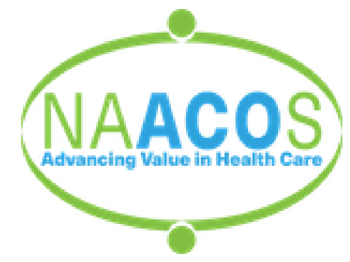

Pumping Up Heart Failure Prevention and Management in the Era of Technology

Chair: Ashish Parikh, Summit Health/VillageMD

Pumping Up Heart Failure: Prevention and Management

NAACOS Spring Conference

April 23, 2026

Pumping Up Heart Failure Prevention and Management

Learning Objectives

- Explore high-value strategies for managing heart failure at the population level
- Evaluate how to design, implement, and sustain initiatives to address key chronic conditions through your VBC network
- Discuss the impact of early interventions in the new ACCESS model on HF prevention and outcomes

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The People Who Actually Know What They're Talking About

Laura Balsamini, PharmD, BCPS

- Chief Pharmacy Officer, Summit Health

Fred Taweel, MD

- Chief Medical Officer, Brilliant Care
- Former CMO, Privia Medical Group – Mid-Atlantic
- Practicing PCP in Reston, VA

Gregg Kimmer

- Chief Executive Officer, Circadian Health

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The Heart Failure Epidemic (U.S. Data for 2025)

- **Prevalence:** Approximately **6.7 million** adults (20+) currently live with HF; this is projected to reach **8.7 million** by 2030.
- **Lifetime Risk:** The lifetime risk of developing HF has increased to **24%**, or nearly 1 in 4 individuals.
- **Mortality:** HF was a contributing cause in **425,147 deaths** (45% of all cardiovascular deaths) in 2022.
- **Morbidity & Comorbidities:** Over 50% of the U.S. population is at risk (Stage A) or has pre-HF (Stage B). The proportion of patients with ≥3 cardiovascular-kidney-metabolic (CKM) conditions has more than doubled recently.
- **Health Equity:** Black, American Indian, and Alaska Native individuals face the highest age-adjusted HF mortality and prevalence rates.

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Healthcare Utilization & Economic Burden

- **U.S. Healthcare Spend:** Direct medical costs for HF are estimated at **$32 billion** annually, with some projections reaching as high as **$227 billion** when all related care is included. Total costs could hit **$858 billion** by 2050.
- **Utilization Rates:**
  - **ED Visits:** ~17 per 1,000 population for circulatory diseases; Medicare beneficiaries have significantly higher rates at **44 per 1,000**.
  - **Hospital Admissions:** Approximately **4.9 per 1,000** US adults.
  - **Readmissions:** The national **30-day readmission rate** is ~**19.7%**. For HFpEF, readmissions have risen from 17.4% to 19.9%.
- **Avoidable Costs:** Roughly **88.7%** of HF ED visits result in inpatient admissions, of which up to **96%** may be deemed "potentially avoidable".
- **Cost per Admission:** The average HF inpatient hospital stay costs approximately **$21,560**

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“Pumping up Heart Failure Prevention and Management in the Era of Technology”

Fred Taweel, MD

- Chief Medical Officer, Brilliant Care
- Former CMO, Privia Medical Group – Mid-Atlantic
- Practicing Primary Care Physician in Reston, VA

Virtual Care Delivery & Pop Health Execution

ACO's, Health Systems, Provider Groups

18 States Plus D.C.

Primary Care, Internal Medicine, Family Medicine

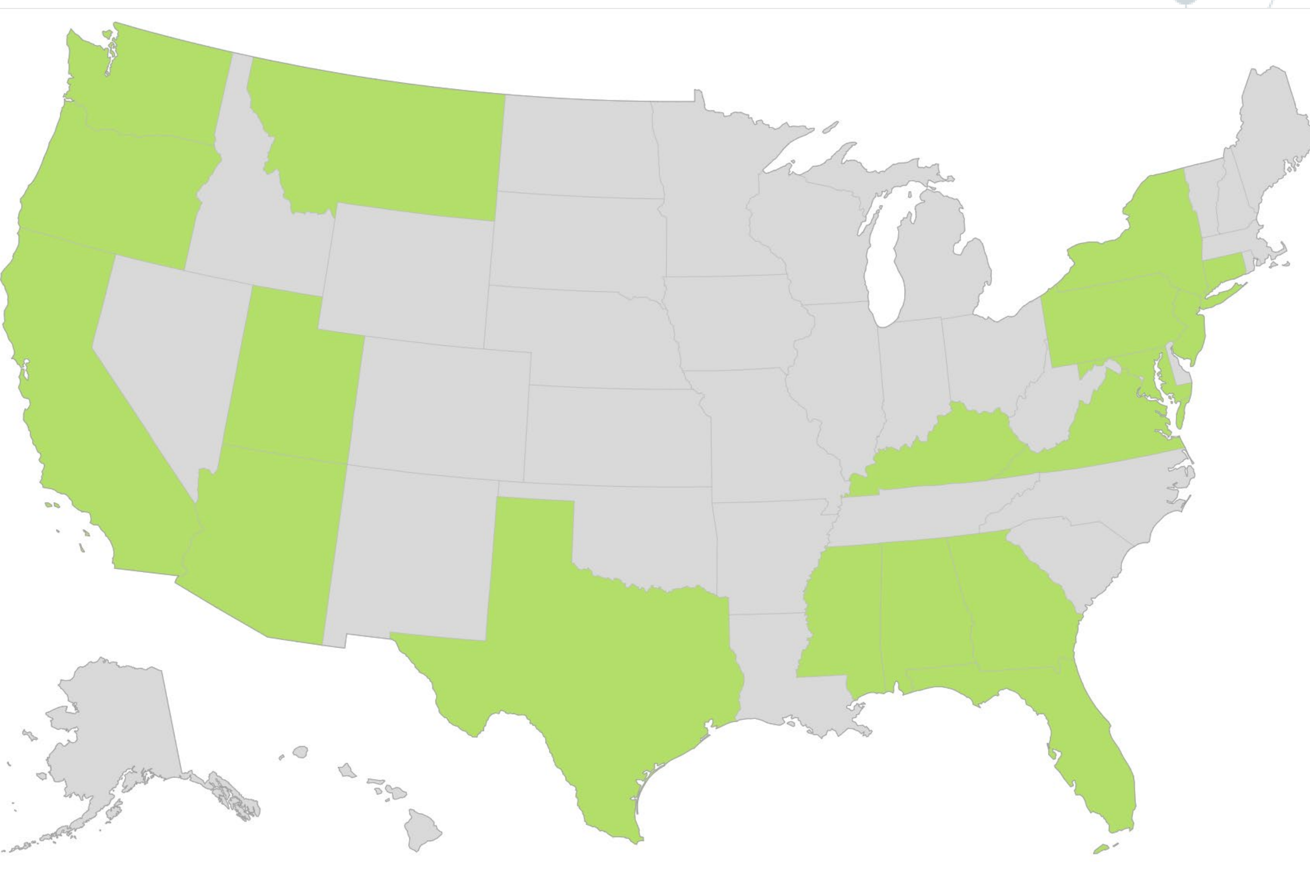
Cardiology, Nephrology, Pulmonology, Geriatrics

15K+ Patients

9.4 Star Satisfaction Score

- Reduced Provider **Burden**
- Increased Patient **Compliance**
- **Improved Health Outcomes**

National Presence



Brilliant Care Solutions

Nurse Access | Patient Engagement | Clinical Outcomes

Post-Discharge Care

- Nurse-led Transitions of Care
- IP, ED, SNF Discharges
- Discharge Med Reconciliation

Reduce Re-admissions

Chronic Disease Management

- Nurse-led Remote Monitoring
- HTN, DM, CHF, CKD, COPD
- HEDIS/ eCQM/ MA 5-Star Quality

Controlled, compliant patients

Inbox Relief

- Clinical Documents
- Labs & Imaging
- Orders and Prescriptions

Clinicians spend time on care, not clicks

Other Exploratory Services

- CMS ACCESS Model
- Medication Adherence
- APCM/CCM

Address Market Pain Points

Turn-Key or Augment Your Team. Zero Cost.

