

3rd International Conference on Cardiology and Cardiovascular Innovations July 21-22, 2026 | Vienna, Austria



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STEMI Patients with LVEF $\leq 40\%$: Adherence to the Four Pillars of Heart Failure Therapy

Patients with ST-elevation myocardial infarction (STEMI) and left ventricular ejection fraction (LVEF) $\leq 40\%$ are at high risk of developing heart failure and adverse cardiovascular outcomes. The 2022 ESC Focused Update of the Heart Failure Guidelines recommends four pillars of guideline-directed medical therapy (GDMT): ACE inhibitor/ARB/ARNI, beta-blocker, mineralocorticoid receptor antagonist (MRA), and SGLT2 inhibitor, unless contraindicated, yet real-world adherence at discharge remains suboptimal. This retrospective audit examined patients admitted with STEMI and LVEF $\leq 40\%$ to the Cardiology Department at University Hospital Limerick between April 2025 and April 2026, reviewing discharge prescriptions for all four GDMT pillars and assessing documentation of omission rationale and outpatient follow-up arrangements. Forty-two patients met the inclusion criteria. Prescription rates at discharge were: ACE inhibitor/ARB/ARNI 78.6%, beta-blocker 95.2%, MRA 52.4%, and SGLT2 inhibitor 64.3%. Only 14 patients (33.3%) were discharged on all four pillars of GDMT. Cardiology or heart failure follow-up was arranged for all 42 patients (100%). Where therapy was omitted, reasons were inconsistently documented. These findings demonstrate significant gaps in GDMT prescribing, particularly for MRA and SGLT2 inhibitors, and highlight inadequate documentation of omission rationale. A standardised heart failure discharge checklist, mandatory documentation of contraindications, and re-audit following quality improvement interventions are recommended to optimise post-STEMI care in line with current ESC guidelines.

Keywords: STEMI, Heart Failure, GDMT, SGLT2 inhibitor, MRA, Quality Improvement

Biography

Dr. Muhammad Bhatti is a Senior House Officer (SHO) in the Department of Cardiology at University Hospital Limerick, Ireland. He is actively involved in the assessment and management of patients with a broad range of cardiovascular conditions in both inpatient and acute care settings.

Dr. Bhatti is committed to continuous professional development and has participated in clinical research and academic activities aimed at improving patient outcomes. He is passionate about advancing cardiovascular care through education, research, and collaboration.