We sought to better understand temporal changes in prescription of guideline-directed medical therapy (GDMT) in patients discharged with heart failure (HF). While multiple therapies are known to improve clinical outcomes in heart failure (HF), they remain underutilized. Heart failure (HF) is a major cause of morbidity and mortality. Despite temporal increases in ARNI and SGLT2i prescribing, there remains substantial opportunity to increase use of these and other GDMT in patients discharged with HF.

Background
- Heart failure (HF) is a major cause of morbidity and mortality.
- While multiple therapies are known to improve clinical outcomes in heart failure (HF), they remain underutilized.
- Hospitalization provides a unique opportunity to address this issue.
- We sought to better understand temporal changes in prescription of guideline-directed medical therapy (GDMT) for patients hospitalized with HF at the time of discharge.

Hypothesis
- We predicted an increase in prescription of GDMT, but with variability across HF types and ongoing opportunity for improvement.

Methods
- We performed a cross-sectional analysis of patients discharged with HF from a large integrated health system within the western United States between 1/1/2018 and 10/1/2022.
- This was part of a larger effort to better understand the demographics, clinical characteristics, and treatment patterns of HF patients (across all payers) as part of a quality improvement initiative.
- HF was defined by ICD-10 codes assigned as the primary diagnosis at discharge (I50.2 - Systolic HF, I50.3 - Diastolic HF, I50.4 - Combined systolic and diastolic HF, I11.0 - Hypertensive heart disease with HF, and I11.0 + I13.2 - Hypertensive heart disease with HF and CKD).
- Patient-level analyses were not performed; all hospitalizations were included independent events.
- Prescription rates of HF medications were assessed at discharge:
  - Beta blocker (evidence-based for those with systolic HF and systolic and diastolic HF)
  - ACE inhibitor (ACEI)/angiotensin receptor blocker (ARB) or angiotensin receptor neprilysin inhibitor (ARNI)
  - Mineralocorticoid receptor antagonist (MRA)
  - Sodium-glucose co-transporter-2 inhibitor (SGLT2i)

Results
- A total of 61,238 HF hospitalizations occurred, involving 43,234 patients, with 79% having only one hospitalization.
- Demographic and clinical characteristics varied based on the ICD-10 codes assigned (Table).

Table. Subset of demographic and clinical characteristics of patients hospitalized with HF

<table>
<thead>
<tr>
<th>Age, years</th>
<th>Median (IQR)</th>
<th>Male sex %</th>
<th>Race</th>
<th>Ethnicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>65-74</td>
<td>66 (58-73)</td>
<td>65%</td>
<td>Asian</td>
<td>7%</td>
</tr>
<tr>
<td>75+</td>
<td>76 (66-85)</td>
<td>70%</td>
<td>Black</td>
<td>10%</td>
</tr>
<tr>
<td>45-54</td>
<td>53 (44-63)</td>
<td>55%</td>
<td>Hispanic/Latino</td>
<td>10%</td>
</tr>
<tr>
<td>55-64</td>
<td>61 (52-71)</td>
<td>59%</td>
<td>White</td>
<td>14%</td>
</tr>
<tr>
<td>65+</td>
<td>76 (66-85)</td>
<td>70%</td>
<td>Other</td>
<td>5%</td>
</tr>
</tbody>
</table>

Disclosures:
- None

Conclusions
- Despite increased utilization of GDMT in patients discharged with HF, substantial opportunity for improvement exists.
- Systems-based approaches are needed to facilitate more rapid adoption of evidence-based therapies in this patient population.

References:
- 1Greene SJ, Butler J, Albert NM, et al.
- 2Patolia H, Khan MS, Fonarow GC, et al.
- 3University of Arizona College of Medicine, Tucson, Arizona
- 4Sacred Heart Medical Center, Providence Health System, Spokane, Washington
- 5Lexicon Pharmaceuticals, Inc., The Woodlands, Texas
- 6CPC Clinical Research, University of Colorado Health, Denver, Colorado
- 9J Am Coll Cardiol. 2023;82:529-543

Figure. Temporal distribution of principal heart failure discharge diagnoses by ICD-10 code