Pop Health: Perform to Contracts & Improve Total Cost of Care

Appropriate-targeting for patients based on risk profile

Medicare

Early Risk

ACCESS

Rising Risk

High Risk

TCM

RPM/CCM/APCM

Chronic Disease Management / Nurse Led RPM

Dedicated Nurse Access 365 days

- ✓ Works alongside existing care teams
- ✓ Extension of Provider/ care teams
- ✓ 1:1 Nurse to Patient Relationship

Enhanced Care Coordination + Medication Adherence

- ✓ BP Control
- ✓ A1C Control
- ✓ Medication Adherence
- ✓ Kidney Health evaluation

Timely Triage + Advanced Remote Technology

Brilliant Care RPM Clinical Outcomes

BP to goal
<140/90

Hypertension

Avg SBP **155 → 134**
-34 mm Hg high-risk
-21mm Hg overall

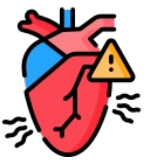
A1C to goal
< 9

Diabetes

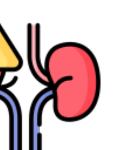
-2.56 A1C reduction
A1C **10.71 → 8.14**

Patient education, regular monitoring,
medication management and integrated care

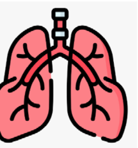
CHF



CKD



COPD



Reduce frequency of exacerbation & delay progression

JAMA Study: 10mmHg reduction in systolic blood pressure = 29% reduction in CVD & all-cause mortality[5]

Extrapolating this to our outcomes:

- 21 mmHg SBP reduction across the full group = **42% reduction in CVD and all-cause mortality**
- 34 mmHg SBP reduction in highest risk group = **>50% reduction in CVD and all-cause mortality**

CHF Care Management Approach

- 1:1 Nurse to Patient Relationship
- Extension of Provider/ care teams
- Guideline Directed Medical Therapy
- Frequent & Deliberate Check-ins
- Daily Weight Checks
- Diuretic Adjustment Algorithm
- Patient Education

Care Management of Heart Failure

Daily weight within 1-2lbs

Change of +/- 3 lbs/week

Change of +/- 3lbs same day

+/- 4lbs same day

NCC to continue monitoring and working with patient on agreed upon lifestyle goals/interventions

NCC calls patient to verify weight, medications, and evaluate symptoms

Lifestyle-NCC reviews daily habits/current status of:

- Diet/calories
- Low sodium intake
- Appropriate Exercise
- Activity level
- Dry weight management
- Mood assessment
- Sleep
- Ankle Edema

1. Medication Compliance
   - Compliance, have they taken their medication as prescribed?
   - Any changes to their medications? Forgetting to take them?
     - (with dates documented and compared to scale readings)
   - Have they had any side effects from their medication?

2. Review symptoms: Is patient experiencing
   - Cardiac
     - Chest pain
     - Dyspnea/cough/hemoptysis
     - Palpitations
     - Edema
     - Abdominal swelling
     - Exercise tolerance
   - General
     - Extreme fatigue
     - Syncope
     - Focal neurological symptoms
     - Confusion
     - Pallor or cyanosis

No

Yes

Red Alert:
- NCC provides patient education via teach back on what to do if symptoms arise
- NCC and patient review or establish agreed upon intervention to be implemented in lifestyle or daily routine.
- Assessment summary input in Zoho chart notes.

Emergent Alert (or Red alerts with symptoms):
- Text Message sent to provider's mobile.
- Follow up call to RPM Champion.
- Record in Provider EHR per provider preference

Referenced from: Self-Care of Heart Failure Index. NIH Public Access. J Cardiovasc Nurs. 2009 ; 24(6): 485–497. doi:10.1097/JCN.0b013e3181b4baa0.

Heart Failure Self Care Maintenance Check

Excellent!

Pay Attention

Warning!

...ent Algorithm

...baseline weight

Increase of > 3lbs from baseline weight

...oop Diuretic Adjustment:

...current dose of loop diuretic is effective

...urinating within 4-hour window post medication

If no

Patient to double the dose until max dose is reached

NCC to send patient case to provider

BID to TID

...apid reassessment ...eeded if frequency ...r dosing is changed

24 hr reassessment to determine efficacy

If patient within 2lbs of baseline weight and asymptomatic, patient to resume prior dosing

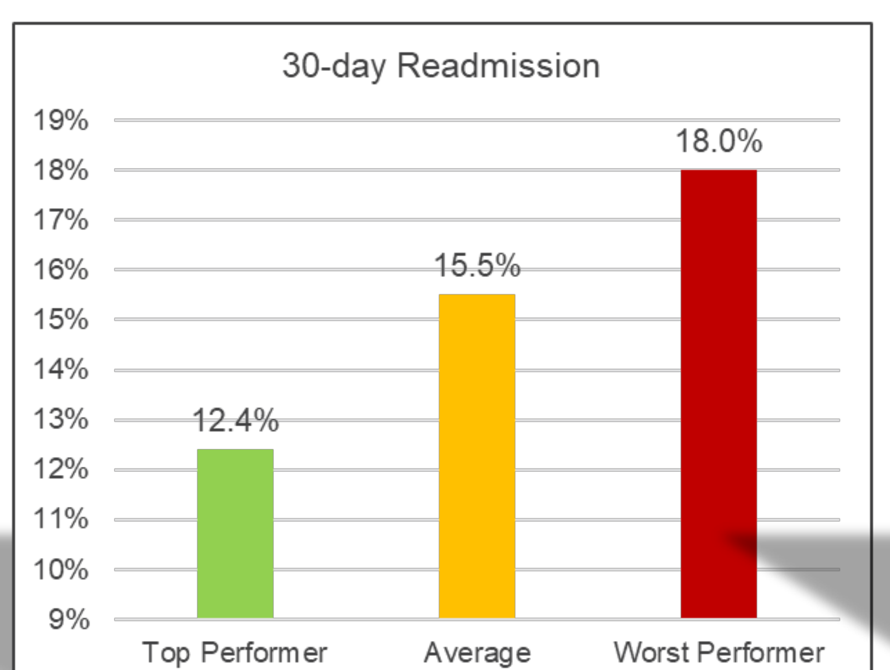
...ormation

...gle	Max 24 hour dose	Common Side Effects
		Hypokalaemia, hypomagnesaemia, hyperuricaemia, hypocalcaemia, hyponatraemia, otoxicity
	600 mg	
	10 mg	
	200 mg	
	200 mg	
		Hypokalaemia, hypomagnesaemia, hypercalcaemia, hyponatraemia, hyperuricaemia
	100 mg	
	100 mg	
	20 mg	
		Hyperkalaemia
	20 mg	
	200 mg	
	50 mg	Gynecomastia

