

Implementing Digital Preoperative Pathways for Elective Surgery: Environmental, Usability, and Fiscal Impact



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Background

Traditional preoperative assessment (POA) pathways place significant burdens on the NHS, including increased costs, administrative inefficiencies, and environmental impact. In-person POAs require substantial clinical time and patient travel, leading to inefficiencies in surgical scheduling. Digital POAs offer an alternative approach with the potential to optimise workflow, reduce patient burden, and improve efficiency. This study evaluates the feasibility, usability, and economic impact of LifeBox, a digital POA tool designed to streamline the preoperative process and enhance patient engagement.

Aims

Economic: Assess cost savings from implementing digital POA compared to traditional POA.

Environmental: Evaluate the environmental benefits of digitising POAs.

Feasibility: Determine if digital POAs can be effectively integrated into existing clinical workflows.

Usability: Measure patient and staff satisfaction with the digital POA tool.



Methods

Setting: Royal Sussex County Hospital, a high-volume, low-complication elective orthopaedic centre in Brighton, UK.

Duration: March–August 2023

Patient categorisation: 1,401 elective orthopaedic procedures (primarily lower limb arthroplasty) were enrolled in a digital POA pathway. Patients (Age: 16–94, M: 58.3, SD: 17.4; Sex: 51.6% Female) were triaged into four categories:

1. Patients who can be cancelled
2. Patients who can be deferred for better optimisation
3. Patients who can have a telephone POA
4. Patients who do not require any POA and can proceed to surgery

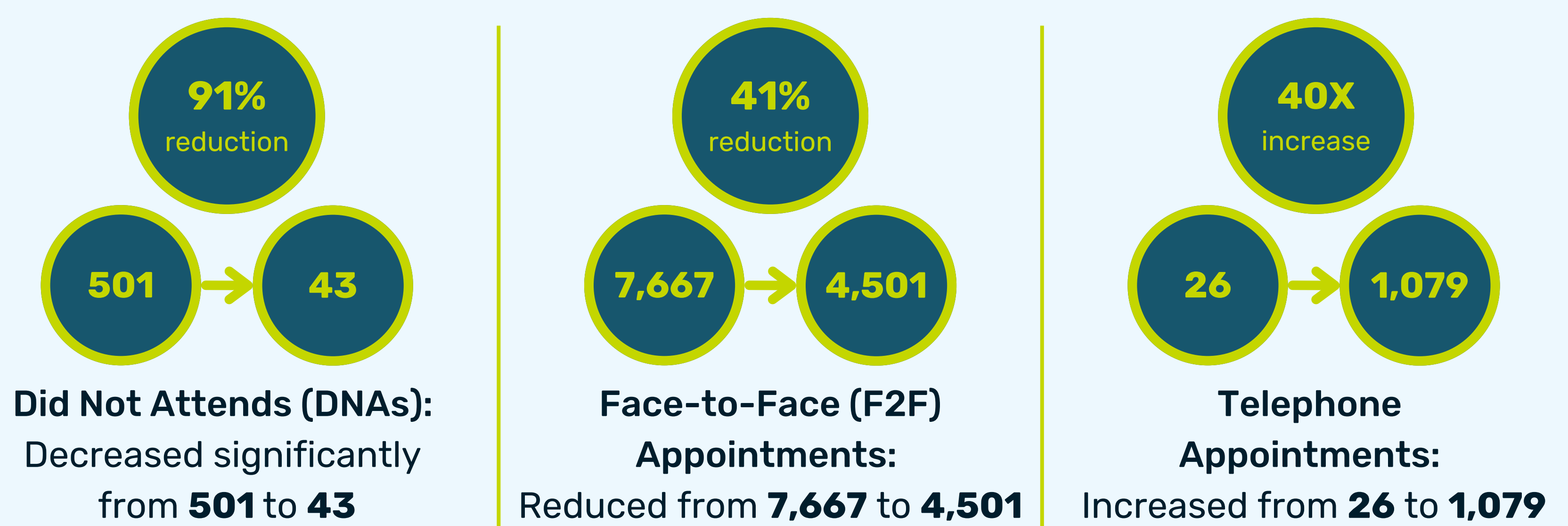
Data collected: Patient demographics, number of episodes created in LifeBox, Number of face to face (F2F) POA appointments, number of telephone appointments, and number of Did Not Attend (DNAs) were measured.

Surveys: Patient and staff surveys were conducted to assess acceptability and satisfaction with the digital POA.

