

Table S1. The components of the carbon footprint of the care pathway and their calculation

Care Pathway Component	Carbon Footprint Estimation
1. kgCO ₂ e of Patient Travel	Number of miles travelled x 0.24250 kgCO ₂ e/mile ¹
2. kgCO ₂ e of Inpatient Bed Day	(Number of hours as an inpatient x 7.29 kWh/bed/hour ²) x 0.39108 kgCO ₂ e/kWh ³
3. kgCO ₂ e of GP Consultations	Number of GP consultations x 1.14kgCO ₂ e/consultation ⁴
4. kgCO ₂ e of Blood Tests	(Number of coagulation studies + number of renal profiles) x (£3.20/blood test x 0.42 kgCO ₂ e/£ ⁵)
5. kgCO ₂ e of Procedural Pharmaceutical Procurement	Total price of pharmaceuticals used during the procedure in £s ⁶ x 0.56 kgCO ₂ e/£ ⁵
6. kgCO ₂ e of Procedural Equipment Procurement	Total price of medical equipment used during the procedure in £s x 0.42 kgCO ₂ e/£ ⁵
7. kgCO ₂ e of Oxygen Procurement	(Total volume of oxygen used during procedure in litres x £0.00236/litre ⁵³) x 0.56 kgCO ₂ e/£ ⁵
8. kgCO ₂ e of Waste Incineration	Total weight of procedural waste in grams x 0.0018 kgCO ₂ e/g ⁶
9. kgCO ₂ e of Water Usage (Bed Day)	Number of hours as an in-patient x 0.00346 kgCO ₂ e/hour ²
10. kgCO ₂ e of Water Usage (Procedure)	Length of the procedure in minutes x 0.000803 kgCO ₂ e/minute ⁷
11. kgCO ₂ e of Procedure (Average)	(6+7+8+9+10+11+12 for each procedure) ÷ number of procedures
12. kgCO ₂ e of Care Pathway	1+2+3+4+5+11

- https://www.sduhealth.org.uk/documents/publications/2014/GHG_Prescription_Feb_2014.pdf (Accessed 19th November 2020)
- Penny T, Collins M, Whiting A, et al. Inpatient Bed Day Module. *Care Pathways: Guidance for Appraising Sustainability* 2015
[https://www.sduhealth.org.uk/documents/publications/2015/CSPM%20Care%20Pathways%20Guidance/4. Sustainable Care Pathways Guidance - Inpatient Bed Day Module - Oct 2015.pdf](https://www.sduhealth.org.uk/documents/publications/2015/CSPM%20Care%20Pathways%20Guidance/4._Sustainable_Care_Pathways_Guidance_-_Inpatient_Bed_Day_Module_-_Oct_2015.pdf)
- Hill N, Bramwell R, Harris B. 2017 Government GHG Conversion Factors for Company Reporting: Department for Business Energy and Strategy, 2017:138. Available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/650244/2017_methodology_paper_FINAL_MASTER.pdf (Accessed 22/01/21)
- Penny T, Collins M, Whiting A, et al. GP Consultation Module. *Care Pathways: Guidance on Appraising Sustainability*, 2015
[https://www.sduhealth.org.uk/documents/publications/2015/CSPM%20Care%20Pathways%20Guidance/1. Sustainable Care Pathways Guidance - GP Consultation Module - Oct 2015.pdf](https://www.sduhealth.org.uk/documents/publications/2015/CSPM%20Care%20Pathways%20Guidance/1._Sustainable_Care_Pathways_Guidance_-_GP_Consultation_Module_-_Oct_2015.pdf) (Accessed 19/11/20)
- Sustainable Development Unit. NHS England Carbon Emissions Carbon Footprinting Report, 2008. http://www.sd-commission.org.uk/data/files/publications/NHS_Carbon_Emissions_modelling1.pdf Accessed (16/03/21)

6. Connor A, Lillywhite R, Cooke MW. The carbon footprint of a renal service in the United Kingdom. *QJM: Monthly Journal Of The Association Of Physicians* 2010;103(12):965-75.6

7. Penny T, Collins M, Whiting A, et al. Surgical Procedure Module. *Care Pathways: Guidance on Appraising Sustainability* 2015.

<https://www.sduhealth.org.uk/documents/publications/2015/CSPM%20Care%20Pathways%20Guidance/5. Sustainable Care Pathways Guidance - Surgical Procedure Module - Oct 2015.pdf>

(Accessed 19/11/20)

Table S2. Original data and its conversion to allow for carbon footprint estimation

Original dataset	Converted dataset
Home postcode, GP postcode, and UHS postcode.	Distance from home to GP (miles), and from home to UHS (miles), as the crow flies.
Distances between destinations, and number of UHS, GP and other clinic visits.	Total miles travelled by the patient during the care pathway, as the crow flies.
Time admitted to UHS for cardioversion, and time discharged post-procedure.	Total time spent at UHS as an in-patient (to the nearest hour).

Fig S1. Flow diagram outlining the direct current cardioversion care pathway.

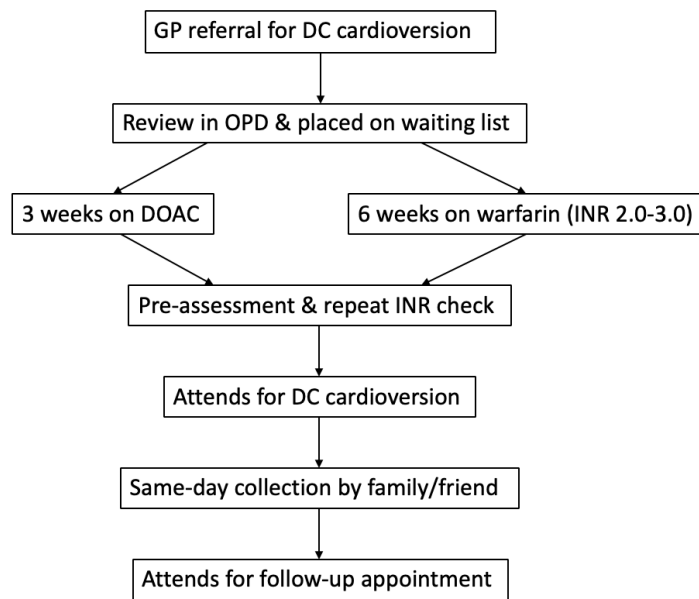


Fig S2. Patient flow.