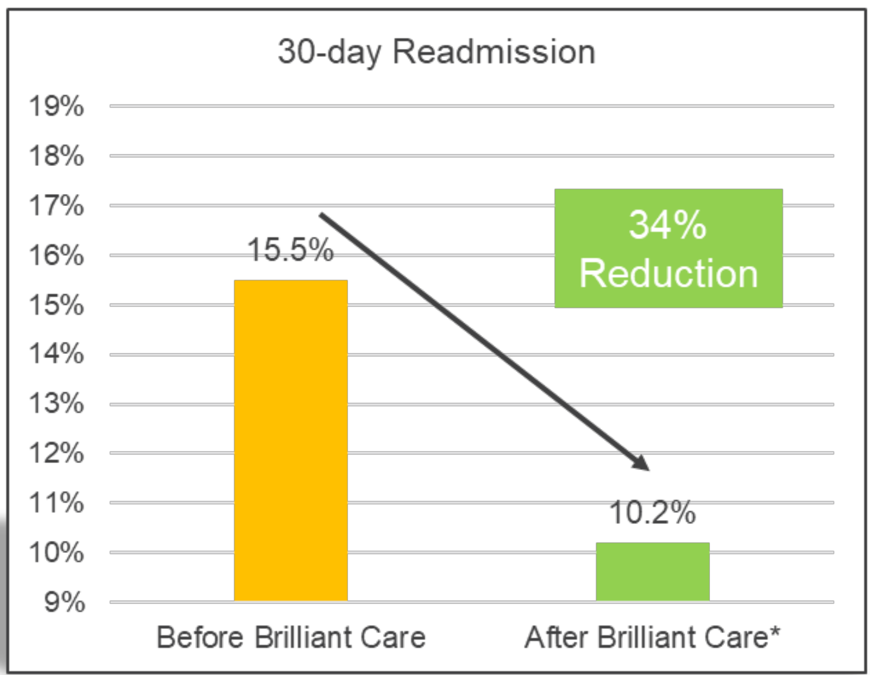
Nurse-Led Transitional Care Management Program

- Timely Nurse outreach and scheduling
- Compassionate and educational patient conversations
- Discharge medication reconciliation
- Concise, summarized documentation
- Patient follow ups to reduce readmissions

2023 MSSP Results



With Brilliant Care



Case Study: C. Strack

CHF Remote Monitoring Patient

ED visits and hospitalizations before Brilliant Care RPM: **7**
ED visits and hospitalizations during Brilliant Care RPM: **0**

Brilliant Care Nurse:

- Used guideline directed medical therapy (GDMT),
- Adjusted loop diuretic as needed,
- Educated the patient on the importance of following a low sodium diet, often sharing recipes and discussing which foods have lower sodium and the importance of reducing fluid intake.

Patient:

- Has maintained his weight at or below his base weight,
- Reported feeling more supported and knowledgeable about his condition, his diet, and what he needs to do to maintain his weight.

ACCESS Model

Four Clinical Tracks: Targeted Chronic Disease Management

Participants manage all qualifying conditions within the enrolled track for coordinated care.

Track	Track Description	Track Focus	Track Goal / Metric
eCKM: Early Cardio-Kidney-Metabolic	Hypertension, or two or more of: dyslipidemia, obesity/overweight, or prediabetes	Targets early-stage risk factor management before progression to advanced disease	• BP Control • LDL levels • Weight Mgmt • HbA1c Control
CKM: Cardio-Kidney-Metabolic	Diabetes, chronic kidney disease (Stage 3a/3b), or atherosclerotic cardiovascular disease	Focuses on preventing complications and reducing acute care utilization	• Estimated glomerular filtration rate (eGFR) and • urine albumin-to-creatinine ratio (uACR)
MSK: Musculoskeletal	Chronic musculoskeletal pain lasting >3MOs, functional limitations, movement disorders	Emphasizing conservative treatments that reduce opioid use and unnecessary surgical procedures	• Pain intensity scores • Functional interference • Physical functions (PROMs) • Activity limitations
BH: Behavioral Health	Depression, anxiety disorders, or related behavioral health needs	Digital therapeutics and remote counseling to address gaps in mental health access	• PHQ-9 (depression) • GAD-7 (anxiety) • WHODAS (disability) • Functional improvement

ACCESS eCKM & CKM Target Performance Measures

eCKM: Early Cardio-Kidney-Metabolic		
Measure	**Control Target**	**Minimum Improvement Target**
Systolic BP	<130 mm Hg	≥15 mm Hg reduction
BMI / Weight	BMI <30 kg/m^2 AND no more than 5% weight gain from baseline	5% weight reduction
HbA1c	<6.5%	N/A
LDL-C	<100 mg/dL	30 mg/dL reduction

CKM: Cardio-Kidney-Metabolic		
Systolic BP	<130 mmHg	≥15 mmHg reduction
BMI / Weight	BMI <30 kg/m^2 AND no more than 5% weight gain	5% weight reduction
HbA1c	<7.5% (diabetes only)	1% reduction (diabetes only)
LDL-C	<100 mg/dL or <70 mg/dL for ASCVD	≥30 mg/dL reduction
eGFR	N/A	N/A
uACR	N/A	N/A

“RPM-lite w/Nurse Care Oversight”

Remote Patient Monitoring simplified — pairing a connected medical device with tech platforms to capture real-time health data outside clinical settings and help patients manage hypertension, diabetes, cholesterol, weight, and kidney health

FDA 510k Notified Blood Pressure Monitor
Continuous Data with real-time transmission for early intervention

Personal Nurse Avatar
Personalized outreach and communication between appointments

24/7 Text Access
Good for patients needing more frequent monitoring

Personalized Outreach
Nurse check-ins as needed

Brilliant Care's ACCESS Model Approach → Early Return Protocol

When a patient shows signs of non-compliance or deteriorating adherence, flag them for an expedited return visit – putting the PCP back in control before a preventable complication occurs.

Why This Matters

- Gaps in adherence are among the leading drivers of avoidable hospitalizations and disease progression.
- Continuous between-visit engagement bridges the critical window between appointments.
- Chronic disease outcomes improve significantly when patients feel supported between visits.
- Create a bridge between your clinical intent and your patient's daily behavior – a trusted, consistent presence that amplifies the impact of your care.

