SCHEDULE 2 – THE SERVICES

A. Service Specifications

Service Specification No.	170008/S
Service	Atypical haemolytic uraemic syndrome (aHUS) (all ages)
Commissioner Lead	
Provider Lead	
Period	
Date of Review	

1. Population Needs

1.1 National/local context and evidence base

Atypical haemolytic uraemic syndrome (aHUS) is a chronic, rare, progressive condition that causes severe inflammation of blood vessels and the formation of blood clots in small blood vessels throughout the body, a process known as systemic thrombotic microangiopathy. In approximately 50% of patients, aHUS is associated with an underlying genetic or acquired abnormality of the proteins of the complement system, which is part of the body's defence against infection. The prognosis for people with aHUS is poor. Patients are at constant risk of sudden and progressive damage, and failure of vital organs. Mortality rates range from 10–15% in the acute phase of the disease and, within a year of diagnosis, up to 70% of patients progress to end-stage renal failure and need dialysis or die. One patient in 5 has aHUS affecting organs other than the kidneys, most commonly the brain or heart.

aHUS can occur at any age. Onset occurs in childhood slightly more frequently than in adulthood (around 60% and 40% of all cases respectively). Most children (70%) who develop aHUS will experience the disease for the first time before the age of 2 years. The true incidence and prevalence of aHUS in England is uncertain because some patients remain undiagnosed. Worldwide, the prevalence of aHUS ranges from 2.7–5.5 per million population, with an incidence of about 0.40 per million population.

Eculizumab is an effective treatment for aHUS. NICE has made the following recommendation:

> "Eculizumab, within its marketing authorisation, is recommended for funding for the treatment of atypical haemolytic uraemic syndrome, only if **all** of the following arrangements are in place:
>
> - coordination of the use of eculizumab through an expert centre
> - monitoring systems to record the number of people with a diagnosis of aHUS, the number of people who receive eculizumab, and the dose and duration of treatment for these people
> - a national protocol for starting and stopping eculizumab for clinical reasons
> - a research programme with robust methods to evaluate when stopping treatment or dose adjustment might occur.

There are at present about 140 known patients in England, but there are probably many further patients in whom the diagnosis has been missed. The area of England where it can be expected that all cases are fully ascertained (no missed diagnoses) the prevalence is 5.5 per million, which if applied to the whole of England implies a total of approximately 300 patients in England at present, which will rise over the coming years. This number will also increase in future if Eculizumab saves the lives of patients who would otherwise have died of aHUS.

2. Outcomes

2.1 NHS Outcomes Framework Domains & Indicators

Domain 1	**Preventing people from dying prematurely**	√
Domain 2	**Enhancing quality of life for people with long-term conditions**	√
Domain 3	**Helping people to recover from episodes of ill-health or following injury**	√
Domain 4	**Ensuring people have a positive experience of care**	√
Domain 5	**Treating and caring for people in safe environment and protecting them from avoidable harm**	

The primary aim of the service is to ensure that patients with a confirmed diagnosis of atypical haemolytic uraemic syndrome receive prompt treatment with eculizumab.

Outcomes are:

Domain 1 – to prevent death from aHUS: no patient will die from aHUS

Domain 2 – to permit renal transplant in patients with long standing aHUS: all patients with aHUS who are eligible for renal transplant will be listed for transplant

Domain 3 – to permit rapid recovery from attacks of aHUS: intensive care and inpatient stays for patients suffering attacks of aHUS will be less than 10 days for 90% of patients

Domain 4 – to ensure people have a positive experience of care:

Domain 5 – to treat and care for people in a safe environment and protect them from avoidable harm: no patient will suffer a ‘never’ event.

The service will:

- Provide advice to provider centres within 24 hours of request on treatment.
- Design and maintain a registry of all patients in England with aHUS with data elements of aHUS Registry agreed with NHS England and the Renal Association, including renal and other health outcomes, medication and hospitalisation.
- Review datasets on an annual basis in conjunction with NHS England and the RA.
- Achieve 90% data completeness of the aHUS register.
- Publish an annual report from the aHUS registry.
- In conjunction with NHS England and RA, agree an improvement plan based on the Annual report

3. Scope

3.1 Aims and objectives of service

The aim of the service is to provide a national diagnostic and management advice for patients with aHUS. The service offers comprehensive diagnostic clinical and pathological investigations and expert opinion, facilitating optimal patient management on a shared-care basis with referring clinicians and other specialist services.

The core objectives of the service are:

- To confirm (or reject) clinically and by appropriate laboratory testing, the diagnosis of aHUS in patients suspected of having the condition, including appropriate genetic and autoantibody tests to confirm aHUS and to rule out other diagnoses.
- To provide outpatient consultations with patients as necessary, or video consultation where preferable and agreed with the referring centre.
- To keep a register of all patients in England with aHUS, including treatment history and relevant clinical data fields; to produce regular and ad hoc reports on the clinical effectiveness of eculizumab in the treatment of aHUS as used by the NHS in England.
- To oversee the use of eculizumab for patients with a confirmed diagnosis of aHUS in England by initiating prescriptions directly for local patients, or by authorising the use of eculizumab in patients at remote centres under shared care arrangements.
- To monitor the ongoing use of eculizumab in patients receiving the drug, including keeping records for each patient of every infusion received, dose and date.
- To implement NICE recommendations about the use of eculizumab for aHUS, including the development of a research programme to inform starting and stopping criteria.
- To offer surveillance of patients in whom eculizumab has been withdrawn.
- To offer screening of family members when a mutation is found in an affected individual.
- To provide counselling to unaffected carriers.
- To provide advice to clinicians on the management of patients with conditions such as bone marrow transplant associated TMA and antiphospholipid antibody syndrome where eculizumab cannot be funded through the national service.
- To provide advice to clinicians on other complement related renal disorders such as C3 glomerulopathy.
- To show commitment to ongoing education of managing centres and across specialties with the aim to improve patient diagnosis and management of aHUS.

