

Optimizing Pharmacotherapy and Transitional Interventions for Heart Failure and Related Conditions (OPTI-HEART)

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Disclosures

- I have no financial disclosures

Objectives

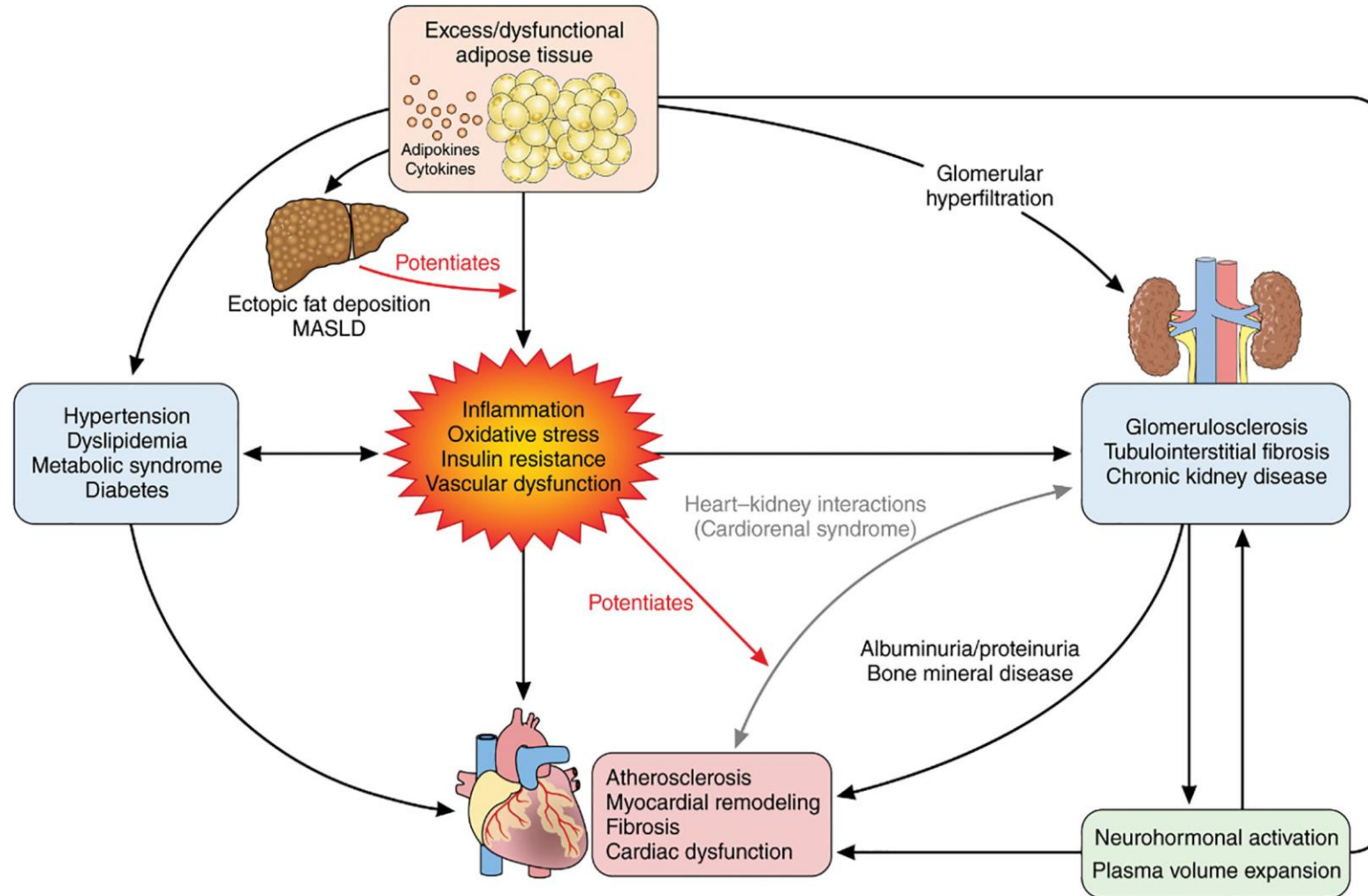
Pharmacists and Technicians:

1. Describe the clinical and health equity challenges associated with cardiovascular-kidney-metabolic conditions
2. Apply practical strategies for integrating pharmacists into transitional care workflows to improve guideline-directed medical therapy uptake, medication adherence, and equitable access to care
3. Evaluate key process and outcome metrics used to assess transitional care interventions