ACCESS enhances PCP reach and frequency with expanded team and technology at "no cost"

Brilliant Care ACCESS Program

Patient Journey Overview

Chapter 1 — Identification & Enrollment

Days 0–14

Connecting eligible patients

Practice Referral → SMS/Portal Outreach → Carey + Follow-Up → Consent Obtained → Device Shipped

Non-Responder → Close Out

Enrolled & Connected

Chapter 2 — Onboarding & Engagement

Setting the foundation

Device Setup → Daily Readings → BP Baseline → Lab Gap Review → Cadence Set

Stable → Routine

Unstable → Escalate

Tailored Engagement

Chapter 3 — Monitoring & BP Triage

Continuous oversight

Reading Captured → Out-of-Range Detected → Symptom & Technique Check → Med/Lifestyle Review → Resolve or Escalate

Early Intervention

Chapter 4 — Escalation Framework

Structured clinical response

Tier 1 Autonomous — managed independently, low-risk

Tier 2 Nurse Review — persistent or moderate concerns

Tier 3 Provider Alert — urgent or high-risk situations

Right Care, Right Time

Chapter 5 — Lab & CMS Capture

Compliant data collection

Practice Data → Backup Outreach → Lab Coordination → CMS Milestone Tracking

Compliant Reporting

Program Outcomes

- Improved Blood Pressure Control
- Reduced Clinician Burden
- Consistent Patient Engagement
- Value-Based Care Performance

ACCESS Value for ACOs, Systems and Provider Groups

Reduces Leakage

Prevents unmanaged vendor relationships that generate costs outside ACO visibility and control

Aligns Quality Goals

Vendor outcomes support ACO quality measures, utilization management, and cost performance

Improve Keepage

Clinical triggers that generate primary care appointments and reinforces system loyalty

Maintains Attribution

Reinforces PCP as care “quarterback”

Controls Costs

Intercepts unnecessary ED/urgent care and drives in-network referrals to help control TCoC

Takeaway: ACCESS should be viewed as a **scalable way to extend capacity and accountability to populations that exceed internal resources**—a mechanism to control utilization, attribution, and total cost.

Virtual Heart Failure Treatment

How Circadian Health Helps ACOs, Payors and At-Risk Providers Reduce Hospitalizations & Costs

NAACOS Spring 2026
Gregg Kimmer
Chief Executive Officer
Circadian Health, Inc

circadiancare.com

Gregg Kimmer

Chief Executive Officer

Circadian Health

- Fortune 5 Payer Experience
- 2× Health Plan CEO
- Medicare Advantage Expert

SPEAKER BIO

Highly adaptable Healthcare Executive and 2× CEO with 15+ years of experience driving strategic growth in managed care, Medicare Advantage, and Value-Based Care. Gregg has held prominent leadership roles across Fortune 5 payers, PE-backed health plans, and high-growth startups — with a proven track record of scaling health plans, implementing risk-based contracts, and managing full P&L for multi-state markets.

CAREER HIGHLIGHTS

Circadian Health
Chief Executive Officer
2025–Present

ATRIO Health Plans
Chief Executive Officer
2022–2025

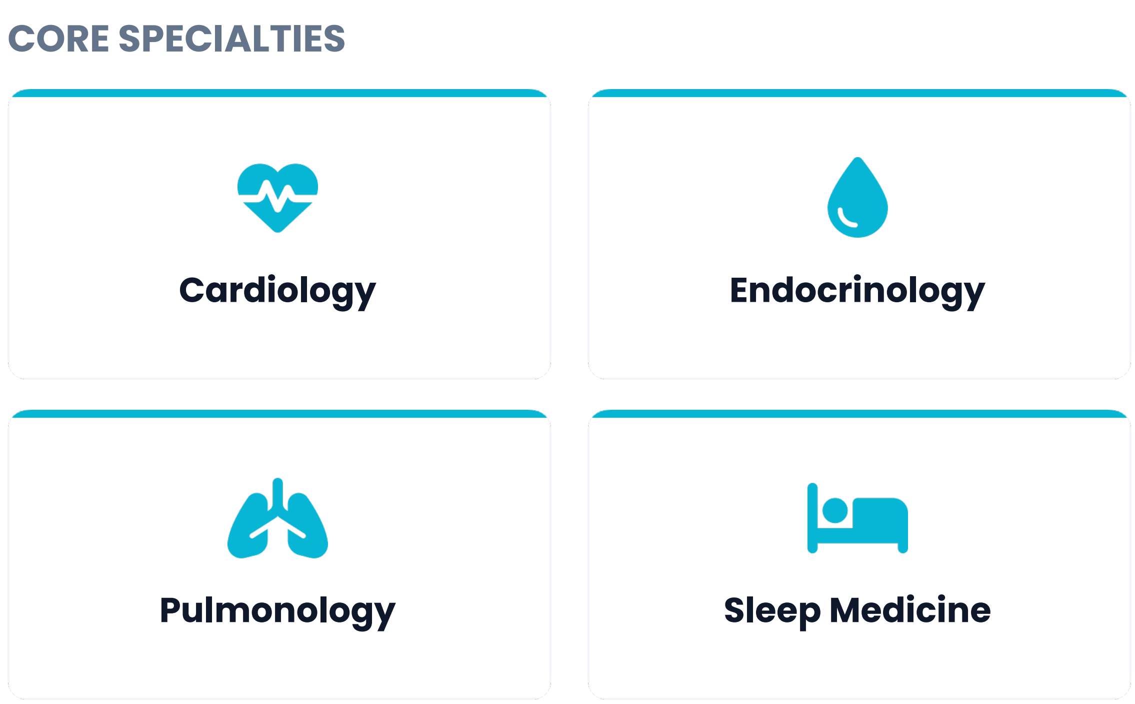
CVS Health / Aetna
Chief Medicare Officer
2017–2021

Humana
Divisional CFO — Medicare Adv.
2011–2017

Duly Health & Care
SVP, Medicare Advantage

About Circadian Health

Virtual-first specialty care closing the gap between primary care and specialty intervention.



How It Works

We partner with you to deliver compassionate, specialized support for patients living with chronic conditions.

You Identify Patients

You provide a list of patients who would benefit most from dedicated specialty support.

We Contact Them

Our caring team reaches out warmly to build trust and introduce our program.

We Do a Clinical Intake

We conduct a thorough, compassionate intake to understand unique needs.

We Provide Specialty Chronic Care Management

Board-certified specialists deliver coordinated, high-quality management.

We Empower and Educate The Patient

We equip patients with tools and confidence to actively manage their health.

The Continuous Care Loop

Monitor
Vitals tracked daily

Alerts
Nurses notified instantly

Adjust
Meds optimized fast

Report
Sent to your PCP

The Patient/Provider Journey

EMR & Tech Process Flow

1 — Patient Engagement
Eligibility, scheduling, consent
Omni-Channel Provider Intro

2 — RN/LPN Pre-Visit
History, meds review, risk scoring
Optional EMR Integration

3 — Intake Visit
Clinical status, meds rec, care path
Provider Notification (EMR)

4 — Health Navigator
Device delivery & troubleshooting
Access to RPM Dashboard

5 — Nurse Care Mgr
1:1 monitoring, alerts, lifestyle support
Care Plan Integrated to EMR

6 — Interdisciplinary Team
High-risk focus, complex cases, escalation
Monthly Clinical Huddles

7 — Ongoing Care Mgmt
CHW/Dietitian collab, continual assessment
Provider Access to KPI Dashboards

Key Takeaways

Seamless EMR Integration: Providers receive automated notifications, access RPM dashboards, and review care plans within their existing workflows. **Monthly Clinical Huddles:** Structured peer-to-peer collaboration ensures continuity and shared decision-making.

Easy to Use Home Diagnostics

Remote patient monitoring devices and continuous glucose sensors are tracked through delivery to the patient's home, ensuring seamless setup and data integration.

