Oceansblue power up e-rostering with data science at Mersey Care NHS Foundation Trust.

About the Trust

Mersey Care provides physical and mental health services to over 1.4 million people across the North West, North Wales and the Midlands. It offers specialist inpatient and community services for mental health, learning disability, addiction and brain injury, and is one of only three Trusts in the country to provide high secure mental health facilities.

At the heart of Mersey Care's services is a commitment to safe, high-quality and compassionate care, as well as a desire to support its staff to do the best job they possibly can.

oceansblue
intelligent workforce compliance

The challenge

Improving patient outcomes, controlling costs and supporting staff work-life balance

In line with its value of 'striving for perfect care', Mersey Care is currently delivering a programme of organisation and service transformation to improve quality of services alongside efficiency and productivity: making the best use of the resources the Trust has.

As part of this journey, the Trust had acknowledged that the quality of its rostering wasn't consistent across all units, and that managing rostering across different sites was challenging.

In particular, not all units were receiving rosterly Confirm and Support meetings, because e-rostering experts were too busy preparing the data to drive reviews and could not support the units one-to-one.

It was also clear that the units were facing challenges in achieving planned staffing numbers, and that using internal resources effectively through intelligent planning was key.

Recognising these challenges, the Trust formed a new team headed by Executive Board member Chris Lyons to bolster workforce transformation and compliance.


The transformation team set these initial goals:

- To improve the staff experience by increasing lead times for roster approvals and reducing shortages on duties.

- To improve the consistency of rostering quality across units and sites.

- To enhance regulatory compliance with NHSE Levels of Attainment metrics.

- To reduce agency costs whilst maintaining fill rates.

Key issues and mitigation strategies identified
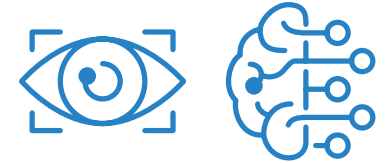
The Trust were experienced users of Allocate's e-rostering solution Healthroster, but realised that new capabilities such as automation, machine learning and compliance management would be crucial to kick start and sustain transformation.

In particular, they were excited by the possibility to predict issues that could be mitigated and ensure a data-driven approach to improving rostering effectiveness and measuring success.

A Discovery Audit was completed by Oceansblue to highlight the cost of non-compliance in e-rostering and develop a costed improvement plan to inform the Trust's transformation priorities.

The Trust moved quickly to extend its engagement with Oceansblue, adding our compliance management solution, Ward Guardian to sit over its e-rostering system.

Challenge	Mitigation strategy
Data quality was compromising Unit Managers' ability to recover Net Hours, meaning paid-for hours were leaking away.	We needed to maintain clean data that could be trusted.
Variable Annual Leave planning quality was directly triggering unnecessary agency spend.	We needed to manage leave planning to stay in tolerance throughout the year.
It was difficult to identify the smallest set of metrics that would make the greatest difference in strengthening roster outcomes.	We needed to use data science, aligned with required national indicators. to select the most appropriate leading indicator set for the Trust.

WARD GUARDIAN

"Workforce transformation without systemic data convergence and the application of supportive AI is now **unthinkable**. The route to the AI-managed hospital is increasingly clear."

Greg Bull, Director of Data Science, Oceansblue.

Supporting Mersey Care NHS Foundation Trust on its transformation journey

Powered by AI, Ward Guardian acts as a virtual rostering assistant, designed to prevent poorly planned rosters by offering best practice suggestions in line with the Trust's goals and policies.

Unit Support:

It talks to unit managers through natural language and heatmaps, providing personalised support to ensure effective rostering. Fully automated and easily customisable in both tone and content, Ward Guardian ensures every unit benefits from having tailored guidance, moving beyond traditional, Excel sheets to a more engaging, supportive approach.

