

Environmental Impact of a High- Intensity Ward

**St Joseph's Healthcare
Hamilton**



AstraZeneca 



**Sustainable
Healthcare
Coalition**

August 2026

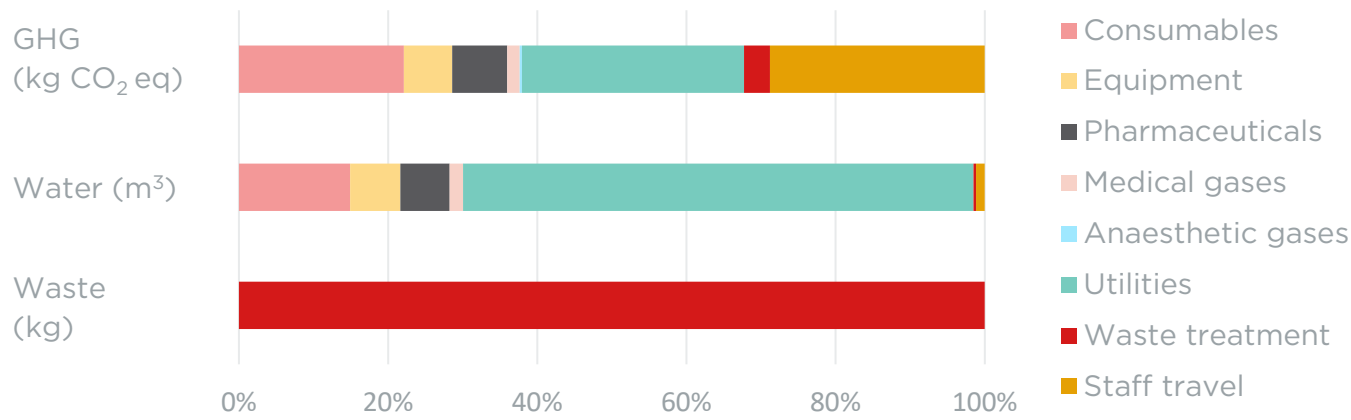
Title	High-intensity ward at St. Joseph's Healthcare Hamilton
Organisation and role	AstraZeneca UK Limited initiated and funded this work, but it was not involved in collecting and analysing the hospital data. AstraZeneca UK Limited saw only the final output.
Company website	www.astrazeneca.com/
Contact 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	Andrea McKnight (amcknight@stjoes.ca)
Conformance with Care Pathways: Appraising Sustainability Method ¹	Adheres to the method
Care pathway description	Average bed day on the high-intensity ward
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 high-intensity ward bed day. The study found a greenhouse gas (GHG) emission impact of 145 kg CO₂ eq, freshwater use of 952 m³ and waste of 7.1 kg per average bed day at the high-intensity.

Climate change impacts were driven by utilities (30%), staff travel (29%) and consumables (22%). Utilities’ impacts were dominated by the hospital’s use of natural