Mobile Cardiac Telemetry

Easy to use, wearable for 14-30 days. Best-in-class, two-channel ECG patch.

Home Sleep Testing

Convenient, cost-effective FDA-approved diagnostic mailed directly to the home.

Blood Pressure Monitor

Superior accuracy and affordability to support RPM for hypertension management.

Pulse Oximeter

Cellular-connected measurement of oxygen saturation for remote therapeutic monitoring (RTM).

Dexcom G7®

Provides cellular-connected continuous glucose monitoring for real-time insights.

Libre 3®

Delivers cellular-connected, real-time continuous glucose monitoring data.

Blood Glucose Meter

FDA-cleared, reliable monitor delivers immediate results directly to the care team.

Weight Scale

Patient-friendly design offering high-quality performance for weight management RPM.

Key Takeaways

At-Home, Cellular-Connected Diagnostics: Our comprehensive device suite powers continuous oversight and rapid intervention without burdening the patient with manual data entry, ensuring **high adherence and data integrity**.

6:1 **ROI**
Validated across 2,736 members

Congestive Heart Failure

National Client – Physician Group Partner Analysis
Service Range: May 2024 – Sep 2025

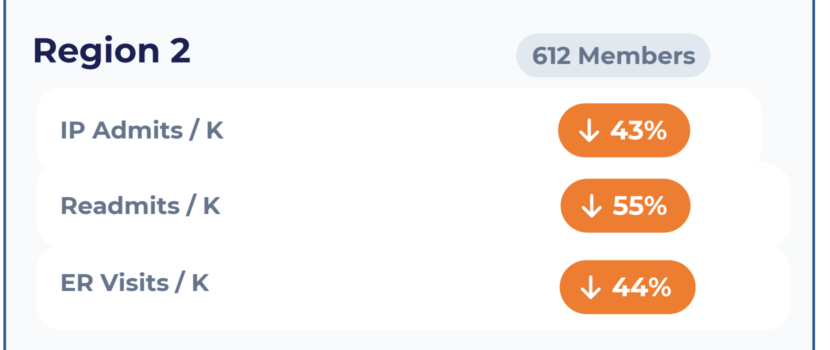
Aggregated Impact: Utilization & Cost Savings

UTILIZATION CATEGORY	UNIT COST	EVENTS AVOIDED	EST COST SAVINGS
Inpatient Admissions	$17,000	**856**	**$14,553,972**
Readmissions	$20,000	**371**	**$7,412,400**
ER Visits	$3,000	**1,223**	**$3,669,516**
GRAND TOTAL	-	**2,450**	**$25,635,888**

Region 1

2,124 Members

IP Admits / K	↓ 45%
Readmits / K	↓ 59%
ER Visits / K	↓ 51%



Executive Summary | Scaled, repeatable utilization reduction with over $25M in total savings and validated ROI across diverse markets.

Comorbid Prevalence

Why these care pathways co-exist — and why Circadian treats them together

~25%	Medicare population: CHF
~25%	Medicare population: COPD
~35%	Medicare population: Diabetes
~25%	Medicare population: OSA

CHF

Congestive Heart Failure

If a patient has CHF, probability of also having:

COPD

20–33%

ScienceDirect

Diabetes

25–45%

Diabetes & Metabolism J.

OSA

20–60%

NIH PMC

COPD

Chronic Obstructive Pulmonary Disease

If a patient has COPD, probability of also having:

CHF

7–42%

MDPI

Diabetes

15–30%

NIH PMC

OSA

10–66%

Egyptian J. of Bronchology

Diabetes

Type 2 Diabetes Mellitus

If a patient has Diabetes, probability of also having:

CHF

12–22%

Cardiovascular Diabetology

COPD

~10%

NIH PMC

OSA

50–55%

NIH PMC

OSA

Obstructive Sleep Apnea

If a patient has OSA, probability of also having:

CHF

20–25%

MDPI

COPD

11–41%

Wiley

Diabetes

~30%

J. of Clinical Sleep Medicine

These conditions don't travel alone. Circadian's multi-specialty model treats the whole patient — not just one diagnosis.

The Evidence: RPM Works for Heart Failure

Remote patient monitoring in heart failure

Pooled analysis: daily RPM + clinician support reduced relative risk of HF hospitalization (RR 0.67) with a significant mortality benefit signal vs. usual care.

lnkd.in/exBVEhJf

RR 0.67
HF Hosp. Risk

↓ Mortality
signal vs. usual care

RPM to reduce acute care use - A systematic review

Continuous cardiorespiratory RPM + same-day clinical response: significant ↓ in unplanned hospitalizations and ED visits vs. standard outpatient care.

lnkd.in/ed-ex57Q

↓ Unplanned
Hospitalizations

↓ ED Visits
vs. standard care

Impact of a Large-Scale RPM on Hospitalization Reduction

Nurse-monitored RPM with daily weight & BP review: 59% ↓ in hospital admissions and 52% ↓ in 30-day readmissions at 6-month follow-up.

lnkd.in/e2W2D5_5

59% ↓
Hospital Admits

52% ↓
30-Day Readmits

Clinical & Engagement Results of a Nationwide Remote Hypertension Program

Multi-center initiative: ↓ SBP 8–12 mmHg, ↓ A1c 0.5–1.2%, reduced hospital admissions, and lower total per-member costs at 12 months.

lnkd.in/ewgtmDPV

↓ 8–12 mmHg
Systolic BP

↓ 0.5–1.2%
A1c reduction

Advanced HF Remote Monitoring (Long-Term)

Long-term RPM program: >80% ↓ in HF-related hospitalizations and >90% ↓ in HF-related ED visits compared to pre-enrollment baseline.

lnkd.in/e6ccVdUK

>80% ↓
HF Hospitalizations

>90% ↓
HF ED Visits

ACO Bottom Line

Across every condition Circadian manages — HF, COPD, diabetes, hypertension — RPM with active clinical support consistently cuts hospitalizations, ED visits, and readmissions. The evidence base is deep and recent.

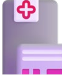
Sources: peer-reviewed meta-analyses & clinical studies (2024–2025). All URLs above are active citations.

Identifying High-Risk Members

Clinical Criteria

Diagnosis of Heart Failure (Stage C, D) or NYHA III, IV

Non-adherence to Guideline Directed Medical Therapy (GDMT)


1+ Recent ED Visit or Hospitalization

1 Urgent Office Visit for decompensated HF in past 6 months

✓ Inclusion Criteria

Diagnosis of HF (Stage C, D) or NYHA III, IV WITH at least one of:

- 1 HF ED Visit or Hospitalization within the past 12 months
- 1 Urgent office visit in the past 6 months for decompensated HF
- Non-adherence to GDMT (from pharmacy data or primary referral)