Predictive Modelling:

Ward Guardian also directs the rostering team to focus on units with significant predicted overspend, using predictions to identify timely interventions. By implementing a checklist of measures, such as freezing new short-notice leave requests, it's possible to strengthen the roster and consequently reduce temporary spend, shortages and improve the staff experience.

Rollout Approach:

The rollout of Ward Guardian marked a seamless collaboration between Oceansblue and Mersey Care. "We integrate with a Trust's transformation project team closely so that we become an extension of it," explained Greg Bull, Oceansblue's Director of Data Science. "Thanks to our strong partnership with Mersey Care, we've been able to effectively address and overcome the cultural challenges affecting rostering efficiency."

Rostering Effectiveness Score:

The implementation of Ward Guardian led to a dramatic improvement in the Trust's Rostering Effectiveness Score (RES), which is measured on a scale from 0 to 100. The platform was first integrated in Q3 of 2021, at the end of lockdown, when Mersey Care's RES was just below 30. At the end of 2023, the RES had peaked to 60 and above. Uplifting RES is important, as there is a direct correlation between reduced temporary staffing use and improved RES.

"The Ward Guardian reports are very helpful as I am able to have all the information for my units in one place. I can easily get an overview of net balances, annual leave, safe staffing and can compare performance with other areas.

The reports can be used to support performance meetings and to enable teams to highlight areas where additional support is required. I have been able to use the Ward Guardian reports to make changes to my team's rosters by having the information and oversight all in one place."

Mark O'Farrell, Clinical Services Manager, Secure Care Division.
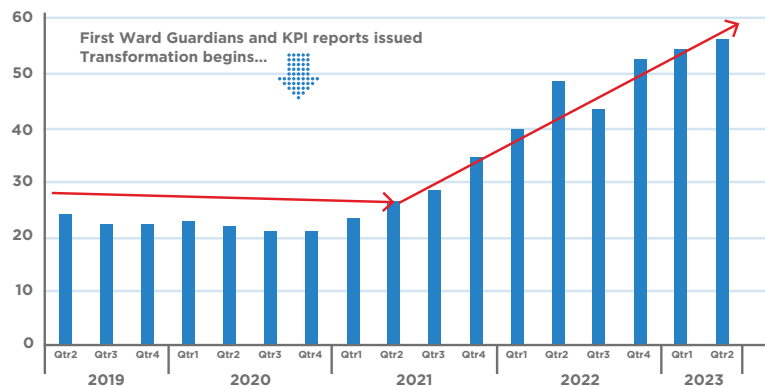
What is Rostering Effectiveness Score?

The RES acts as our compass for improvement, providing a clear definition and benchmark for what constitutes "good" rostering practices. At its core, it aims to minimise shift shortages and the need for temporary staffing, whilst improving adherence to regulatory standards.

RES is a composite metric founded using data science - a select set of metrics that correlate to positive rostering outcomes.

Units are scored over a period of time to see how compliant they are to each metric, and this score is then combined with temporary use and shortages.

We now know where to focus our time to achieve the best results. Units with low RES and high temp use or shortages are ranked, and when we uplift a unit's compliance to RES, we see favourable rostering outcomes.

Improvement in **Rostering Effectiveness Score**

First Ward Guardians and KPI reports issued
Transformation begins...

As **Rostering Effectiveness Score** increases then **Temp %** decreases
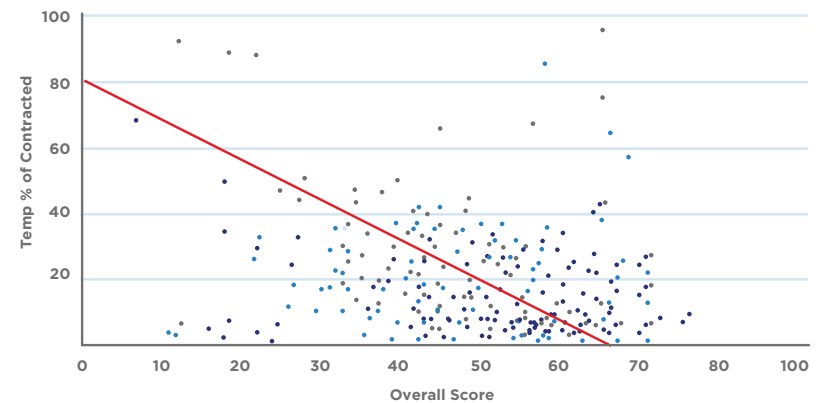
Key Achievements