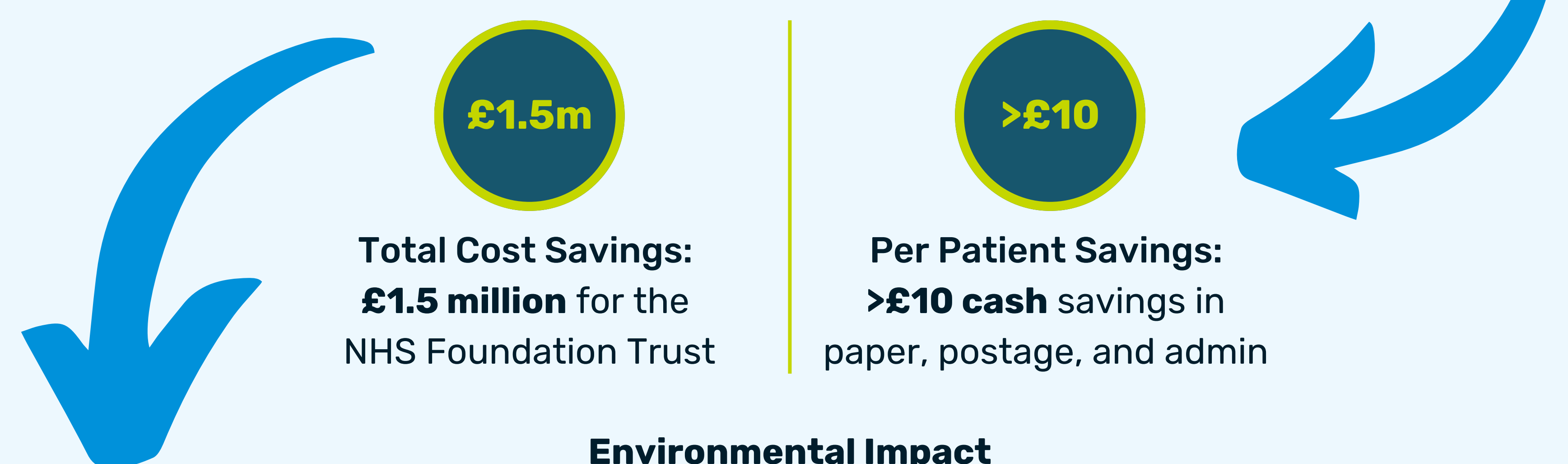


Results

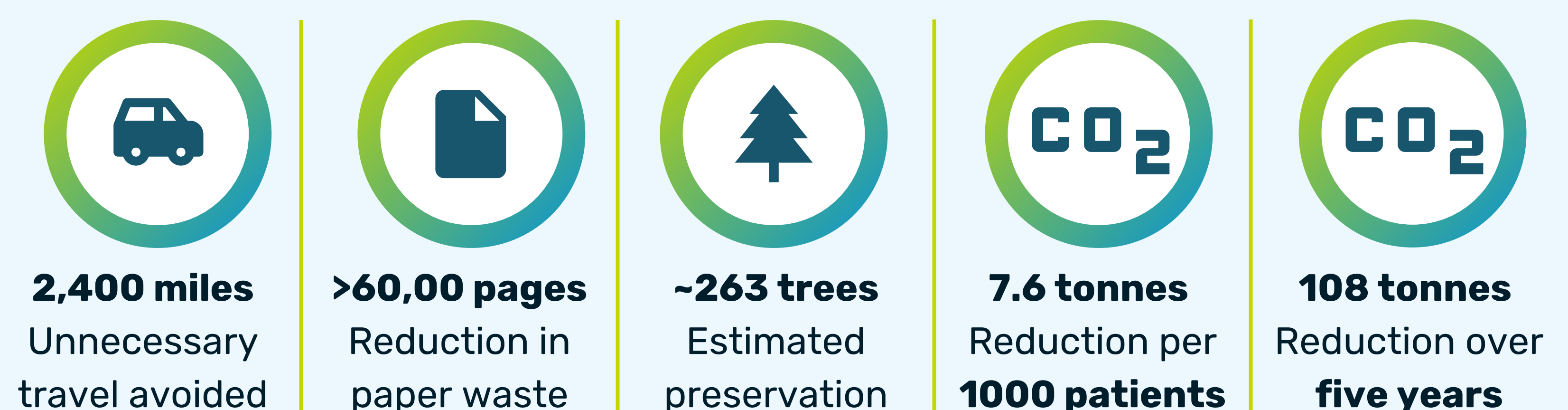
Economic Impact



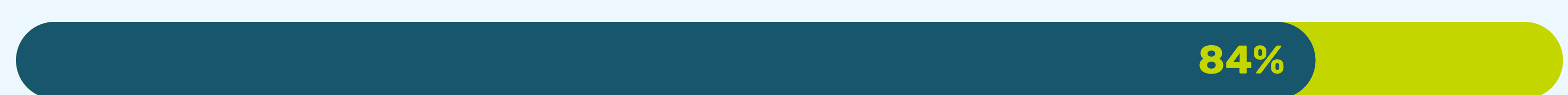
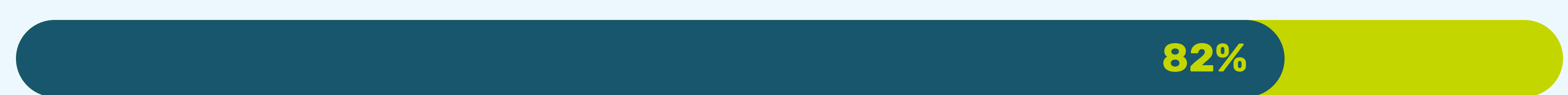
Economic Translation



