

Evaluating the efficiency of an automated pathway for Obstructive Sleep Apnoea therapy through a digitally enabled workflow: An observational research study

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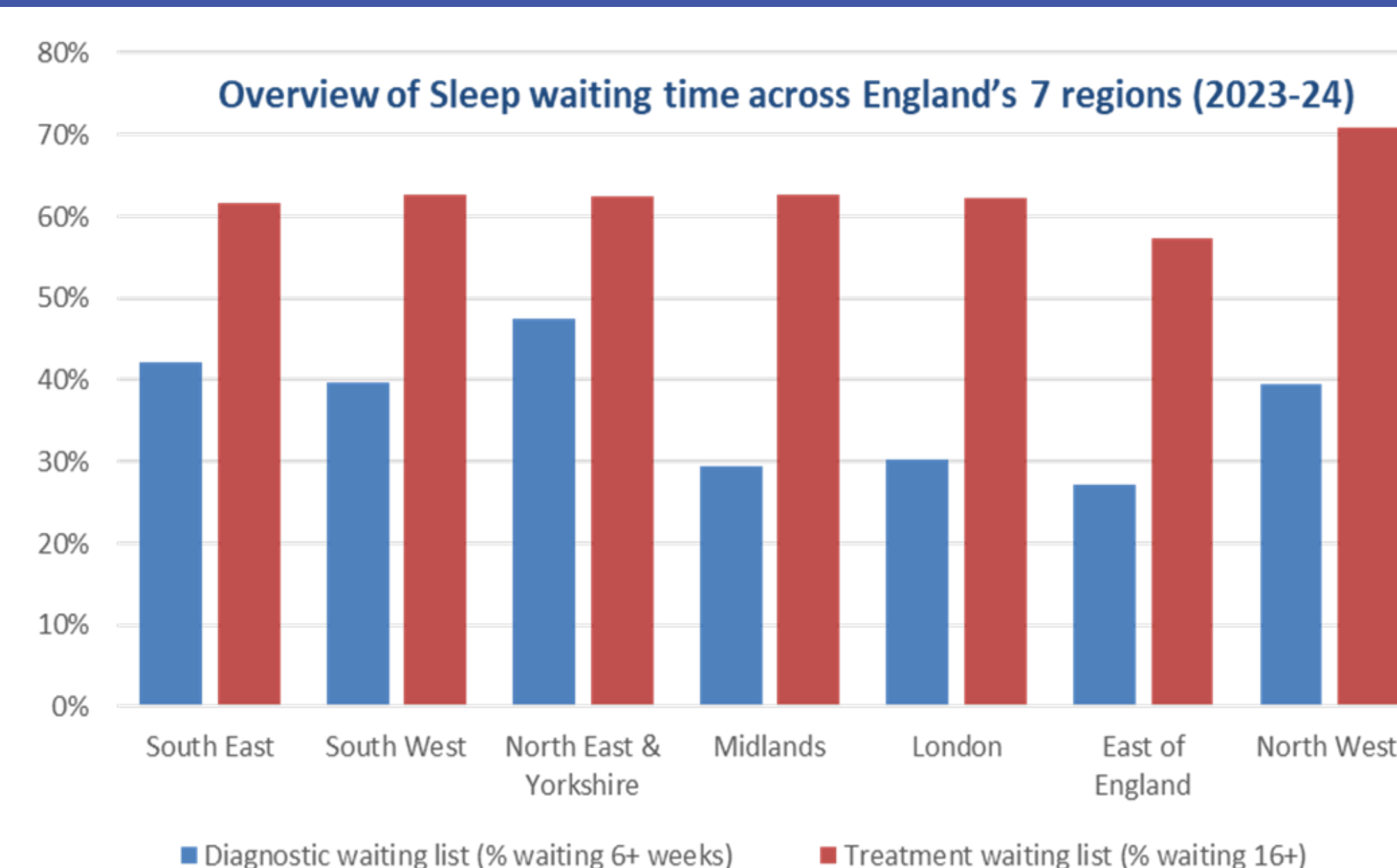
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BACKGROUND AND RATIONALE

Obstructive Sleep Apnoea (OSA) is a common sleep disorder requiring effective management. Traditional care pathway for therapy initiation involves significant administrative workload and patient travel [1].

Recent NHS England data has shown an increased demand for sleep services which has caused significant backlog for patients initiating their treatment after diagnosis [2].

This resulted in healthcare providers not being able to meet their Referral to Treatment (RTT) targets. Annually, more than 250,000 patients are on waiting lists for treatment, and 60% of these patients wait over 18 weeks to begin their treatment to sleep better [2].