The service is targeted at patients who meet the diagnostic criteria for aHUS of any age.

3.2 Service description/care pathway

The care pathway for new patients will start with a suspected diagnosis of aHUS. Referring clinicians will contact the expert centre providing the service; the expert centre will confirm or reject the diagnosis using an agreed diagnostic checklist and appropriate laboratory testing.

Patients with a confirmed diagnosis will be eligible for treatment with eculizumab in line with NHS England policy. The expert centre will confirm to the referring clinician that the patient is in scope for use of eculizumab, providing detailed care planning and will keep detailed records of all patients so referred and accepted.

Patients will remain under the care of local clinicians using shared care protocols (except where the patient is local to the national service provider). The national service provider will provide ongoing clinical supervision of all patients with a confirmed diagnosis of aHUS, including those in whom eculizumab therapy is discontinued. The drug can be dispensed and given to patients anywhere in England, including at home.

These protocols will be set out in a written agreement between expert centre and user centres to ensure the requirements on both parties in the ongoing management of patients are clearly defined.

The national service provider will also ensure where appropriate that the patient has been referred to a local medical genetics service or the genetics service at the national centre.

3.3 Population covered

The service outlined in the 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).

NHS England commissions the service for the population of England. Commissioning on behalf of other devolved administrations is reviewed annually, and a current list is available from NHS England commissioners.

This NHS England contract includes provision for the service to treat eligible patients from overseas under S2 and aligned referral arrangements. Providers are reimbursed for appropriately referred and recorded activity as part of this contract.

3.4 Any acceptance and exclusion criteria and thresholds

Patients may be excluded from the service if the individual has an alternative diagnosis.

3.5 Interdependencies with other services/providers

Patients with aHUS may present with renal failure and be in intensive care.

There are also links to medical genetics and transplant services.

The service must comply with the NHS England Annex 1 to service specifications:

Provision of services to children.

4. Applicable Service Standards

4.1 Applicable national standards e.g. NICE

The provider will be required to maintain a register of all patients with aHUS and respond to all reasonable requests for data from NHS England, as permitted by legislation.

4.2 Applicable standards set out in Guidance and/or issued by a competent body (e.g. Royal Colleges)

NICE highly specialised technologies [HST1].

5. Applicable quality requirements and CQUIN goals

5.1 Applicable quality requirements (See Schedule 4 Parts A-D)

There is a requirement to hold national audit meetings involving all expert centres on an annual basis.

Each centre must assure that:

- All practitioners participate in continuous professional development and networking
- Patient outcome data is recorded and audited across the service
- All centres must participate in the national audit commissioned by NHS England.
- Audit meetings should address:
    - Clinical performance and outcome
    - Process-related indicators e.g. efficiency of the assessment process, prescribing policy, bed provision and occupancy, outpatient follow-up etc.
    - Stakeholder satisfaction, including feedback from patients, their families, referring clinician and General Practitioners doctors and GPs.
- Any Serious Untoward Incident must be reported by STEISS and in addition by email to the Public Health Advisor, Highly Specialised Services within 24hours.

5.2 Applicable CQUIN goals (See Schedule 4 Part E)

To be agreed with the commissioner.

6. Location of Provider Premises

The Provider’s Premises are located at:

The Newcastle Upon Tyne Hospitals NHS Foundation Trust.

7. Individual Service User Placement

Not applicable.

Appendix

Quality standards specific to the service:

Quality Requirement	Threshold	Method of Measurement	Consequence of breach
Domain 1: Preventing people dying prematurely			
No patients will die from aHUS	Zero deaths	To be notified to the commissioners including HSS national team within 24 hours	To be addressed in annual service audit meeting
Domain 2: Enhancing the quality of life of people with long-term conditions			
All patients with aHUS who are eligible for renal transplant will be listed for transplant	100% of patients on transplant waiting list	Annual audit	To be addressed in annual service audit meeting
Publish an annual report from the aHUS registry	Report published to agreed timetable	Report received by NHS England	To be addressed in annual audit meeting
Domain 3: Helping people to recover from episodes of ill-health or following injury			
To provide advice to provider centres within 24 hours of request on treatment	90%	Annual audit report	To be addressed in annual service audit meeting
Written protocols agreed with user units	100%	Annual audit report	To be addressed in annual service audit meeting
Domain 4: Ensuring that people have a positive experience of care			
Achieve 90% data completeness of the aHUS register	90%	Annual audit report	To be addressed in annual service audit meeting
Domain 5: Treating and caring for people in a safe environment and protecting them from avoidable harm			
No patient will suffer a ‘never’ event.	Any signals reported	SUI reporting system. The commissioners of the service involved must be informed.	Root cause analysis