Abbreviations

Abbreviation	Definition	Abbreviation	Definition
ACEi	Angiotensin-Converting Enzyme Inhibitors	GDMT	Guideline-Directed Medical Therapy
ACS	Acute Coronary Syndromes	HFmrEF	HF with Moderately Reduced Ejection Fraction
ADHF	Acute Decompensated Heart Failure	HFpEF	HF with Preserved Ejection Fraction
ARB	Angiotensin II Receptor Blocker	HFrEF	HF with Reduced Ejection Fraction
ARNI	Angiotensin Receptor-Neprilysin Inhibitors	HRSN	Health-Related Social Needs
CDTM	Collaborative Drug Therapy Management	KDIGO	Kidney Disease Initiative and Global Outcome
CHW	Community Health Worker	MRA	Mineralocorticoid Receptor Antagonists
CKD	Chronic Kidney Disease	RASi	Renin-Angiotensin System Inhibitor
CKM	Cardiovascular-Kidney-Metabolic	SDOH	Social Determinants of Health
COPD	Chronic Obstructive Pulmonary Disease	SGLT2i	Sodium-Glucose Cotransporter-2 Inhibitors
EF	Ejection Fraction	SNF	Skilled Nursing Facility
FFS	Fee For Service	TCE	Transitional Care Excellence

Cardiovascular-Kidney-Metabolic (CKM) Syndrome



CKM Management Challenges

- Fragmented and siloed care delivery
- High costs and inequitable access
- Resource scarcity and access
- Compounded health-related social needs (HRSN)
- Structural barriers and medical mistrust

*Davis G, Kim D, Jun M, Kotwal SS. Heart Lung Circ. 2025;34:1060–1068.
White-Williams C, et al. Circulation. 2020;141:e841-e863.*

CKM Barriers



SYSTEM BARRIERS

- Public Health Policy
- Siloed Healthcare
- No Consensus Guidelines
- Inadequate Risk Prediction Tools
- Access to Pharmacological Interventions
- Structural Racism



PROVIDER BARRIERS

- Late Screening for CKM Risk Factors
- Clinical Inertia
- Suboptimal CKM Education
- Inappropriate Cessation of Pharmacological Therapies



PATIENT BARRIERS

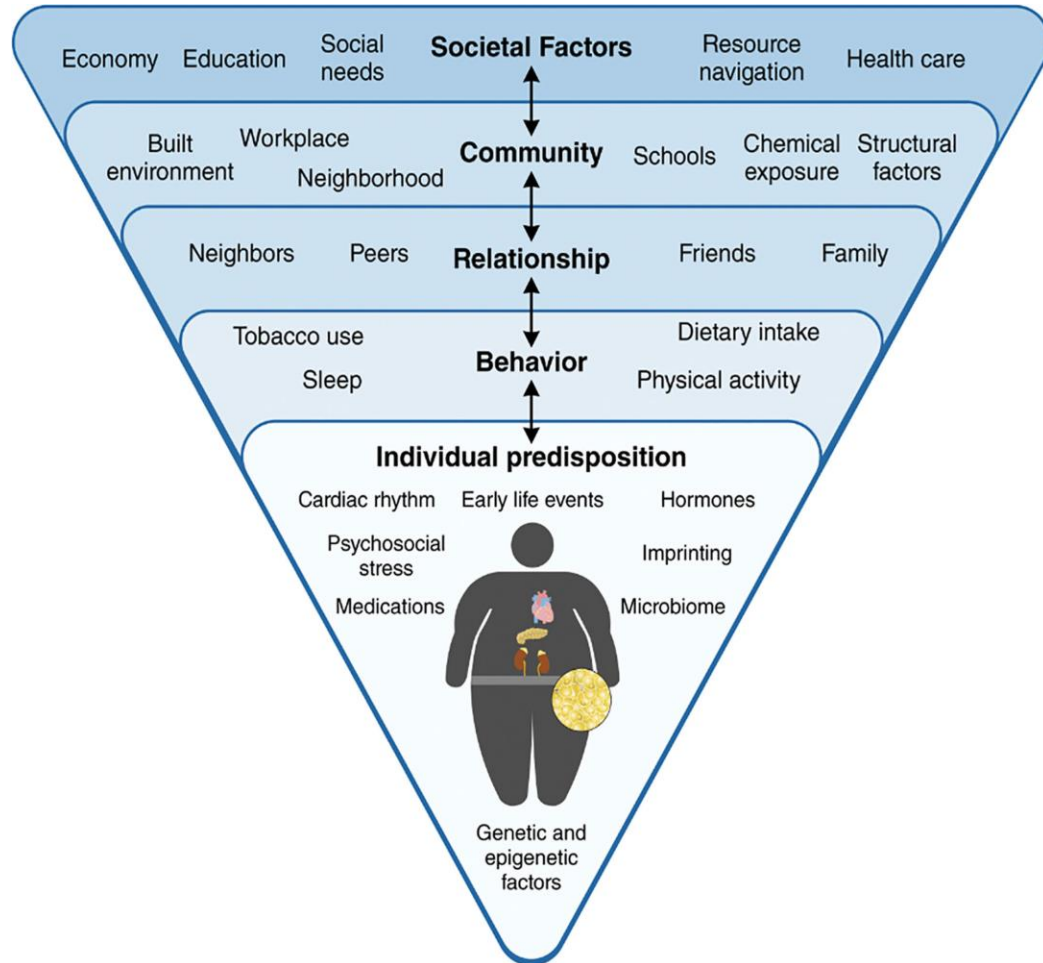
- Suboptimal CKM Education
- Social Determinants of Health
- Affordability of Pharmacological Therapies
- Sex/Gender Discrepancies

