

Yorkshire Ambulance Service

Patient Transport Services modelling



in the current use of PTS resources and to better align them with the planned configuration of accident and emergency (A&E) estates.

ORH'S APPROACH

ORH carried out a combination of data analysis, modelling and consultation. A six-month activity sample allowed the current service profile to be described in detail, highlighting the potential for improved efficiency and effectiveness. This analysis also provided key inputs and parameters to validate ORH's optimisation model, and to use it to assess a range of options for resource provision with current and projected future demand. Our optimisation model was used to address specific location issues in relation to optimum hub-and-spoke sites already identified. Emerging modelling results were presented iteratively, and feedback from the service used to inform each stage of modelling.

RESULTS

ORH's optimisation modelling identified an estate configuration for the different vehicle types used to transport PTS patients, while simulation modelling identified resource deployments for current and future demand profiles. Our analysis also revealed efficiencies that could be achieved by altering



the vehicle mix, increasing vehicle loading, improving resource/demand matching and increasing utilisation. Recommendations were also made for alterations to staff shift patterns. The more efficient resource deployments proposed would deliver an improvement in KPI achievement with a decrease in vehicle and staffing levels.

KEY BENEFITS

- Evidence-based results gave the service confidence in planning changes to the provision of PTS resources to meet future demand
- Optimisation modelling enabled the development of an estate strategy that embraced PTS as well as A&E requirements

- A range of sensitivity modelling showed that the resourcing solution was robust against variation in uncertain factors



Working with ORH has been a positive and productive exercise. Collaboratively, the Trust's operational experience combined with ORH's modelling skills have delivered a planning footprint for the next five years.

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THE CHALLENGE

Yorkshire Ambulance Service operates a non-emergency Patient Transport Services (PTS) for patients whose medical condition prevents them from using other modes of transport to attend NHS appointments. PTS operations are complex, involving a range of vehicle types and crewing arrangements to meet variable demand from patients with varying levels of mobility and specific appointment times across several hospitals.

ORH was commissioned to undertake a modelling review of current PTS operations in West Yorkshire. The study was required to develop an optimised estate configuration and resource deployment to allow the service to meet contracted key performance indicators (KPIs) across the clinical commissioning groups covered. It also needed to identify efficiencies