✗ Exclusion Criteria

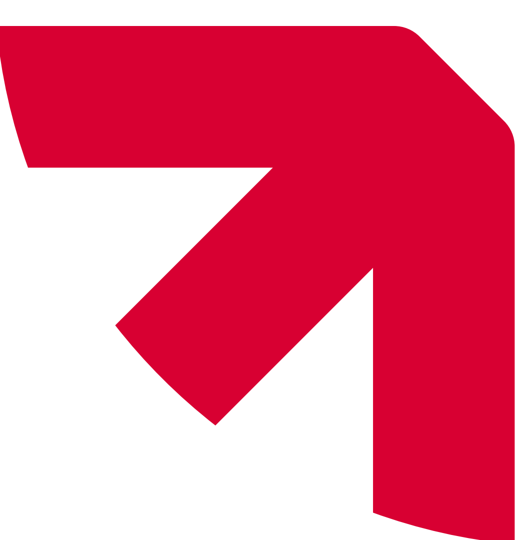
- ✗ Hospice care
- ✗ Post-Transplant / LVAD status
- ✗ Certain Blood Disorders
- ✗ Pregnancy
- ✗ Remodulin Therapy
- ✗ Pancreatic/Brain Cancer

The Importance of Heart Failure Guideline-Directed Medical Therapy (GDMT) and the Role of the Pharmacist

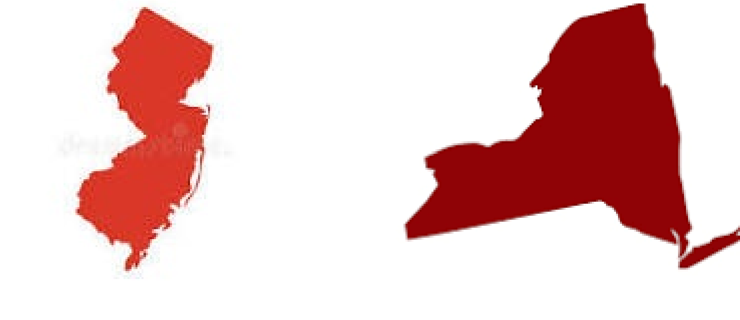
NAACOS Spring Conference
April 23,2026

Laura Balsamini, PharmD, BCPS

Chief Pharmacy Officer



Summit Health Overview



New Jersey | New York

1,800+ providers

2 Enhanced Track MSSPs

80+ Specialties

300K+ lives managed in LOBs

Founded in 1919 to offer connected care across the continuum.

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Possible Agents of GDMT

RASi
Renin-Angiotensin System Inhibitors

BB
Beta-Blockers

SGLT2i
Sodium Glucose Co-transporter-2 Inhibitors

MRA
Mineralocorticoid Receptor Antagonists

- All proven benefits in reducing HF hospitalizations + morbidity/mortality for HFrEF
- Differing evidence for recommending in LVEF > 40% (HFmrEF or HFpEF)

Heidenreich PA, et al. *J Am Coll Cardiol*. 2022;79(17):e263-e421.

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Mechanism of GDMT for HF

RASi	Reduces systemic vascular resistance Reduces preload + afterload Increases cardiac output
Beta Blockers	Slow heart rate = Less work on heart Vasodilation = reduces afterload + increases cardiac output Prevents sympathetic nervous system activation
SGLT2i	Reduces sodium reabsorption Reduces preload + afterload Downregulates sympathetic activity
Diuretics & MRAs	Remove extra sodium + fluid Lowers amount of blood heart has to pump MRAs only - anti-fibrotic effects in myocardial tissues

Khalid A, et al. *Front Cardiovasc Med*. 2025;12:1643971.

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HFrEF - Pillars of GDMT

Class 1A Recommendations

RASi

(ARNi > ACEi or ARB)

BB

SGLT2i

MRA

Agents with proven reduction in HF hospitalization and mortality

Diuretics

As needed for symptoms

Hydralazine-Isosorbide Dinitrate*

*Only for African Americans with NYHA Class III-IV

Heidenreich PA, et al. *J Am Coll Cardiol*. 2022;79(17):e263-e421.

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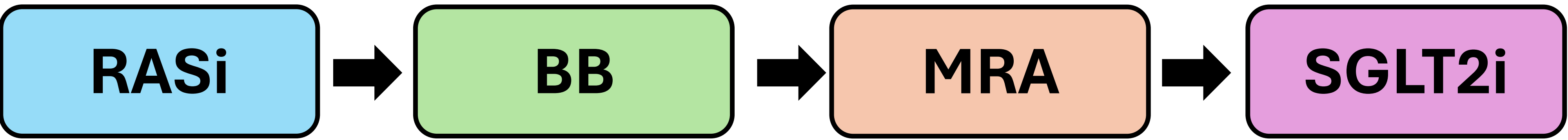
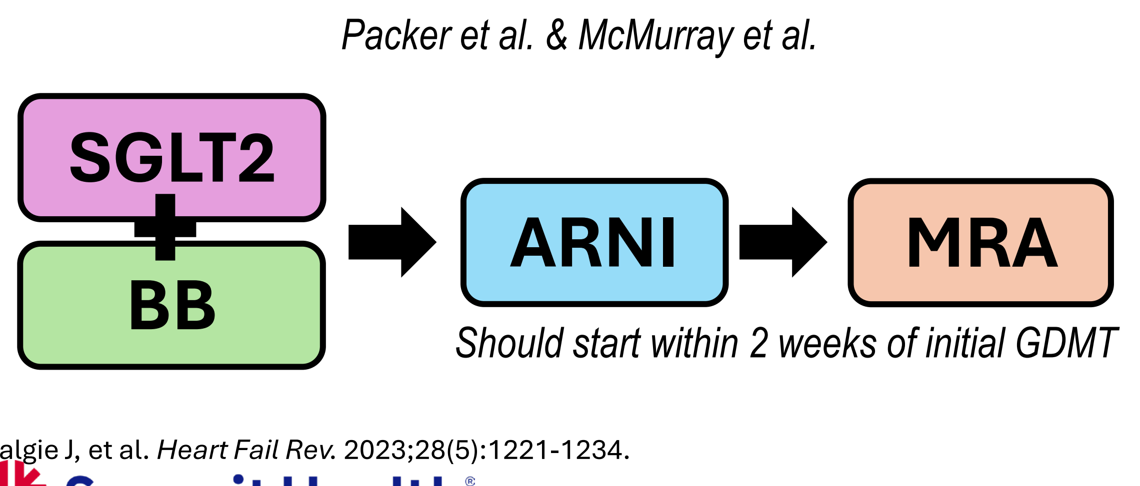
HFrEF - Sequence of GDMT

Traditional Sequence - *based on order of clinical trials*

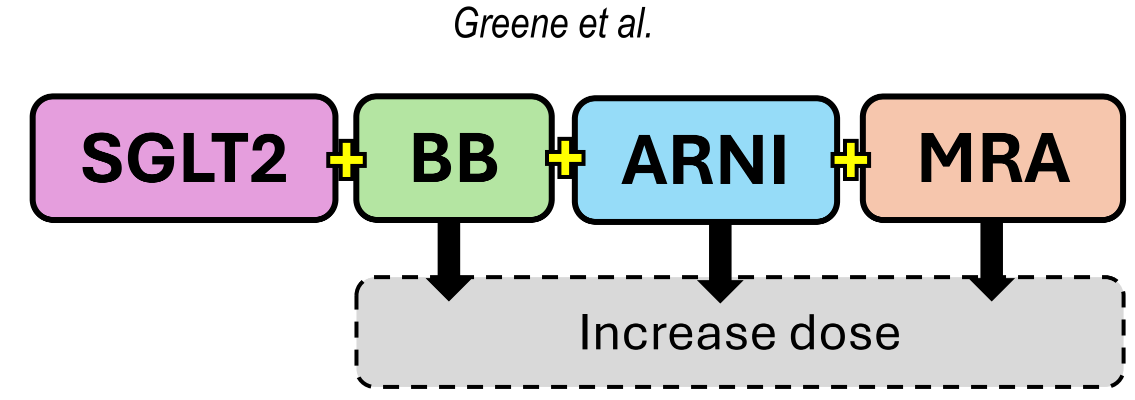


Proposed Sequences

Packer et al. & McMurray et al.



