Heart failure (HF) affects about 6 million adult US residents with high rate of hospitalization and 5-year mortality. Since the 1980’s evidence has supported management with beta-blockers and renin angiotensin aldosterone system inhibitors (RAASi). More recently, randomized trials demonstrated improved clinical outcomes with newer therapies such as angiotensin receptor-neprilysin inhibitors (ARNI) in 2014 and sodium-glucose cotransporter-2 inhibitors (SGLT2i) in 2018. Guidelines were updated in 2021 for European Society of Cardiology and recently, 2022 for American Heart Association/American College of Cardiology, to endorse these newer therapies as first line medications to improve clinical outcomes.

**AHA/ACC, ESC Heart Failure Guidelines**

**METHODS**

Demographic and clinical data were extracted from TriNetX for adults with healthcare outpatient encounters in 2021 with a primary diagnosis of HF within the UC Health System. The dataset comprised an anonymized extract of electronic medical records (EMRs) including diagnoses, procedures, medications and laboratory values. A waiver of informed consent was provided by the IRB. T2D was defined by International Classification of Diseases (ICD) – 10 codes. CKD was defined as most recent eGFR < 90 ml/min/1.73m². Medication prescriptions filled were categorized as beta-blockers, angiotensin converting enzyme inhibitors/angiotensin receptor blockers (ACEi/ARB), MRA, ARNI, or SGLT2i.

**RESULTS**

The cohort included 10170 patients who had at least 1 healthcare encounter in 2021 with a primary diagnosis of HF, including 4400 (43%) with T2D and 4420 (43%) with more than mild CKD. Mean age was 71 years, 45% were women, 8% Black and 10% Latino. Co-morbidities were prevalent, including hypertension (74% and 87%), hyperlipidemia (54% and 77%), coronary artery disease (56% and 66%) and peripheral artery disease (13% and 20%) in patients without and with diabetes, respectively. Use of ACEi/ARB and beta-blockers was high among patients with or without T2D or CKD (Figures 1 and 2). About half were receiving MRA. In contrast, ARNI use was particularly low in those without T2D and use of both ARNI and SGLT2i was infrequent among patients with more than mild CKD.

**CONCLUSION**

This 2021 real world cohort reflects clinical practice in a diverse population including rural and urban residents. In the 40 years since trials supporting use of ACEi/ARB, MRA and beta-blockers for HF were completed, uptake of these legacy agents has become widespread. Despite the 6-8 years elapsed since demonstration of the efficacy and safety of ARNI and SGLT2i, and their inclusion in guidelines, prescription of these newer agents remains infrequent in 2021. SGLT2i use was particularly low in those without T2D and use of both ARNI and SGLT2i was infrequent among patients with more than mild CKD.

**REFERENCES**


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