

## Letters to the Editor

### OVERVIEW

Please submit letters for the editor's consideration within 3 weeks of receipt of *Future Healthcare Journal*. Letters should be limited to 350 words, and sent by email to: fhj@rcp.ac.uk

### Inter-trust staff redeployment: an underutilised mutual aid strategy in the NHS COVID-19 response?

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Editor – Throughout the first and second waves of the COVID-19 pandemic, hospitals across England, and the south east in particular, were under immense pressure from high COVID-19 infection rates. Many trusts have supported each other in their respective regions through mutual aid. In south-east London during the second surge, Guy's and St Thomas' NHS Foundation Trust accepted critical care transfers and inpatient medical transfers from surrounding NHS trusts in the region. This collaborative support has been vital in preventing hospitals in the region from becoming overwhelmed.

To meet increased demand, NHS personnel have been redeployed within their trusts to high intensity areas like critical care. Although staff redeployment has been a key part of the response within trusts there has been far less national attention given to redeployment of staff between trusts.

Redeployment of staff between trusts may be an effective strategy to support the regional COVID-19 response. It may also form part of an effective strategy in a coordinated national response as we have seen different parts of England affected more severely at different points in time throughout the pandemic. What is unclear is firstly the need, if any, at different phases of the first and second surge for inter-trust redeployment. Was staffing as significant an issue as bed capacity where redeployment might have provided an effective solution alongside patient transfer? Secondly, how does redeployment between trusts within a region work operationally, and finally, at a national level, who would be responsible for coordinating the process between different regions. The potential governance, training and contractual red tape would also need to be addressed. Furthermore, one mustn't forget the personal experience for staff of being redeployed, even on a short-term basis.

The utilisation and practical application of mutual aid across regions is one key pillar of the regional NHS response that would benefit from further analysis and reflection. Capturing both organisational and personal perspectives would be invaluable when thinking about redeployment strategies to combat the COVID-19 pandemic moving forward. ■

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### Elective DC cardioversion: a comparison of the carbon footprint of the care pathways for warfarin and DOAC treated patients

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Editor – What is the impact of changing anticoagulation from warfarin to direct-acting oral anticoagulants (DOAC) on the carbon footprint (CF) of the elective direct current cardioversion (EDCCV) care pathway (supplementary material S1; Fig S1)?

#### Methods

After Integrated Research Application System (230497), institutional approval (RHM-CR10347) and patient consent, we recruited all patients presenting for EDCCV under general anaesthesia at University Hospital Southampton NHS Foundation Trust (UHS) between 2012–2017. Prospectively, data from 22 patients were analysed: mode of transport to their general practitioner and UHS, anaesthesia drugs, disposables, oxygen, waste generation and time spent in hospital for EDCCV were obtained and applied retrospectively. From the information systems, correspondence, attendance, duration of stay, clinical activity and pathology data was obtained, extracted, anonymised and encrypted. We calculated all relevant distances, (supplementary material S1; Tables S1 and S2) and incorporated these into Sustainable Care Pathway Guidance (SCPG).<sup>1</sup> Pooled data for DOAC treated patients were compared with warfarin treated patients using the Mann–Whitney *U* test.

#### Study answer and limitations

Supplementary material S1, Fig S2 illustrates patient flow. In the prospective limb, 21 travelled to hospital and 14 to their GP surgery by fossil fuelled cars. Median age was 68 years (interquartile range (IQR) 61–73; range 22–89), 71.6% were men and 204 were receiving DOACs at the time of the EDCCV.

DOAC treated patients spent less time on the care pathway, made fewer visits to GP and hospital, travelled less and had fewer coagulation studies. The median equivalent carbon dioxide (CO<sub>2</sub>e) was 58.16 kg vs 85.49 kg for the warfarin group ( $p < 0.0001$ ; Table 1; Fig 1).

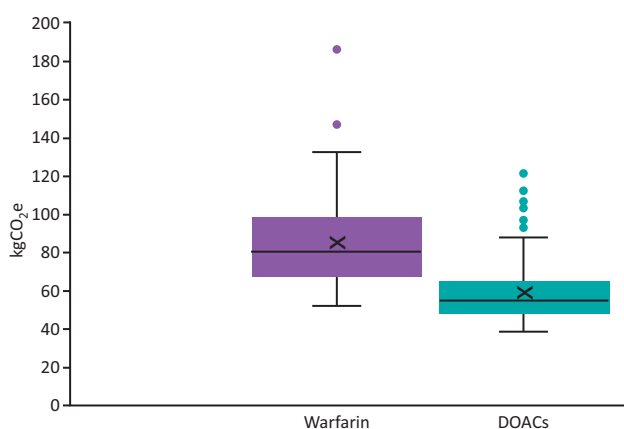
Between 2012–2017, DOAC treatment required less stringent monitoring of anticoagulation with less visits, travelling, sample transportation and processing. The CO<sub>2</sub>e of anaesthesia-related single use items was taken as 420 g/£ spent irrespective of anticoagulation.<sup>2</sup> The CO<sub>2</sub>e of DOAC procurement was not available from the manufacturers, but we estimate a month's apixaban therapy to be 100 g (1 km in a small car).<sup>3–5</sup>

