

Executing Heart Failure Care Between Visits

An AI-Enabled Virtual Care Model
Supporting Guideline-Directed Therapy

The challenge in heart failure care is no longer knowing what to prescribe — it is ensuring those therapies are executed consistently between visits.



Executive Summary

Heart failure remains one of the most costly and clinically complex conditions to manage, with growing prevalence and persistent gaps in post-discharge care. Despite strong evidence supporting rapid titration of guideline-directed medical therapy (GDMT), fewer than 50% of Medicare patients see a cardiologist within 30 days of discharge, limiting optimal outcomes.

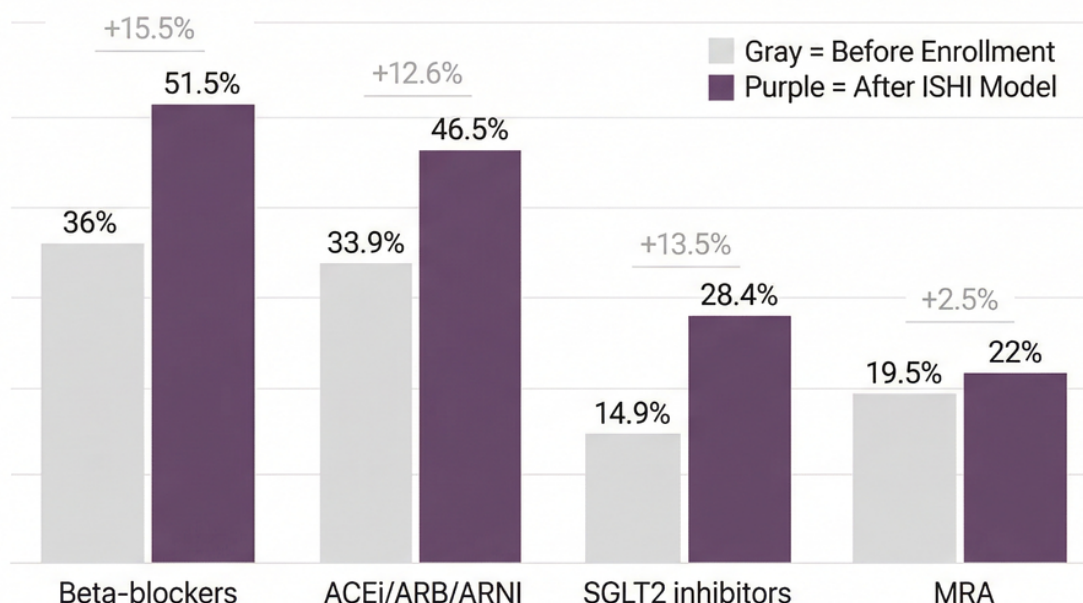
ISHI Health deployed an AI-enabled virtual heart failure care model with a dedicated remote clinical team across community cardiology practices to address this gap.

Across **747 patients over a median of 124 days**, ISHI demonstrated:

- Significant improvement in GDMT utilization across all four therapy pillars
- **2,013 clinical alerts managed, with 99% addressed within 48 hours**
- Reduced acute weight gain events
- No escalation required to community cardiologists

This study demonstrates that protocol-driven heart failure care can be executed reliably between visits — without increasing provider workload.

Improvement in GDMT Utilization



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

The Problem

Heart failure care is constrained by structural limitations in the traditional care model:

- GDMT optimization requires high-frequency follow-up and titration
- Most patients do not receive timely post-discharge care
- Remote monitoring solutions exist, but:
 - Data is underutilized
 - Workflows are inconsistent
 - Responsibility for action is unclear

At the same time, prior models (e.g., pharmacist-led titration programs) have demonstrated clinical success but face sustainability challenges due to staffing intensity and operational burden. Despite clear guidelines, fewer than 25% of patients achieve target GDMT dosing in real-world settings.

Core gap: There is no reliable, repeatable way to execute guideline-directed heart failure care continuously between visits.

The Solution

ISHI Health developed a digitally enabled, team-based care model designed to **execute physician-directed treatment plans between visits**, without requiring additional provider time.

Rather than introducing new treatment decisions, ISHI focuses on executing physician-directed care plans more consistently between visits.

