

Environmental Impact of In-Centre Haemodialysis

St Joseph's Healthcare
Hamilton



AstraZeneca 



**Sustainable
Healthcare
Coalition**

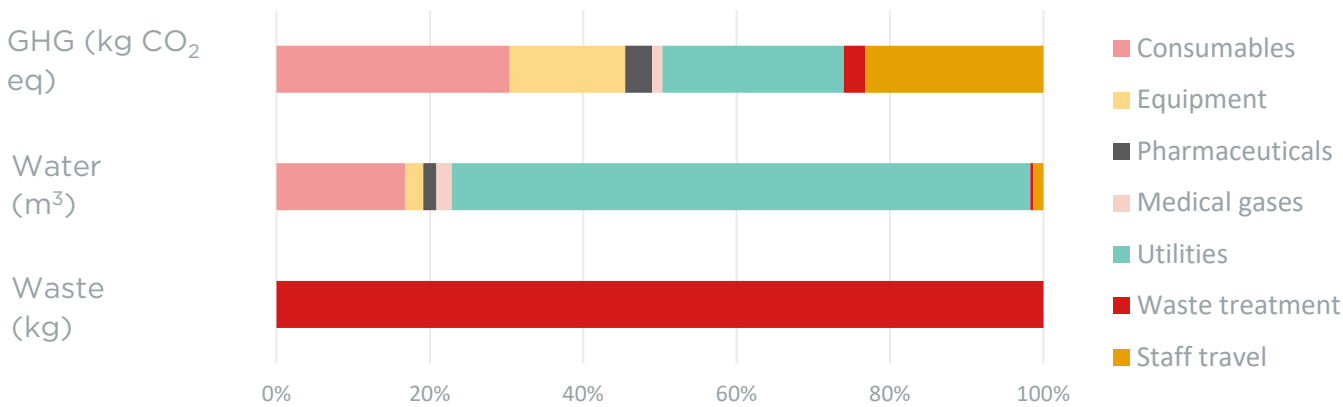
August 2026

Title	In-centre haemodialysis session at St. Joseph's Healthcare Hamilton
Organisation and role	AstraZeneca UK Limited initiated and funded this work, but it was not involved in collecting and analysing the hospital data. AstraZeneca UK Limited saw only the final output.
Company website	www.astrazeneca.com/
Contact details	Ekaterina Maslova (ekaterina.maslova@astrazeneca.com)
Completion date	June 2026
Assurance	Internal assurance
Supporting information	Operational data from St. Joseph's Healthcare Hamilton, Canada
Data gathering and analysis contact	Michael Collins, Partner, ERM (michael.collins@erm.com)
Hospital contact	Rick Badzioch (rbadzioc@stjoes.ca)
Conformance with Care Pathways: Appraising Sustainability Method ¹	Adheres to the method
Care pathway description	Average dialysis session at the in-centre haemodialysis department
Environmental issues appraised	Global warming potential (IPCC AR6, CO ₂ eq, 100-year), water use, waste

This resource is supplementary material for the study ‘Appraisal of Environmental Impact of St. Joseph’s Healthcare Hamilton.’² Refer to that document for a description of the assessment procedures.

Findings

This study appraised the environmental impact of a dialysis session at the in-centre haemodialysis department. The study found a greenhouse gas (GHG) emission impact of 13.1 kg CO₂ eq, water use of 62.1 m³ and waste of 0.5 kg per dialysis treatment at the in-centre haemodialysis department.