Building energy use was apportioned for the duration of stay and was 233 kWh/bed/day and contributed 17.11 kg for both groups.<sup>6</sup>

**Table 1. Warfarin and DOAC treated groups**

	Warfarin, n=95			DOACs, n=204			p
	Median	Range	IQR	Median	Range	IQR	
Time from referral to DCCV, months	5	2–24	3–6	4	1–12	3–6	0.002
GP visits, n	6	3–20	4–9	1	1	1–1	<0.001
UHS visits, n	4	2–6	4–5	4	2–6	3–4	0.003
Total distance travelled, km	51.86	10.65–343.80	34.63–99.7	38.80	5.95–316.75	21.96–83	<0.001
Coagulation studies, n	6	4–26	5–11	1	1–1	1–1	<0.001
Travel-related CF, kgCO <sub>2</sub> e	12.58	2.58–83.37	8.38–24.18	9.41	1.44–76.8	5.32–20.13	<0.001
Total CF, kgCO <sub>2</sub> e	85.49	52.07–185.55	67.39–97.29	58.16	38.26–120.98	64.17–47.81	<0.0001
CO <sub>2</sub> e expressed as equivalent car travel for the whole care pathway <sup>a</sup>	534	325–1160		363	239–756		

<sup>a</sup>Equivalent car distance travelled assumes 160 gCO<sub>2</sub>/km. CF = carbon footprint; DOAC = direct acting oral anticoagulant; DCCV = direct current cardioversion; GP = general practitioner; IQR = interquartile range; kgCO<sub>2</sub>e = kg carbon dioxide equivalence; UHS = University Hospital Southampton NHS Foundation Trust.



**Fig 1. Total kgCO<sub>2</sub>e of the care pathways for warfarin vs DOAC treated patients.** DOACs = direct acting oral anticoagulants (and includes the pooled results from the patients receiving rivaroxaban, apixaban and dabigatran).

### What this study adds

SCPG avoids time-consuming and costly life cycle assessments, yet provides the framework to map clinical care. The change from warfarin to DOACs reduced the CF of the EDCCV care pathway for patients attending our hospital. ■

### Supplementary material

Additional supplementary material may be found in the online version of this article at [www.rcpjournals.org/fhj](http://www.rcpjournals.org/fhj): S1 – Supplemental tables and figures.

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### References

- NHS. *Care pathways: Guidance on appraising sustainability*. NHS, 2015. [www.sduhealth.org.uk/documents/publications/2015/CSPM%20Care%20Pathways%20Guidance/Sustainable\\_Care\\_Pathways\\_Guidance\\_-\\_Main\\_Document\\_-\\_Oct\\_2015.pdf](http://www.sduhealth.org.uk/documents/publications/2015/CSPM%20Care%20Pathways%20Guidance/Sustainable_Care_Pathways_Guidance_-_Main_Document_-_Oct_2015.pdf)
- NHS. *Identifying high greenhouse gas intensity prescription items*. NHS, 2014. [www.sduhealth.org.uk/documents/publications/2014/GHG\\_Prescription\\_Feb\\_2014.pdf](http://www.sduhealth.org.uk/documents/publications/2014/GHG_Prescription_Feb_2014.pdf) [Accessed 19 November 2020].
- Parvatker A, Tunceroglu H, Sherman JD *et al*. Cradle-to-gate greenhouse gas emissions for twenty anaesthetic active pharmaceutical ingredients based on process scale-up and process design calculations. *ACS Sustainable Chem Eng* 2019;7:6580–91.
- Bhonoah Y. *Synthesis*. [www.ch.ic.ac.uk/local/projects/bhonoah/synthesis.html](http://www.ch.ic.ac.uk/local/projects/bhonoah/synthesis.html) (Accessed 20/01/21).
- Mali AC, Deshmukh DG, Joshi DR *et al*. Facile approach for the synthesis of rivaroxaban using alternate synthon: reaction, crystallization and isolation in single pot to achieve desired yield, quality and crystal form. *Sustain Chem Process* 2015;3:11.
- NHS. *Estates Returns Information Collection, England, 2017-18*. NHS, 2018. <https://digital.nhs.uk/data-and-information/publications/statistical/estates-returns-information-collection/summary-page-and-dataset-for-eric-2017-18#resources> [Accessed 30 July 2019].

### The digital footprint of Philippine eye care centres in the onset of the COVID-19 pandemic

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Editor – As reported in recent articles, the pandemic has accelerated digital healthcare's rise. Following are initial