Social Determinants of Health

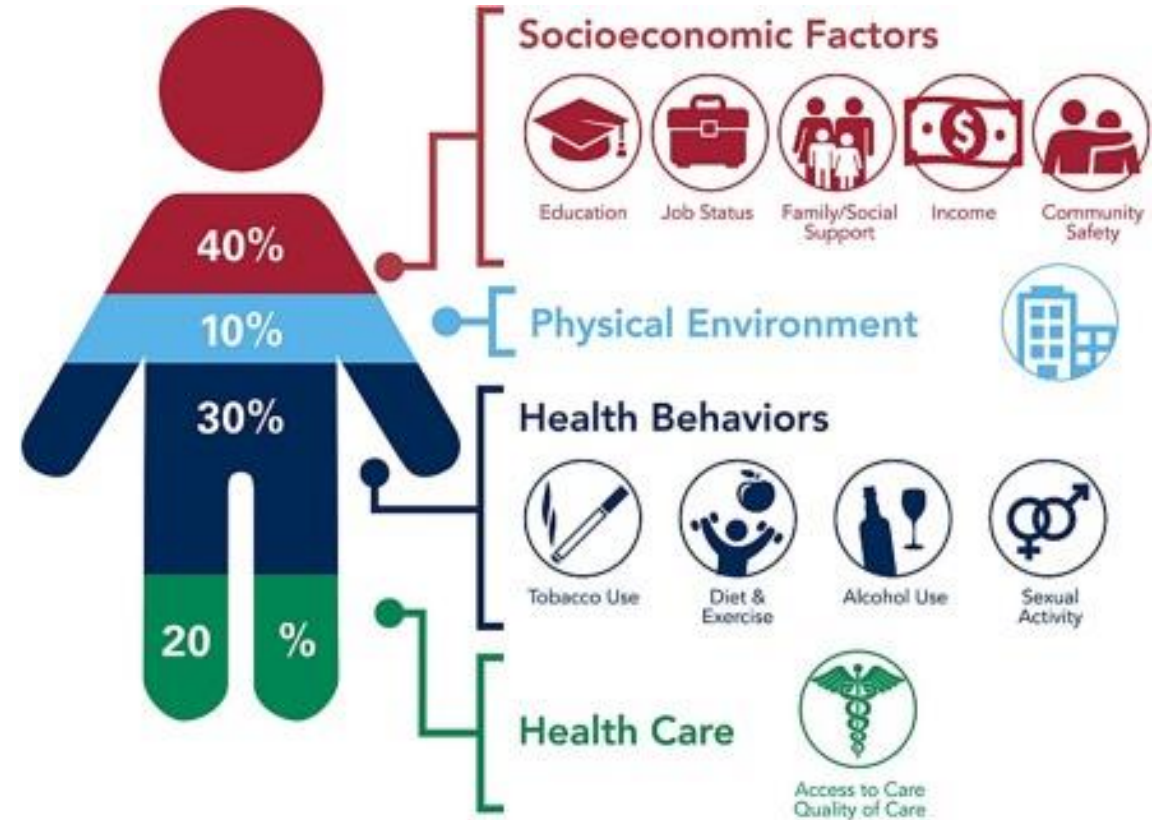
- Conditions in the environments in which people live, work, learn, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks
- "Upstream" problems
- Contribute to health disparities and inequities