1.) AI-Driven Risk Stratification

ISHI's platform uses clinically validated algorithms to support patient identification and monitoring, embedded within protocol-driven workflows that enable consistent clinical execution.

- Continuous ingestion of multiparameter biometric data (blood pressure, heart rate, weight, device diagnostics)
- Algorithmic triage into risk tiers to prioritize intervention

2.) Structured Clinical Escalation Pathway

A tiered care team enables efficient, protocol-driven intervention:

- LVN/RN: initial review and routine management
- APP / PharmD: medication titration and escalation
- HF Cardiologist: oversight for complex cases

81% of alerts were resolved by nursing, with 19% requiring escalation to advanced practice providers or pharmacists, and no escalation required to community cardiologists.

3.) Virtual Co-Management Model

- ISHI integrates into existing clinical workflows as an extension of the cardiology team, enabling continuous management without requiring changes to physician practice patterns.
- Focus: **execute and optimize care plans with clear delineation of clinical responsibility, not a replacement for physician decision-making**

Study Design

Pre-post observational study across community cardiology practices evaluating GDMT optimization and patient stability. Patients were enrolled via EHR order or electronic referral workflows.

Medication adjustments were executed under pre-approved clinical protocols with delegated authority, without requiring direct physician involvement for routine interventions.

- **Population:** 747 patients
- **Sites:** 6 community cardiology practices in CA and AZ
- **Duration:** median 124 days

Demographics:

- Mean age: 75.8
- 37% female
- Mixed LVEF population

“Thousands of physiologic alerts were handled by a collaborative partner **without increasing the workload** of a longitudinal group of cardiologists.”

Trejeeve Martyn, MD
Cleveland Clinic

Key Outcomes

Improved GDMT Utilization

36% → 51.5%

Beta-Blockers

34% → 47%

ACEi/ARB/ARNI

20% → 22%

MRA

15% → 28%

SGLT2

Demonstrates that protocol-driven titration can be executed consistently across patients

High-Volume Intervention

2,013

Alerts

99%

Resolved Within 48 hrs

Majority resolved without physician involvement. Indicates that clinical workflows can be operationalized at meaningful volume without overwhelming providers

Improved Stability



Acute Weight
Gain ($p < 0.001$)



Variability
Over Time

Suggests earlier intervention and improved fluid management

No Added Burden

Care team → 81% of alerts managed Cardiologist → 0% escalation required

Care team absorbed workload

No cardiologist escalation

Care extended without added strain

What This Study Demonstrates

This study validates three critical capabilities:

1. Clinical Effectiveness

Protocol-driven virtual care can improve GDMT utilization and patient stability.

2. Operational Viability

A centralized care team can manage high volumes of patient data and alerts efficiently.

3. Provider-Aligned Delivery Model

Care can be extended between visits without disrupting or burdening cardiologists.

What This Study Has Not Yet Evaluated

- Scalability across larger populations or health systems
- Unit economics (cost per patient, margin, reimbursement model)
- Performance consistency across diverse practice settings

These represent the next phase of validation as the model expands.

Why This Matters

ISHI addresses a critical gap in heart failure care delivery: **the disconnect between what providers prescribe and what is consistently executed between visits.**

By enabling protocol-driven care with more frequent touch points, ISHI creates a new model for:

- Extending specialty care beyond the clinic
- Improving adherence to guideline-directed therapy
- Reducing reliance on in-person follow-up

Limitations

- Non-randomized, pre-post design
- No claims-based utilization or cost data
- Conducted in community practices without standardized reimbursement analysis

Future evaluation will include claims-based utilization outcomes, economic impact, and validation across broader care settings

Future Direction

Expansion across additional cardiology practices and health system settings to evaluate scalability, care team efficiency, and performance at larger population sizes.

Next phase focus:

- Integration of invasive and non-invasive monitoring post-discharge
- Evaluating scalability across broader populations
- Optimizing care team efficiency
- Establishing economic and reimbursement models

Heart failure care does not fail because of a lack of effective therapies; it fails because those therapies are not consistently executed.

ISHI Health enables a shift from episodic care to consistent execution of therapy, extending cardiology workflows beyond the clinic and ensuring that evidence-based treatment plans are carried out in real-world settings.