- **Cost savings:** Cohort analysis of 17 units in the Ward Guardian programme returned a year on year reduction in Agency spend of £580K. Coverage has now been extended to 172 units, with significant additional savings forecast as compliance improves.

- **Costs recovery:** £2.5 million have been identified through various Oceansblue interventions, including hours recovery and a decrease in the pay bill. This is presently being actioned by the Trust.

- **Operational improvements:** The notice time for full roster approval has been significantly improved, from 15 days up to 49 days, enhancing operational efficiency and the staff experience.

- **RES enhancement:** There has been a remarkable uplift in the Rostering Effectiveness Score (RES), from below 30 to above 60.

- **Benchmarked success:** Both agency usage and sickness rates are now trending below national and regional averages, marking a notable achievement in workforce management.

Eyes on the future

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"There is a lot of buzz in the Trust about how AI can help us further improve operations." commented **Chris Lyons, Director of Strategic Programmes and Business Development at Mersey Care.** "In this case, we're seeing a solid example of how an AI-based system is making a tangible positive difference for our staff – and as a consequence, for our patients."

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The Trust is now considering how to bring additional predictive and classifier models to bear on their contemporary workforce challenges. These include financial forecasting, staffing requirement and capacity predictions and exploring incident/staffing correlations.

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"Trusts face constant pressure to innovate and add to their Cost Improvement Programmes (CIPs). As e-rostering systems mature, we can demonstrate that robust compliance management, powered by machine learning, delivers results." said **Greg Bull, Director of Data Science at Oceansblue.**

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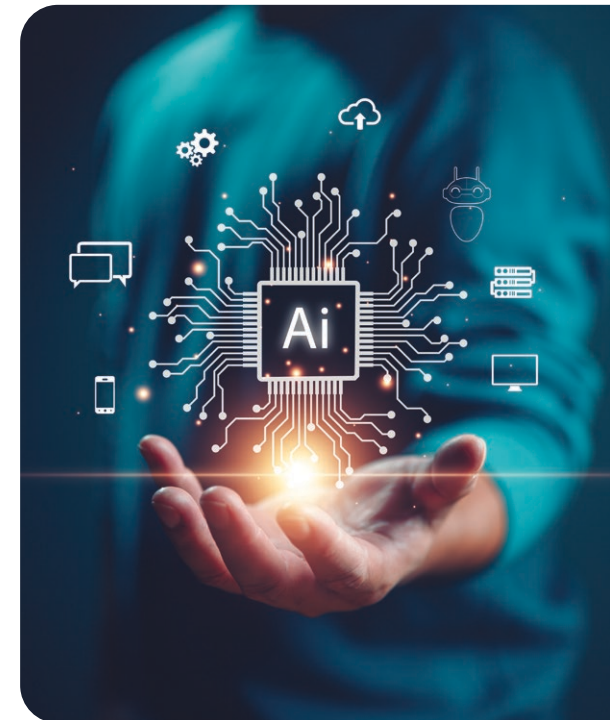
To receive support from Oceansblue's expert team for your Trust's e-rostering transformation project, get in touch to request a demo.

We're proud to be an Allocate partner, with a focus on business intelligence. We work closely with their teams to seamlessly deliver a collaborative service.

We are an accredited and approved G-Cloud supplier, ensuring our pricing is transparent and our procurement processes are straight-forward.

Our work in the NHS:
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