or otherwise the commissioning responsibility of the NHS in England (as defined in *Who Pays?: Establishing the responsible commissioner* and other Department of Health guidance relating to patients entitled to NHS care or exempt from charges).

Note: for the purposes of commissioning health services, this EXCLUDES patients who, whilst resident in England, are registered with a GP Practice in Wales, but INCLUDES patients resident in Wales who are registered with a GP Practice in England.

Specifically, this service is for adults with pulmonary hypertension requiring specialist investigation, diagnosis and management, as outlined within this specification.

2.4 Any acceptance and exclusion criteria

Acceptance criteria

The service will accept inward referrals from secondary care clinicians, typically specialists in cardiology or respiratory medicine although other specialities such as rheumatology, infectious disease, and haematology specialists may also refer patients.

The service will accept referrals for symptomatic patients where pulmonary hypertension is suspected.

Referrals will be made to a single list for the PH service.

Exclusions

The following groups of patients are outside the scope of this service

- Children (0-15 yr)
- Asymptomatic patients
- Patients where PH is not suspected as a cause of symptoms
- Patients with cor pulmonale (NB further work is needed to identify those patients with heart/lung disease and 'out of proportion PH' who could benefit from a specialised PH service)

2.5 Interdependencies with other services

Co-located services

Designated PH centres will have facilities for diagnostic investigations including echocardiography, CT scanning, nuclear imaging, MRI, selective pulmonary angiography, right heart catheterisation, ultrasound, exercise testing and lung function testing.

Other services will include an intensive therapy unit with relevant experience, pharmacy with access to the full range of drug therapies licensed for pulmonary hypertension and access to an experienced coronary care unit and /or high dependency unit.

Interdependent services

There will be established links (e.g. referral criteria, patient pathway and clinical management protocols) to other services which may not necessarily be on the same site. These will include maternity services, genetic services, connective tissue disease service, family planning service, pulmonary endarterectomy service, lung transplantation services, HIV and liver diseases.

Related services

There will be links to other services that may be relevant to a preceding or future part of the patient's journey including palliative care services, lung transplantation services, and grown-up and paediatric congenital heart disease services.

3. Applicable Service Standards

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

There are no technology appraisals or guidelines published by NICE that are relevant to pulmonary hypertension services.

Treatment will be provided in accordance with the national commissioning policy for targeted therapies in pulmonary hypertension in adults.

4. Key Service Outcomes

Domain 1: Preventing People from Dying Prematurely

Improving life expectancy: reviewing survival figures on an annual basis on a whole service basis with international comparisons and on an individual centre basis. The figures would be analysed by disease sub type e.g. connective tissue disorder.

Data available from National Audit for Pulmonary Hypertension.

Domain 2: Enhancing Quality of Life for People with Long Term Conditions

Improving functional performance in people with long term conditions: reviewing WHO functional class data and scale of improvement achieved through treatment and care provided.

Data available from National Audit of Pulmonary Hypertension.

Time spent in hospital because of condition: reviewing the number of unplanned hospital admissions and lengths of stay.

Data available from Secondary Uses Service and contract monitoring systems.

Domain 3: Helping People to Recover from Episodes of Ill Health or Following Injury

Reducing the time from referral to diagnosis and streamlining the patient pathway: reviewing waiting times for outpatient consultant appointment and inter hospital transfers; reviewing referral to treatment plan.

Data available from contract monitoring.

Domain 4: Ensuring that People have a Positive Experience of Care

Improving people's experience of outpatient care: development of a joint initiative with Pulmonary Hypertension Association to obtain patient feedback.

Domain 5: Treating and Caring for People in a Safe Environment and Protecting them from Avoidable Harm

Reducing the incidence of avoidable harm: reduction in the number of cases of bacteraemia associated with IV lines.

Data available from SUS

5. Location of Provider Premises

The following six centres are designated to provide pulmonary hypertension services for adults.

- Imperial College Healthcare NHS Trust (Hammersmith Hospital) Royal Brompton & Harefield NHS Foundation Trust
- Royal Free Hampstead NHS Trust
- Papworth Hospital NHS Foundation Trust
- Sheffield Teaching Hospitals NHS Foundation Trust (Royal Hallamshire Hospital) The Newcastle upon Tyne Hospitals NHS Foundation Trust (Freeman Hospital)

Interim for Adoption from 01/10/13