

Clinical Evaluation of an AI-Enabled Virtual Heart Failure Care Model Supporting Guideline-Directed Therapy

Background

Heart failure (HF) management is limited not by a lack of effective therapies, but by inconsistent execution of guideline-directed medical therapy (GDMT) between clinical encounters. Despite strong evidence supporting rapid titration of GDMT, fewer than 50% of Medicare patients are seen by a cardiologist within 30 days of discharge, contributing to suboptimal outcomes.

Existing care models require high-frequency follow-up and intensive staffing, limiting scalability. There remains no reliable, repeatable approach to execute physician-directed HF care between visits.

Methods

Study Design:

Pre-post observational study across six community cardiology practices in California and Arizona evaluating GDMT optimization and patient stability.

Medication adjustments were executed under pre-approved clinical protocols with delegated authority. Patients were enrolled via EHR order or electronic referral workflows.

Population

N = **747** patients

Mean age: **75.8** years

Median follow-up: **124** days

Demographics

37% female

Mixed LVEF population

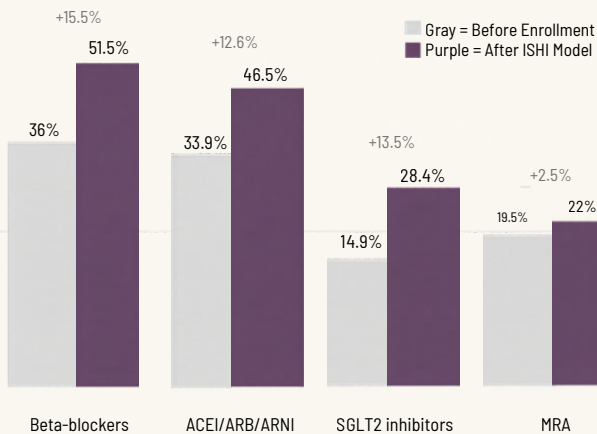
6 community cardiology practices in CA and AZ

Intervention Model



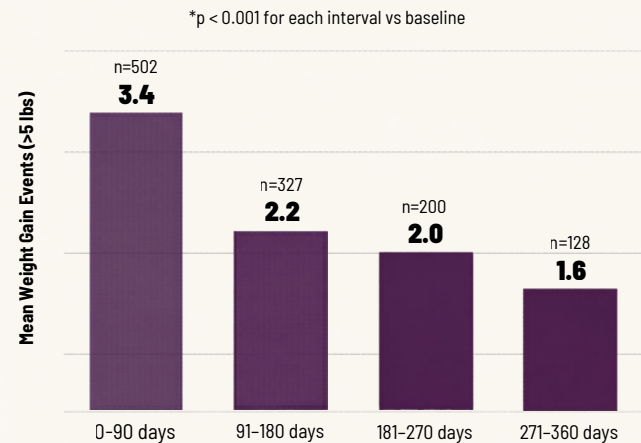
Results

Improvement in GDMT Utilization



Protocol-driven care enabled consistent improvement across all GDMT therapy classes.

Reduction in Acute Weight Gain Events Over Time



Acute weight gain events declined by 53% over 12 months, indicating improved fluid stability after enrollment.

Clinical Monitoring & Operational Performance

2,013

Alerts

99%

Resolved Within
48 hrs

81%

Alerts managed by
nursing staff

19%

Escalated to
APP/PharmD

0%

Escalated to community
Cardiologists

Most alerts were resolved without physician involvement, demonstrating scalable intervention without increasing cardiologist workload.

Conclusion

This protocol-driven virtual HF model improved GDMT utilization and patient stability in a real-world population without increasing cardiologist burden.

Findings support scalable extension of heart failure care beyond the clinic through structured delegated care.

Limitations: Further evaluation is warranted to assess scalability, economic impact, and performance across broader care settings.

- Non-randomized, pre-post study design
- No claims-based utilization or cost outcomes
- Conducted in a limited number of community practices

Source: ISHI Health multicenter observational analysis, N=747 patients.