Environmental Impact



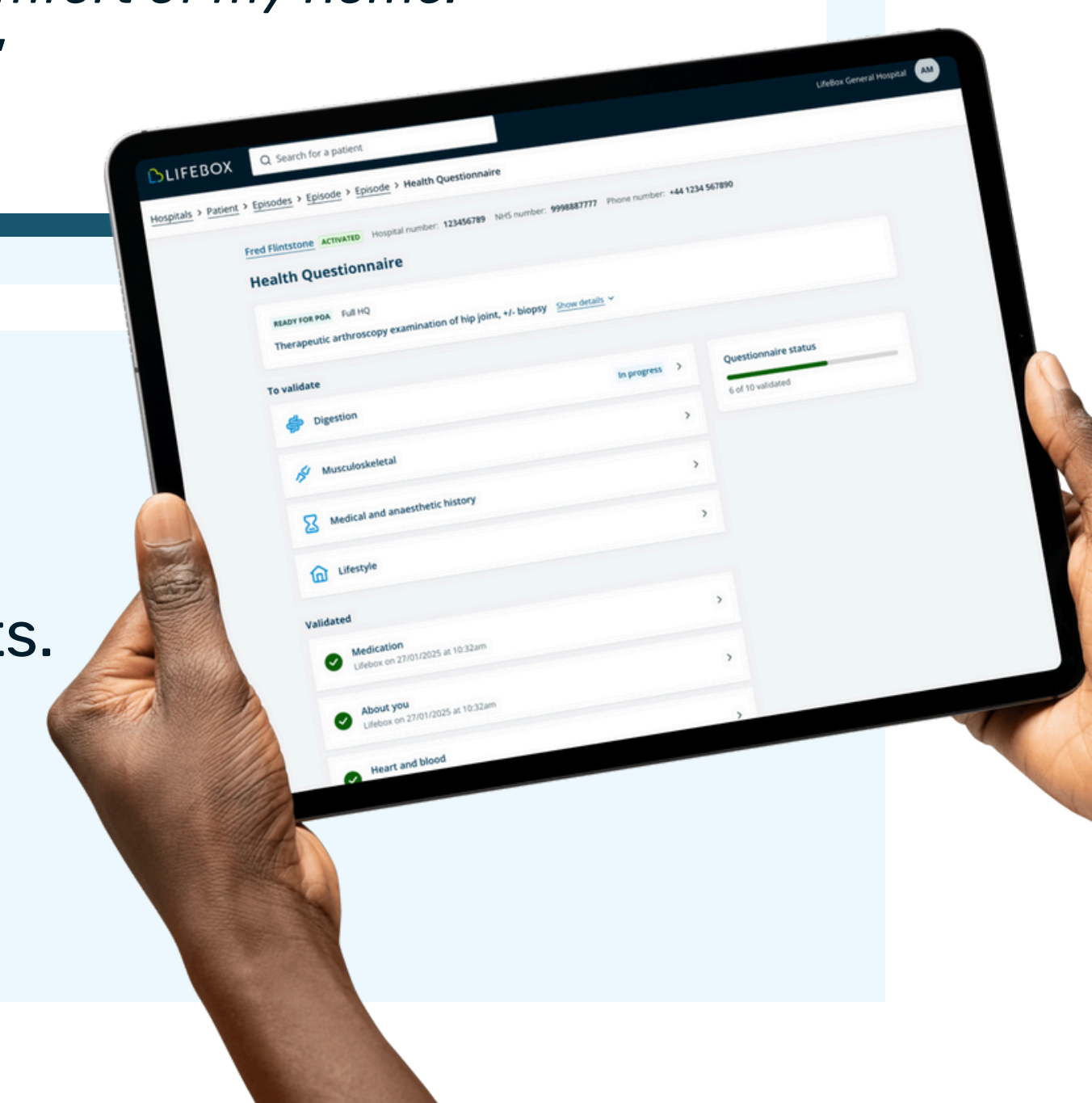
Usability



Staff satisfaction: 84% of staff were satisfied with the new process

Patient feedback

"I'm so glad I can complete pre-assessment questions in the comfort of my home."
 "It was all very easy to follow and complete."
 "Very clear and informative."



Conclusions

The implementation of a digital POA significantly:

- ✓ Reduced face-to-face appointments and administrative costs.
- ✓ Lowered carbon emissions and unnecessary patient travel.
- ✓ Achieved substantial financial savings for the NHS.
- ✓ Maintained high levels of patient and staff satisfaction.