

## SGLT-2 Inhibitor Prescription Rates for Heart Failure Patients at Strong Internal Medicine Clinic Louis Arens, MD & Maurice Vaughan, MD

### **Introduction**

SGLT-2 inhibitors are the newest addition to the guideline directed medical therapies (GDMT) that reduce morbidity and mortality in congestive heart failure (CHF) patients. They have been found to be effective across the entire spectrum of left ventricular ejection fraction. For example, the DAPA-HF trial found that dapagliflozin significantly reduced cardiovascular death, heart failure hospitalizations, and urgent heart failure visits compared to placebo, in patients with an LVEF < 40%. Additionally, the EMPEROR-Reduced trial found that empagliflozin significantly reduced cardiovascular death and heart failure hospitalizations compared to placebo, in patients with a mean LVEF of 27%. Furthermore, the DELIVER trial found that dapagliflozin significantly reduced unplanned heart failure hospitalizations, urgent visits for heart failure, and cardiovascular death compared to placebo in patients with HFmrEF and HFpEF. Notably, SGLT-2 inhibitors are becoming easier to prescribe due to fewer contraindications. Empagliflozin, for example, can now be prescribed without limitations based on GFR for CHF patients. There are not any contraindications for patients on dialysis as well. The purpose of this study is to assess how effective providers at AC5 internal medicine resident clinic are at prescribing SGLT-2 inhibitors to patients with heart failure, regardless of their left ventricular ejection fraction.

### **Methods**

This study is a retrospective chart review of all patients who attended AC5 general medicine clinic in 2023, with HFpEF or HFrEF and a GFR > 20. All patients with a past medical history that includes type 1 diabetes mellitus, extremity amputations, and frequent urinary tract infections were excluded from the study. Overall, a total of 151 patients were included in the final analysis.

### **Results**

Throughout the year 2023, 48.3% of eligible patients (73 out of 151) who presented to AC5 Internal Medicine Clinic who had a history of HFrEF or HFpEF, were prescribed an SGLT-2 inhibitor medication.

### **Discussion/Conclusion**

AC5 clinic is prescribing SGLT-2 inhibitors to patients with CHF at a relatively high rate, but there is room for improvement. This assessment is based on existing data that describes prescription rates of other GDMT medications throughout the United States. For example, as described by The Journal of the American Heart Association, an analysis of 2,884 patients hospitalized for acute heart failure found that 57% were prescribed a beta blocker at the time of discharge, and 66.5% were prescribed a beta blocker at 12 months. One JAMA Cardiology study of 49,399 patients across 489 sites in the US found that 20.2% of eligible patients hospitalized for HFrEF were prescribed SGLT-2 inhibitors at time of discharge. Additionally, a study at Strong Memorial Hospital found that between August 2022 and August 2023 the rate of initiation of SGLT-2 inhibitors to patients admitted to two general medicine units with a principal diagnosis of heart failure who had GFR > 30 was less than 12%.

Further analysis is needed on why certain eligible patients are not prescribed these medications. We are currently looking at factors such as a history of diabetes, LVEF, and kidney function to see if they affect prescription decisions. Strategies for ways to increase SGLT-2 inhibitor prescription should also be explored, such as through the use of electronic health record reminders at the time of eligible patient appointments.