Greene et al.



Malgie J, et al. *Heart Fail Rev.* 2023;28(5):1221-1234.

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Clinical Trials

STRONG-HF Trial

- Multinational, open-label, randomized, parallel group
- 1,078 Adults admitted for acute HF, not treated with full dose GDMT (BB + ACEi/ARB/ARNi + MRA)
- Randomized to High-intensity care vs. Standard care
  - High-intensity:
    - Initial dose adjustment: GDMT titrated to HALF-recommended doses within 2 days of discharge
    - Subsequent dose adjustment: GDMT titrated to 100% recommended doses within 2 weeks of discharge
  - Standard care: Per local practice
- Primary Endpoint: Readmission within 6 months or all-cause death

Primary Endpoint	High-intensity care group (n=542)	Usual care group (n=536)	Adjusted risk ratio (95% CI)	p value
All-cause death or heart failure readmission within 6 months	15.2%	23.3%	8.1 (2.9 to 12.3)	0.0021

Take home message: Initiate GDMT ASAP, titrate to recommended doses within weeks, & maintain close follow-up

Real-World Utilization of GDMT

2024 retrospective study of 43,591 patients with HFrEF

96.3%	79.3%	36.8%	8.8%
1 GDMT Agent	*2 GDMT Agents*	*3 GDMT Agents*	*4 GDMT Agents*

Most prescribed GDMT = RASi
Least prescribed GDMT = SGLT2i

Mignone JL, et al. *Heart Rhythm O2*. 2024;5(3):168-173.

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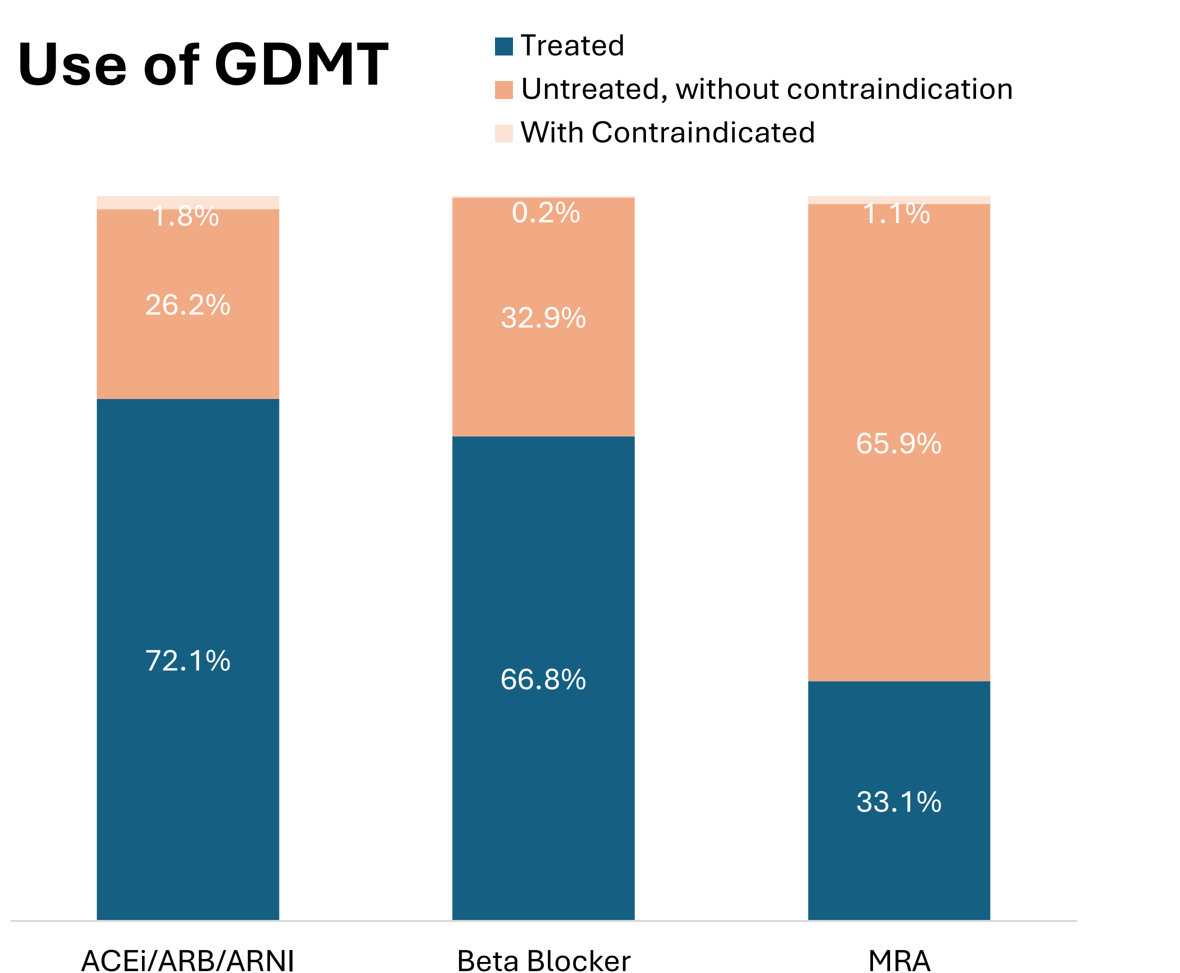
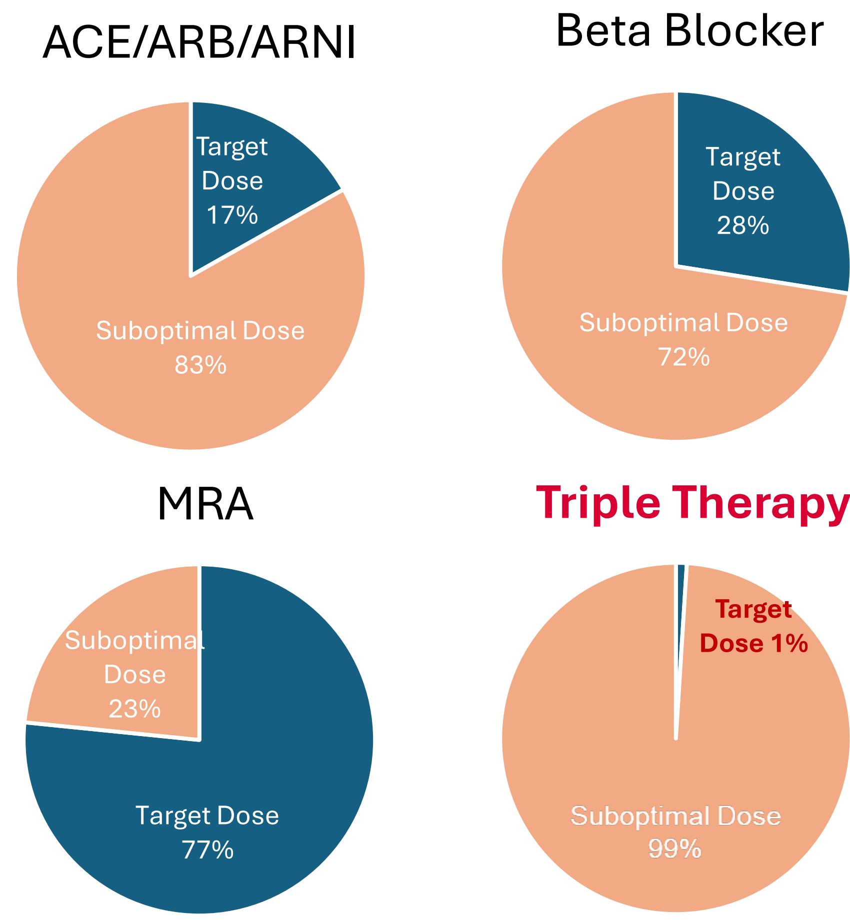
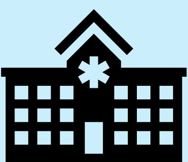
CHAMP-HF Registry

