Allied health professional-physician collaboration to enhance guideline-directed medical therapy of heart failure: expanding therapeutic opportunities

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Background: Guideline-directed medical therapy (GDMT) is the cornerstone of treatment for heart failure patients with reduced ejection fraction (HFrEF). Optimization of GDMT at a targeted allied professional medication titration clinic represents a key opportunity to provide greater access to care and further refine patient care models, leading to improvements in clinical outcomes.

Purpose: To evaluate the effectiveness of an allied health practitioner optimization clinic model in HFrEF as indicated by changes in rates of triple and quadruple GDMT therapy (see associated table).

Methods: Qualified patients were either: proactively screened from clinic lists, having demonstrated a diagnosis of heart failure, reduced ejection fraction, and not receiving triple or quadruple therapy, or were physician-referred after initial optimization during 2021-2022. Participants subsequently underwent medication review and optimization by an allied health professional, involving introduction, up-titration, down-titration, or withdrawal of medications across relevant medication classes as tolerated.

Results: 52 (78.8% male) patients with a mean age of 70.3 (11.4) years and mean ejection fraction of 30.1 (6.7) percent underwent medication optimization. Along with HFrEF, all patients exhibited cardio-metabolic multi-morbidity (2-3 cardio-metabolic diagnoses), including hypertension (59.6%), dyslipidemia (71.2%), coronary artery disease (61.5%), atrial fibrillation (42.3%), and type 2 diabetes (21.2%). Pre-optimization prescription rates ranged from: 53.8% for ACEi/ARB, 30.8% for ARNI, 80.8% for beta-blockers, 59.6% for MRA, 40.4% for diuretics, and 13.5% for SGLT2i. Medication review and optimization spanned an average of 2.8 (1-7) meetings, and lead to an average of 1.9 (range 0-4) medication changes. Among 49 patients considered for ARNI optimization, there were 43 (87.7%) successful introductions and progressive dose adjustments, including 12 (27.9%) dose adjustments among those already prescribed. Additional changes involved optimizations in: beta-blockers (5 introductions, 5 dose-changes), MRA (8 introductions, 4 dose-changes, 2 withdrawals), diuretics (1 introduction, 7 dose-changes, 2 withdrawals), and SGLT2i (7 introductions). Collaboration between allied health professionals and physicians in optimization demonstrated significant improvements in rates of triple (42.3% vs 63.5%, P = 0.003) and quadruple (5.8% vs 26.9%, P = 0.001) therapy post-optimization.

Discussion: A Collaborative approach to medication optimization increased the use of GDMT in ambulatory patients with HFrEF. Collaboration presents both clinicians and health systems with greater opportunities to improve healthcare access, therapeutic inertia, and disease management.

Pre-post Changes in GDMT Rates

<table>
<thead>
<tr>
<th></th>
<th>Pre-optimization</th>
<th>Post-optimization</th>
<th>P-value</th>
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</thead>
<tbody>
<tr>
<td><strong>Triple Therapy</strong></td>
<td>22.0</td>
<td>42.3</td>
<td>33.0</td>
</tr>
<tr>
<td><strong>Quadruple Therapy</strong></td>
<td>3.0</td>
<td>5.8</td>
<td>14.0</td>
</tr>
</tbody>
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*According to McNemar’s test of paired proportions*