Health Related Social Needs (HRSN) and CKM

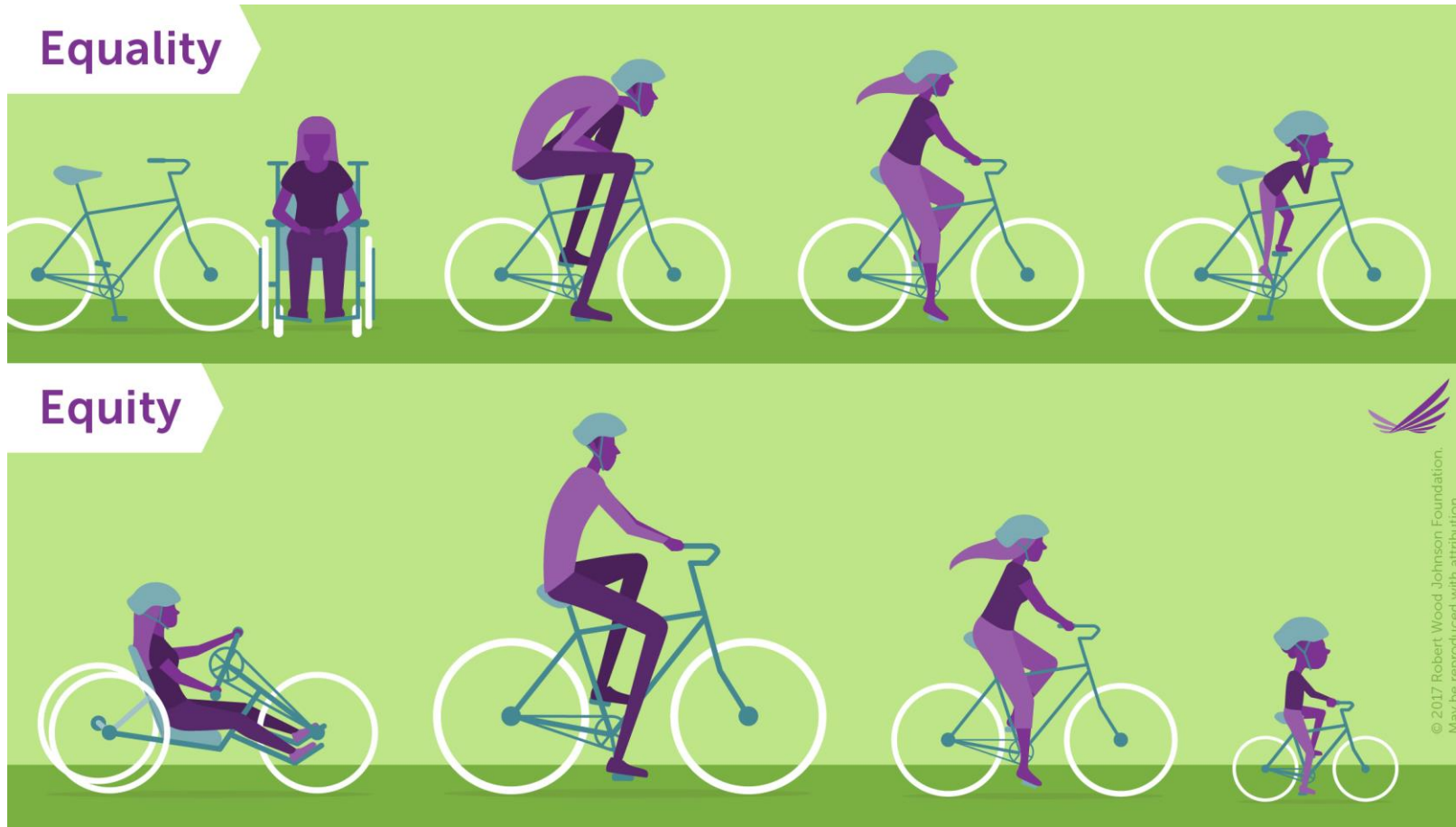


Ndumele CE, et al. *Circulation*. 2023;148(20):1636-1664.



Vijay A, Yancy CW. *Prog Cardiovasc Dis*. 2024;82:55-60.