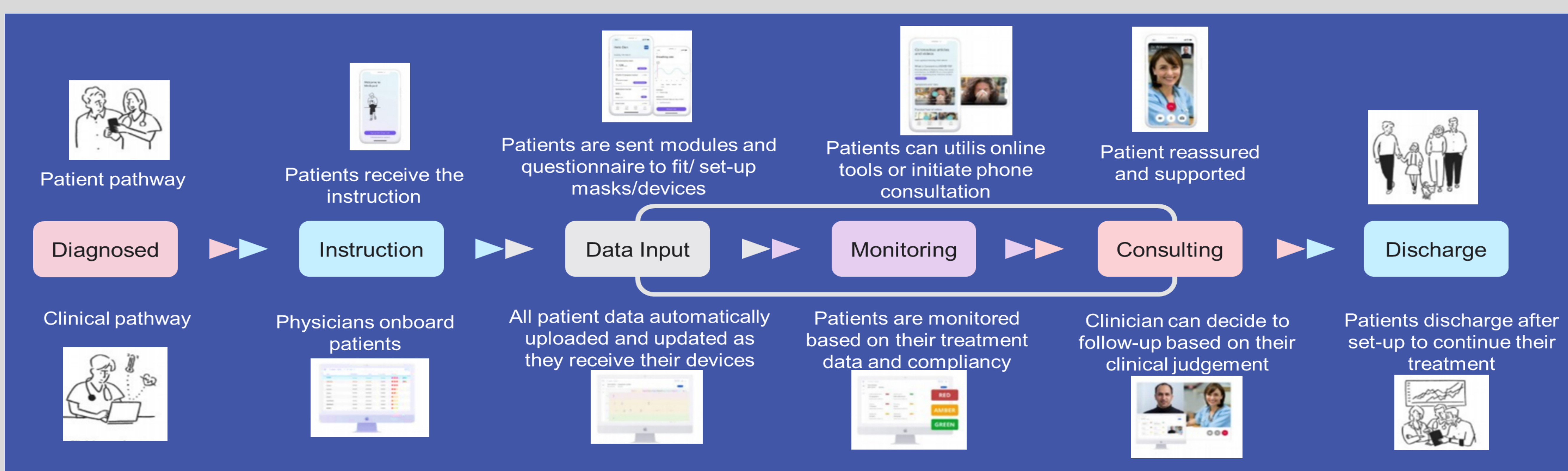


Picture 1. NHS England patients waiting time across 7 regions [2]

METHODS

This study assesses the efficiency gains from implementing clinician-facing digital software that enables remote therapy initiation for patients with OSA. It evaluates the effectiveness of this intervention in reducing administrative hours, improving clinical workflow, and enhancing overall efficiency at both the service and system levels within England's Integrated Care Systems (ICS). We hope by optimisation of clinical processes we could reduce patients waiting time.

- **Study Design:** Observational study comparing pre- and post-implementation metrics using time and motion studies.
- **Data Collection:** Observations of healthcare professional (HCPs) performing routine tasks such as, telephone consultations, ordering patients kits, updating software, answering patients' inquiries, conducting follow-ups and troubleshooting.
- **Participants:** 139 patients were referred by Southwest Integrated Care Board (ICB) in NHS England.



RESULTS

- **Operational Efficiency:** digitally enabled workflows significantly reduced administrative burdens by 97% ($P < 0.001$), increased patient throughput and provides substantial cost savings of £87,000 ~ 2.5 FTEs.
- **Service Performance:** The new pathway improved access to care, a sixfold increase in the number of patients seen in half the time ($p < 0.001$) and reduced backlogs in therapy initiation.
- **Environmental Impact:** the automated pathway reduced more that 470 patient journeys, cutting CO2 emissions by 1.5 tonnes.

CONCLUSIONS

Key Outcomes:

- **Enhancing access to care** by reducing waiting time from diagnosis to treatment initiation, enhancing patient satisfaction and reducing delays in therapy.
- **Optimising clinic capacity and budget** by significantly reducing time spent on administrative tasks, improving workflow efficiency and staff satisfaction.
- **Improving environmental sustainability** by minimising unnecessary travel, reducing he carbon footprint and contributing to the NHS Net Zero Agenda

REFERENCES

- [1] Olivier, MV., et al., (2023) Comparative outcomes in obstructive sleep apnoea therapy: mean disease alleviation as a more appropriate measure—it's about time. Sleep, Volume 46, Issue 10, October 2023, zsad210.
- [2] NSH England Data: <https://www.england.nhs.uk/statistics/statistical-work-areas/rtt-waiting-times/>