MI-CRE 2025 Annual Research Symposium and Policy Forum

Hospitalisation is a risk factor for SGLT2i discontinuation

Investigators: Milder, T.[1,2], Shepherd, L.[1], Pearson, S.A.[1], Raket, H.K.[1,3], Greenfield, J.[2,4,5], Day, R.[2,4], Lin, J.[1,6], Pollock, C.[7,8], Neuen, B.[7,8,9], Jun, M.[9], de Oliveira Costa, J.[1], Stocker, S.[8], Ludington, J.[4], Falster, M.[1]

Author Affiliations:

[1] Medicines Intelligence Research Program, School of Population Health, UNSW Sydney

[2] St Vincent's Clinical Campus, UNSW Sydney

[3] University of Copenhagen, Denmark

[4] St Vincent's Hospital, Sydney

[5] Garvan Institute of Medical Research, Sydney

[6] International Centre for Future Health Systems, UNSW Sydney

[7] Royal North Shore Hospital, Sydney

[8] Faculty of Medicine and Health, The University of Sydney

[9] The George Institute for Global Health, UNSW Sydney

Presenter's email address: t.milder@unsw.edu.au

Disclosure of Interests Statement: TM has been a speaker for a Boehringer Ingelheim talk but has not received speaker fees. She has given education to GPs (her own content) with representatives of AstraZeneca but not received fees. SP is a member of the Drug Utilisation Sub Committee of the Pharmaceutical Benefits Advisory Committee. The views expressed in this abstract do not represent those of the Committee. JG has received fees for scientific talks from Novartis, Novo Nordisk, Amgen, Allergan, Boehringer Inglheim, Lilly, Abbott and the Limbic. He has received study medication from Novo Nordisk. CP has Advisory Board membership for AstraZeneca and has been a speaker for AstraZeneca, Bayer, Boehringer Ingelheim and Otsuka. CP has been a steering committee member for meetings for Novo Nordisk and AstraZeneca. BN has received fees for travel support, advisory boards, scientific presentations and steering committee roles from AstraZeneca, Alexion, Bayer, Boehringer and Ingelheim, Cambridge Healthcare Research, Cornerstone Medical Education, Janssen, the limbic, and Medscape, with all honoraria paid to The George Institute for Global Health. MJ is responsible for research projects that have received research funding from Boehringer Ingelheim and Eli Lilly Alliance. SS has received research funding from Gilead and received consultancy fees for Bellberry, 23strands, Virus Health and Nutromics. MF has received research funding from IQVIA Australia, unrelated to this project. The Medicines Intelligence Research Program, School of Population Health, UNSW has received research funding from IQVIA Australia, unrelated to this project.

Is the presenter an HDR student? No

Has this research been submitted or presented elsewhere? If so where and when? Yes, Poster at American Diabetes Association Scientific Sessions – Chicago, June 2025; Poster at UNSW Cardiac, Vascular and Metabolic Medicine Symposium – Sydney July 2025.

Abstract

Background and aims: Sodium-glucose cotransporter 2 inhibitors (SGLT2i) have major cardiorenal benefits for people with type 2 diabetes. While some guidelines recommend temporarily withholding SGLT2i during hospitalisation, limited evidence suggests many people may not restart SGLT2i following discharge. We examined if hospitalisation was a risk factor for SGLT2i discontinuation, and if this differed to other diabetes therapy (dipeptidyl peptidase-4 inhibitors (DPP-4i)) not typically withheld in hospital.

Design and methods: We conducted a retrospective cohort study using linked population level data for all adult residents of New South Wales. We included adults aged 40+ years initiating either SGLT2i or DPP-4i (separately) between 2016 to 2020 and followed up until the earliest: mid 2021 or death. We defined discontinuation as a period of 90 days without a dispensing. We used Cox proportional hazards models to estimate hazard ratios (HR) for the effect of recent hospitalisation (within 90 days of discharge, as a time dependent variable) on discontinuation. Models were adjusted for demographic and clinical characteristics.

Results: Of people initiating SGLT2i (n=106,098, median age 63 years, 61% male), 42.6% were hospitalised and 63.1% discontinued SGLT2i during follow-up. Discontinuation rates were higher in periods when people had recently been hospitalised (16.7 per 10,000 person-years) compared to periods with no hospitalisation (10.1 per 10,000 person-years). This association remained in adjusted models (HR 1.63; 95% CI 1.59-1.66, p <0.001). Of people initiating DPP-4i (n=91,960, median age 66, 57% male), 47.6% were hospitalised, and 64.0% discontinued DPP-4i during follow-up. Discontinuation rates were similarly higher around periods of hospitalisation (adjusted HR 1.40, 95% CI 1.37-1.43, p <0.001).

Conclusion: Hospitalisation is a risk factor for SGLT2i and DPP-4i discontinuation. Given their cardiorenal protection, there is a need to raise awareness amongst hospital health professionals about ensuring SGLT2i and other critical medicines are not discontinued following hospitalisation.