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Executive Summary:

This document summarises the outcomes of the joint working project between National Hospital for Neurology and Neurosurgery (**NHNN**), the National Amyloidosis Centre (**NAC**) and Alnylam UK Ltd (**Alnylam**). This project aimed to establish an MDT between the NHNN and the NAC to streamline the process by which patients with hereditary amyloidosis with suspected peripheral neurology (**Patients**) are discussed and reviewed at the NAC and NHNN, increase efficiency in clinical decision making on patient management and treatment and to discuss investigations and management of difficult cases and cases where diagnosis is not yet established. Additionally, an evaluation of the amyloidosis services in the UK with a focus on Northern Ireland was conducted by review of clinical records held at NHNN and the database at the NAC.

Through introduction of an expert cross-functional MDT and a triaging process, the outcomes show that Patients received optimal expert support earlier than they would without this structure. The project exhibits the early impact of this structure for patients.

Project name:

Development and implementation of a Multidisciplinary Team (**MDT**) Meeting for Patients & Service Evaluation

Parties:

- (1) NHNN
- (2) NAC
- (3) Alnylam

Project Duration: The project started on 15 November 2024 and completed on 31 March 2026

Project aims and objectives:

The overall aim of the project was to streamline the process by which patients with hereditary amyloidosis with suspected peripheral neurology are discussed and reviewed at the NAC and NHNN.

To achieve this aim, the project objectives were as follows:

- the NAC and the neurology team at the NHNN to schedule monthly MDT meetings;
- triage Patients to ensure those most at risk of progression are assessed quickly;
- identifying undiagnosed patients earlier;
- increase capacity and efficiency at NHNN and the NAC to review increasing number of Patients;
- improve Patient outcomes and experience by reducing delays and long wait times for appointments;

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- undertake a review of the existing service pathway for the diagnosis and treatment of hereditary transthyretin-mediated amyloidosis in the UK with a focus on Northern Ireland (the **Service Evaluation**).

Key Project Outcomes Data:

Overarching Aim: to streamline the process by which Patients are discussed and reviewed at the NAC and NHNN

Objective 1: Development and implementation of a MDT meeting

Meetings were held in March 2025 to define the scope of the MDT and agree a referrals process and proforma. Bi-monthly meetings were agreed depending on availability with an aim of achieving 12 meetings within the time scale of the project.

MDT meetings commenced in June of 2025 and 12 meetings were completed by February of 2026.

The MDTs allowed for cross-speciality input for Patients between the NAC and the NHNN. This optimised the efficiency of decisions around investigation and treatment but also decisions around review and follow-up plans which allows for better utilisation of the limited resource of outpatient clinic appointments.

Objectives 2 and 3: Triaging Patients referred to the NHNN by the NAC to determine the order in which they should be assessed by the MDT and identify undiagnosed patients earlier

Referrals were triaged appropriately to ensure Patients with more severe presentation of symptoms or faster progression were reviewed earlier.

62 patients in total were discussed at the meetings. 27.42% had an established neuropathy diagnosis and were already on appropriate treatment, 29.03% were found to have no neuropathy. 16.13% had a possible neuropathy diagnosis requiring further investigation or review and 20.97% had a new diagnosis of neuropathy leading to a decision to start treatment.

Objective 4: Reduce patient waiting time and, in turn, reviewing more patients

Prior to initiation of the Project, time from symptom presentation to diagnosis could be up to 6 months and then to treatment up to a further 8 months. The patient would receive several reviews by different consultants across NHNN and the NAC prior to receiving complete information on diagnosis and management of their disease. During this project, these patients were reviewed by the MDT in a single meeting and, where appropriate, treatment commenced within 1 month from the MDT, saving time for both patients and NHS healthcare professionals.

Objective 5: Service evaluation

Outcome measure:

This was a clinical record review of NHNN and NAC data of Patients aiming to establish:

1. Clinical features at presentation
2. Pre-diagnosis symptomatology
3. Investigative findings
4. Medical speciality/subspecialist triggering initial genetic screening
5. Time from first symptoms to diagnosis and treatment initiation
6. Geographical mapping of cases of Patients and presymptomatic carries resident in Northern Ireland with a view to determine best placement for a regional clinical service.

The service evaluation identified 82 Northern Irish patients in the NAC database, 37 of which were identified as hereditary patients and the majority of whom had the T60A mutation. The predominant phenotype was mixed cardiac and neurological (81.5%) which is expected with the T60A mutation, with a smaller cohort of pure cardiac (11.1%) or pure neurological (3.7%). At presentation 76% had features of autonomic neuropathy, 68% had features of peripheral neuropathy, 68% had features of cardiomyopathy, 36% had carpal tunnel syndrome and 4% had spinal stenosis.

Referring specialty was predominantly cardiology (76.9%), with a smaller proportion coming from neurology (11.5%) and single patients coming from medical, haematology or unknown referrers respectively. The majority of referrals came from the Western trust 42.3% perhaps reflecting the proximity to the North-West of the Republic of Ireland (ROI) where the T60A mutation is prevalent. 26.9% came from the Belfast trust, 15.4% from the Northern trust, and the Southern and South-Eastern trust had 7.7% each. There was limited information on time from symptoms to diagnosis available in the clinical records.

The service evaluation has expanded the limited epidemiological data available on TTR amyloid in Northern Ireland. This has confirmed a predominance of the T60A variant in this population and a clustering of cases in the North-West. Of note is the majority of referrals coming from cardiology with only a handful of cases from neurologists within the region. While this reflects the mixed phenotype, comments from consultants in the region suggest a need for greater awareness of diagnostic algorithms for TTR amyloid and the potential benefit of subspecialist input for patients in the region. Data from the NI service evaluation is being put together for presentation and potential publication to raise awareness of diagnosis and management of transthyretin amyloidosis in Northern Ireland.

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Recommendations arising from the Service Evaluation include:

- improve awareness of hereditary transthyretin amyloidosis;
- improving access to neuromuscular/peripheral nerve input within Northern Ireland.

Overall stakeholder feedback on achievement of benefits

Feedback from key project stakeholders was collected during the project. Each of NHNN and the NAC shared the following:

- the efficiencies introduced by the project resulted in positive impact on their workload;
- critical patients were reviewed earlier by all relevant experts thereby optimising patient outcomes;
- patients appreciated the reduction in consultant visits;
- the Service Evaluation provided data to put forward a business case for a dedicated peripheral nerve clinic.

Alnylam's expected benefits were achieved with earlier diagnosis of Patients and optimisation of patient management. This aligns to Alnylam's core values.