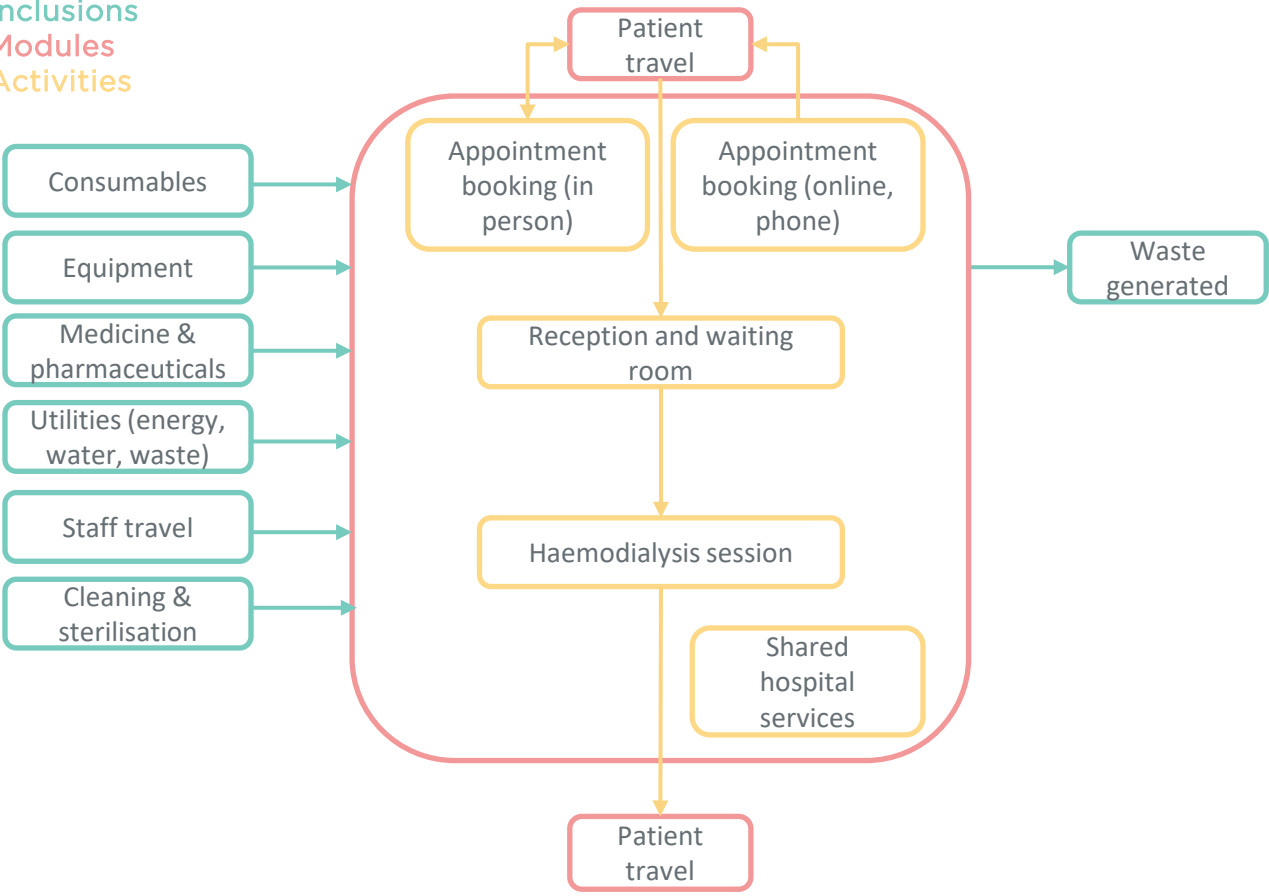
¹ Sustainable Healthcare Coalition (2026). Sustainable Care Pathways Method. Available at: <https://shcoalition.org/sustainable-care-pathways-guidance>.
² ERM (2026) Appraisal of Environmental Impact of St. Joseph’s Healthcare Hamilton. Available at: https://shcoalition.org/wp-content/uploads/2026/09/Hospital_StJosephs.pdf

Climate change impacts were driven primarily by consumables (30%), utilities (24%) and staff travel (23%). Consumables impacts were dominated by dialysis and intravenous therapy items (e.g. bloodline sets, dialysers, bicarbonate and acid concentrate cartridges, and saline solutions), many of which were modelled using EEIO emission factors, with additional contributions from wound-care materials and infection-prevent products. Utilities impacts were driven by the hospital's use of natural gas, while staff travel impacts were primarily associated with internal combustion engine-powered car travel.

Scope

- This assessment appraises the environmental impact of a dialysis session at the in-centre haemodialysis department at the Charlton Campus Hospital.
- The functional unit of the system studied is an average dialysis session in FY25.
- The scope includes appointment booking and the haemodialysis session.

Inclusions
Modules
Activities



Data

Primary data for the in-centre haemodialysis department were collected for FY25 for consumables, equipment, pharmaceutical products, staffing and patient throughput. Primary data for the hospital were collected for FY25 and allocated to the in-centre haemodialysis department activities on a floor space basis for utilities, waste management, patient nutrition and medical gases. The impacts of shared non-clinical hospital services were allocated to the in-centre haemodialysis department activities on a floor space basis. The environmental impact of the in-centre haemodialysis department for FY25 was modelled and then divided by the total number of FY25 dialysis sessions.



Results

Results are presented as the environmental impact per dialysis treatment at the in-centre haemodialysis department at the Charlton Campus Hospital.

Module	GHG kg CO ₂ eq	Water m ³		Waste kg
		Direct	Indirect	
Consumables	3.99	-	10.4	-
Equipment	1.97	-	1.49	-
Pharmaceuticals	0.461	-	1.07	-
Medical gases	0.173	-	1.24	-
Utilities	3.10	0.066	46.8	-
Waste treatment	0.364	-	0.242	0.51
Staff travel	3.04	-	0.814	-
Total	13.1	0.066	62.1	0.51

Acknowledgements

This document has been developed collaboratively with St. Joseph’s Healthcare Hamilton and the Sustainable Healthcare Coalition. The Coalition comprises a range of organisations within the healthcare sector, including pharmaceutical and medical device companies, trade bodies, procurement, government organisations and other stakeholders. The Sustainable Healthcare Coalition operates with the aim of facilitating the journey towards good health and wellbeing on a finite planet, through open-minded collaboration across public and private healthcare.