

Reduction in carbon footprint through a Patient-Initiated Follow-Up (PIFU) Inflammatory Bowel Disease Pathway.

Introduction

Remote digitally-supported care can drive carbon emission reductions, as well as increase access to health and patient comfort. IBD Home®, incorporating a PIFU pathway, minimises face-to-face appointments and relocates testing and other interactions to patients' homes, using the My IBD Care® app.

Objective

To calculate the reduction in Greenhouse Gas (GHG) emissions arising from the implementation of an innovative Patient-Initiated Follow-Up pathway.

Methodology

We conducted a comprehensive analysis of the carbon emissions associated with the traditional and PIFU pathways as implemented at Hull University Teaching Hospitals (HUTH). We focused on the impact of decreased patient travel and the adoption of at-home calprotectin testing instead of traditional lab-based methods.

Data on patient travel, testing and associated emissions were collected from NHSE, the Trust, Royal Mail, ClimateImpact.com and patients. We were unable to obtain high quality data about the GHG emissions associated with the manufacturing of the home tests or the manufacturing of laboratory tests, associated equipment and operating emissions from the laboratories themselves and therefore excluded these considerations from our analysis.

Results

Over the 12 months, the PIFU pathway resulted in at least 550 fewer visits to hospital by 774 patients, corresponding to at least 9,075 miles reduction in travel. 426 hours of patient travel were avoided, and the overall reduction in GHG emissions from reduced travel to and from appointments was over 2.5 tonnes.

Approximately 815 home tests were sent in the 12 month period. The carbon footprint associated with sending these tests by post was 0.028 tonnes (28kg). At home calprotectin testing resulted in 815 avoided return trips, equating to at least 13405 miles less travel, saving patients 646 hours of travel and reducing GHG emissions by 4.15 tonnes.

Overall, the implementation of the IBD Home PIFU pathway at Hull led to a reduction in GHG of 6.65 tonnes. It saved patients at least 1,072 hours of travel time and reduced unnecessary travel and transportation by 22,480 miles - approximately equivalent to driving once around Earth!

Conclusion

Patient initiated follow up pathways in IBD, incorporating home biomarker testing, can significantly reduce the carbon footprint of outpatient care. The findings reaffirm the value of patient-centric models and emphasise the importance of sustainability in healthcare practices.

References

Royal Mail Carbon Calculator (<https://www.climateimpact.com/royal-mail-carbon-calculator/>)

HUTH approved business case

HUTH internal data

NHSE Outpatient Transformation Benefits Calculator v1.0