170 Social and Environmental Benefits of Virtual Fracture Clinics in Trauma and Orthopaedic Surgery: Reduced Patient Travel Time, Patient Cost and Air Pollutant Emissions

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Aim: Several papers have analysed the clinical benefits and safety of Virtual Fracture Clinics (VFCs). A significant increase in the use of Trauma and Orthopaedic (T&O) VFCs was seen during the COVID-19 pandemic. This study aims to investigate the social impact of VFCs on the travel burden and travel costs of T&O patients, as well as the potential environmental benefits in relation to fuel consumption and travel-related pollutant emissions.

Method: All patients referred for T&O VFC review from March 2020 to June 2020 were retrospectively analysed. The travel burden and environmental impacts of hypothetical face-to-face consultations were compared with these VFC reviews. The primary outcomes measured were patient travel time saved, patient travel distance saved, patient cost savings and reduction in air-pollutant emissions.

Results: Over a four-month period, 1359 VFC consultations were conducted. The average travel distance saved by VFC review was 88.6 kilometres (range 3.3-615), with an average of 73 minutes (range 9-390) of travel-time saved. Patients consumed, on average, 8.2 litres (range 0.3-57.8) less fuel and saved an average of €11.02 (range 0.41-76.59). The average reduction in air-pollutant vehicle emissions, including carbon dioxide, carbon monoxide, nitric oxides and volatile organic compounds was 20.3 kilograms (range 0.8-140.8), 517.3 grams (g) (range 19.3-3592.3), 38.1g (range 1.4-264.8) and 56.9g (range 2.1-395.2), respectively.

Conclusions: VFCs reduce patient travel distance, travel time and travel costs. In addition, VFCs confer significant environmental benefits through reduced fuel consumption and reduction of harmful environmental emissions.