- Prospective, observational, nonrandomized study
- 3,158 US adult outpatients with HFrEF taking ≥ 1 medication for HF
- Objectives: Characterize patterns associated with use, dose of HFrEF meds





Gaps in Optimizing GDMT in HFrEF



46%

of patients had **no changes made to GDMT** within 1 year after hospitalization despite not being on target doses

42%

of patients are **not prescribed any GDMT** within 30-days post-hospitalization

< 1%

of patients are **on target doses of all 4 pillars of GDMT** at 12-months post-hospitalization

Heidenreich PA, et al. *J Am Coll Cardiol*. 2022;79(17):e263-e421.

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Barriers to Initiating GDMT

Patient Factors	Medical Condition	Health System
Poor health literacy Insurance status Affordability of medications Lack of social support Difficult to access pharmacy Disabilities Cognitive impairment Comorbidities	Polypharmacy Complex HF regimen Side effects Frequency of medications	Poor communication No automatic refills Trouble navigating PAP Slow clinical inertia Differing prescribing patterns

PAP: patient assistance program

Malgie J, et al. *Heart Fail Rev*. 2023;28(5):1221-1234. Maddox TM, et al. *J Am Coll Cardiol*. 2024;83(15):1444-1488.

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Pharmacist Role in Optimizing Therapy: AHA/ACC

"Patients with HF should receive care from **multidisciplinary teams** to facilitate the implementation of GDMT, address potential barriers to self-care, reduce the risk of subsequent rehospitalization for HF, and improve survival"

"In a recent meta-analysis of 22 RCTs, multidisciplinary interventions that **included a pharmacist reduced HF hospitalizations**"

Heidenreich PA, et al. *J Am Coll Cardiol*. 2022;79(17):e263-e421.

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Treat to Target Program

Treat to Target Workflow (Summit Health)

Enrollment

Refer patient with uncontrolled chronic condition/s (e.g., CHF, DM, HTN) to SMG Referral: Clinical Pharmacy

Initial Visit

Pharmacist conducts initial telephone consult with patient, documenting in encounter

Treatment Optimization

Recommendations routed to provider for approval via patient case

Follow-through

Once approved, pharmacist will send order group to prescriber and provide counseling to patient

Follow-up

Treatment optimized every 1-4 weeks until patient is at goal

3 Year Results: Diabetes

Measures	Results
Enrolled patients with ≥ 2 visits	387
Percent of Members at Goal at Enrollment	6.3%
Percent of Members at Goal data pull	56.2%
Average Days in Program	256
Average A1c reduction	2.2%

3 Year Results: Hypertension

Measures	Results
Enrolled patients with ≥ 2 visits	91
Percent of Members at Goal at Enrollment	38.5%
Percent of Members at Goal by data pull	69.2%
Average Days in Program	177
Average SBP reduction	15.4 mmHg
Average DBP Reduction	5 mmHg

Year-Over-Year Comparison

Metrics	Year 1	Year 2	Year 3
Total Patients with ≥ 2 visits	163	280	426
Avg Days in Program	140	179	256
Avg A1c Reduction	1.5%	2.11%	2.2%
Patients Included for Monetization	100	164	240
3-Year Cost Savings	$595,547	$1,005,354.69	$1,552,614

3 Year Monetized Results: Diabetes

- Leveraged article that quantified cost-savings
  - Analyzed charge data in relation to A1c change over a 3-year period
  - Stratified cost-savings by underlying condition: DM ± CAD ± HTN
    - Most significant cost-savings identified in patients with all 3 disease states
  - Cost-savings calculated for any A1c between 10% to 6%
  - Article did not quantify savings where final A1c was > 9%
    - For this reason, total savings is ***underreporting*** impact
    - Cost savings of 77 patients with A1c improvement of ≥ 1%, but whose final A1c remained above 9%, is not captured
  - **Calculated savings: $1,552,614**

White J. *Am J Health-Syst Pharm*. 2002;59(suppl_9): S14-S17.
*Values corrected for inflation

Medication Adherence

Medication Adherence Best Practices – Prescriber Opportunities

Prescriber Opportunities	• Prescribe generic alternatives to reduce cost barriers • Prescribe 90-days with 1-3 refills for chronic medications when appropriate • Reduce pill burden o Use combination products when generically available o Use once daily dosing when generically available o Caution over-prescribing (e.g. opioids, sedative hypnotics, proton pump inhibitors, antibiotics) o Titrate doses to maximize benefit of current regimen and avoid adding additional medications • Assume adverse reactions are medication related until proven otherwise • Assess adherence at every visit o SH Medication Adherence Tool (see below) o Review flowsheet of each individual medication to assess fill history • Use ICD-10 code for history of non-compliance in appropriate patients • Refer to clinicalpharmacy@smgnj.com for pharmacy consult

Medication Adherence Best Practices – Patient Opportunities

Get Patients Involved	• Review medication indications • Simplify medical jargon • Use motivational interviewing to empower patients • Use teach back to ensure comprehension • Provide realistic expectations of anticipated benefits • Engage patients and support system in medical decision-making process • Choose medications based on adverse event profile • Encourage daily routines and suggest strategies that pair medication taking with current habits: o Place meds bedside, by coffeemaker, near toothbrush o Coincide medication taking with snacktime, mealtime or bedtime

Medication Adherence Best Practices – Tools to Improve

Tools to Improve Adherence	
	• SH Medication Adherence Tool (see below) • Up-to-date medication list: Name, indication, dose, directions • Pill boxes • Calendars • Alarms • Reminders from support system • Drive-thru pharmacies • Auto-refill pharmacies • Medication synchronization programs • Refer to pharmacies with unit-dose packaging services • Smart phone Apps: MyMeds https://www.my-meds.com/ • Smart pill bottle cap: "TimerCap" https://timercap.com/

SH Medication Adherence Tool

Questions

1) Do you ever miss your medications for any reason?
2) Are you ever careless about taking your medications?
3) Do you sometimes stop taking your medications when you feel worse?
4) Do you sometimes stop taking your medications when you feel better?

Scoring for each question: Yes = 1; No = 0

Adherence	Score
Very Adherent	0
Moderately Adherent	1-2
Minimally Adherent	3-4

Thank you!

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