



The sustainable value of remote consultations following primary lower limb arthroplasty

Alan J Hilley¹, Timothy G Petheram¹

Correspondence: Alan Hilley, Northumbria NHS Foundation Trust, Department of Trauma and Orthopaedics, Tyne and Wear, UK.
Email: alanhilley@nhs.net

Abstract

Background: Transport accounts for 24% of all UK emissions, with NHS-related travel contributing approximately 3.5%. The climate crisis and COVID-19 pandemic highlighted the need for more sustainable healthcare pathways. In 2019, Northumbria NHS Trust introduced remote consultations after primary lower limb arthroplasty. The aim of this project is to establish the acceptability and sustainable value of remote consultation following primary lower limb arthroplasty in relation to the triple bottom line: environmental, societal and financial impact.

Methodology: A cohort of 100 consecutive patients who underwent lower limb arthroplasty between 03/08/2020 and 23/01/2021 completed a 10-question survey assessing communication, convenience, and satisfaction. Environmental impact was calculated using government conversion factors to estimate CO₂ emissions from avoided travel. Financial savings were estimated by comparing the costs of face-to-face and remote consultations.

Results: All patients (100%) reported that their concerns were adequately addressed, with 87% finding remote consultations more convenient and 97% expressing satisfaction. Avoided travel totalled 4520 miles, reducing emissions by 1.58 tonnes CO₂E (projected 41 tonnes annually). Estimated financial savings from remote consultations were £5000 (£129,850 annually).

Conclusion: Remote consultations provide sustainable value by balancing patient outcomes, environmental benefits, and financial savings. Patients found the process acceptable, convenient, and felt their care was uncompromised. Substantial reductions in carbon emissions and cost savings indicate that remote consultations are a viable, sustainable alternative to face-to-face follow-ups after lower limb arthroplasty.

1. Northumbria NHS Foundation Trust, Department of Trauma and Orthopaedics, Tyne and Wear, UK

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