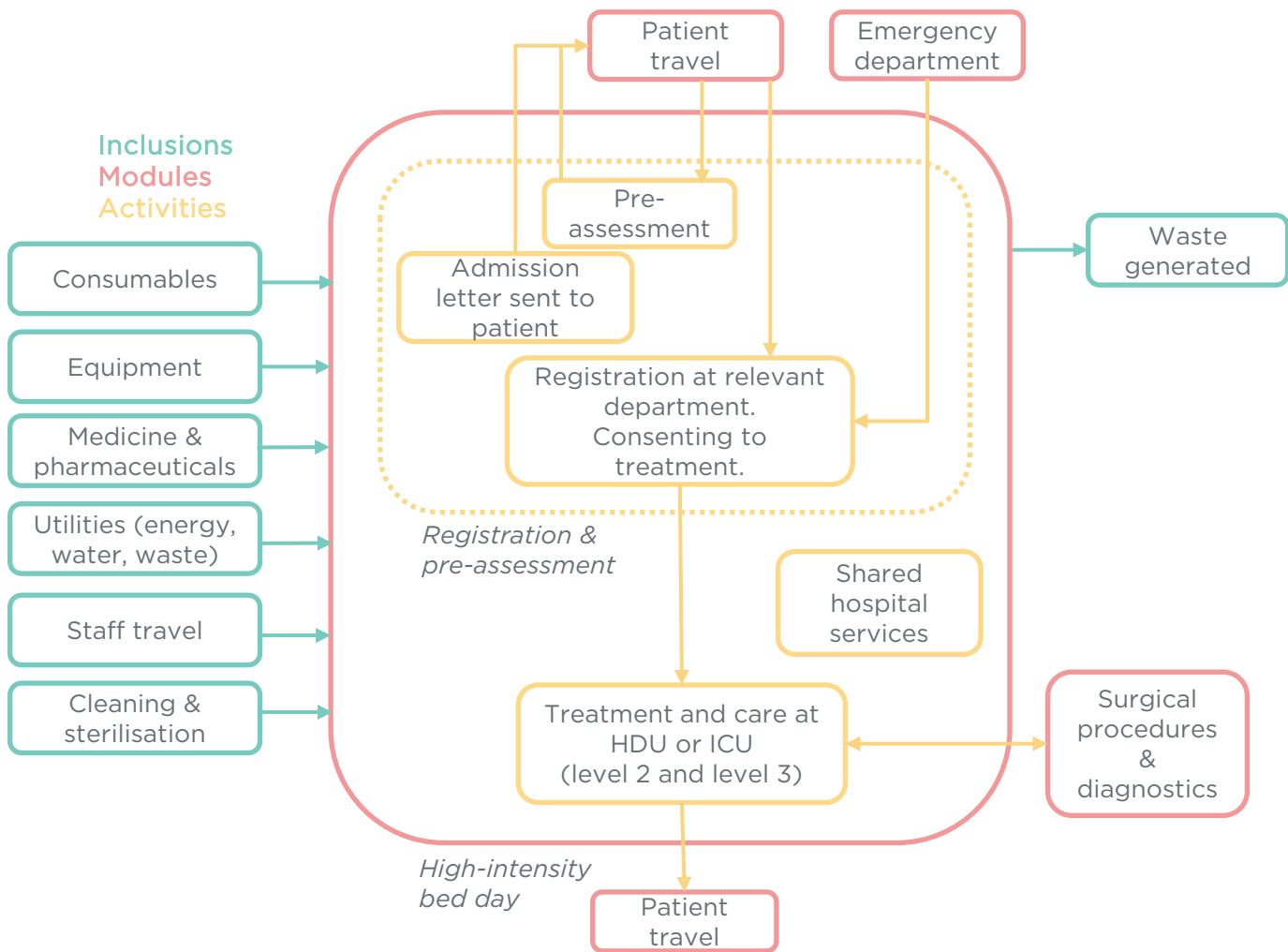


¹ Sustainable Healthcare Coalition (2026). Sustainable Care Pathways Method. Available at: <https://shcoalition.org/sustainable-care-pathways-guidance>.
² ERM (2026) Appraisal of Environmental Impact of St. Joseph’s Healthcare Hamilton. Available at: https://shcoalition.org/wp-content/uploads/2026/09/Hospital_StJosephs.pdf

gas, while staff travel impacts were primarily associated with internal combustion engine-powered car travel. Consumables impacts were driven by single-use infection prevention and patient care items, with the largest contributions from hydrogen-peroxide based disinfectant wipes and refills, suction canister liners and single-use basins. Additional contributions arose from wound-care materials, hygiene items and waste management consumables.

Scope

- This assessment appraises the environmental impact of a bed day on the high-intensity ward at the Charlton Campus Hospital.
- The functional unit of the system studied is a high-intensity ward patient bed day in 2025
- The scope includes patient registration, triage and patient treatment. The scope does not include referral to another service or discharge.



Data

Primary data for the high-intensity ward 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 high-intensity ward activities on a floor space basis for utilities, waste management, patient nutrition, medical gases and nitrous oxide (an anaesthetic gas). The impacts of shared non-clinical hospital services were allocated to the high-intensity ward activities on a floor space basis. The environmental impact of the high-intensity ward for FY25 was modelled and then divided by the total number of FY25 patient bed days.

Results

Results are presented as the environmental impact per patient bed day on the Charlton Campus Hospital high-intensity ward.

Module	GHG kg CO ₂ eq	Water m ³		Waste kg
		Direct	Indirect	
Consumables	32.0	-	142	-
Equipment	9.39	-	64.3	-
Pharmaceuticals	10.7	-	62.8	-
Medical gases	2.40	-	17.2	-
Anaesthetic gases	0.423	-	0.0211	-
Utilities	43.1	0.917	650	-
Waste treatment	5.05	-	3.36	7.12
Staff travel	41.8	-	11.2	-
Total	145	0.917	952	7.12



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.