**Hospitalisation is a risk factor for SGLT2i discontinuation**

**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.

**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 the cardiorenal benefits of SGLT2i, there is a need to raise awareness amongst hospital health professionals about ensuring SGLT2i and other critical medicines are not discontinued following hospitalisation.