

Data-Driven Decisions: Transforming Urgent Care Patient Outcomes and Resource Allocation for the Northern Ireland Ambulance Service

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The Northern Ireland Ambulance Service (NIAS) is geographically the largest of six Health and Social Care Trusts in NI, serving a diverse region of 1.9 million people with 46 stations spread out over 5345 square-miles. NIAS services include both emergency and non-emergency response, including transport for those most vulnerable in society to hospital appointments.

NIAS is currently operating under the 'highest level of pressure ever' and the demand for the service exceeds the available capacity. The team need to achieve several objectives: (i) have a model that predicts patient outcomes and deterioration rates from 999 calls, and (ii) determine the optimal deployment strategy for a new 'Advanced Paramedic' (APUC) service.

The project will require skills in predictive modelling, machine learning, spatio-temporal modelling, and stochastic simulation.

A strong background in Mathematics and Statistics is required for this project. Experience with Python will be considered an advantage.