Equality vs Equity



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Health Equity Challenges

Circulation

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<https://doi.org/10.1161/CIR.0000000000000767>

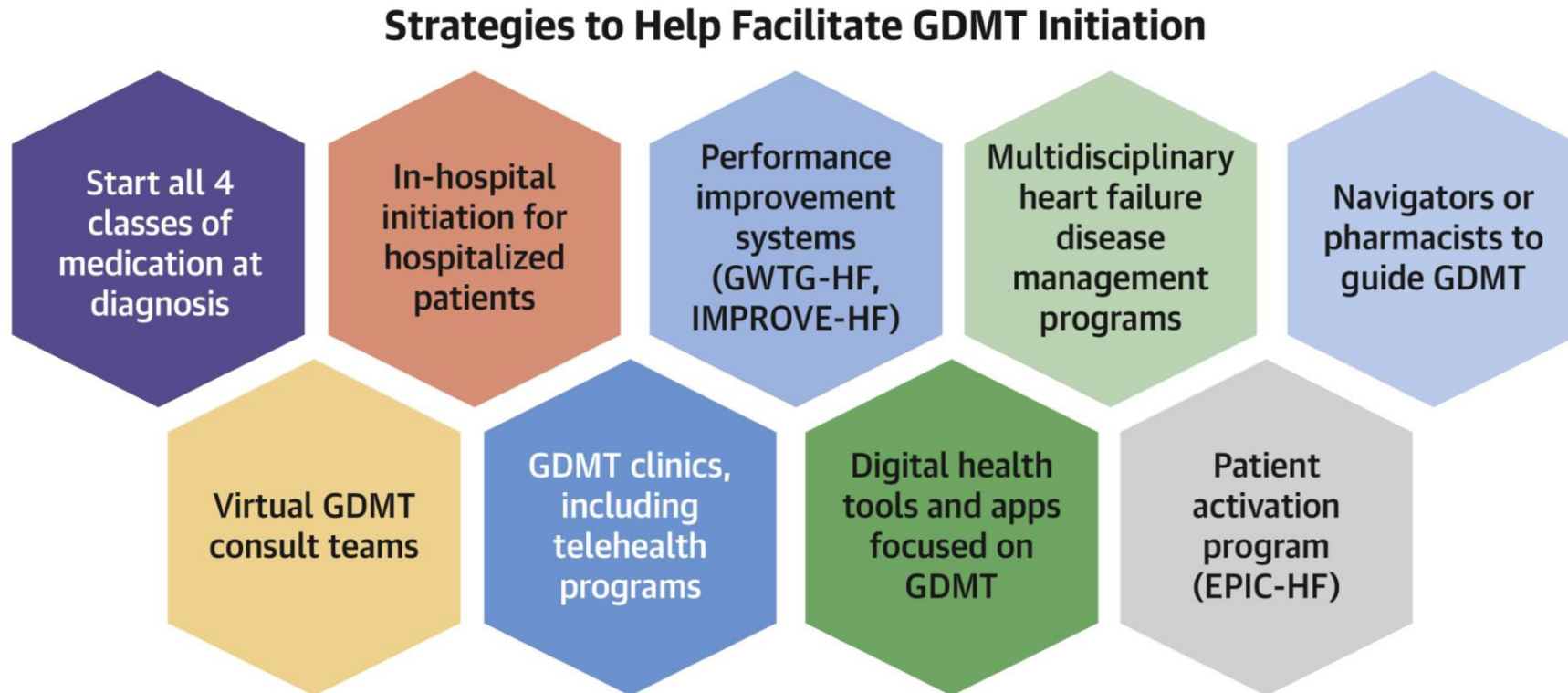


AHA SCIENTIFIC STATEMENT

Addressing Social Determinants of Health in the Care of Patients With Heart Failure: A Scientific Statement From the American Heart Association

Connie White-Williams, PhD, RN, FAHA, Chair, Laura P. Rossi, PhD, RN, Vice Chair, Vera A. Bittner, MD, MSPH, Andrea Driscoll, PhD, NP, FAHA, Raegan W. Durant, MD, MPH, Bradi B. Granger, PhD, RN, FAHA, Lucinda J. Graven, PhD, MSN, FAHA, Lisa Kitko, PhD, RN, FAHA, Kim Newlin, ANP, CNS, FAHA, and Maria Shirey, PhD, MBA, RN On behalf of the American Heart Association Council on Cardiovascular and Stroke Nursing; Council on Clinical Cardiology; and Council on Epidemiology and Prevention

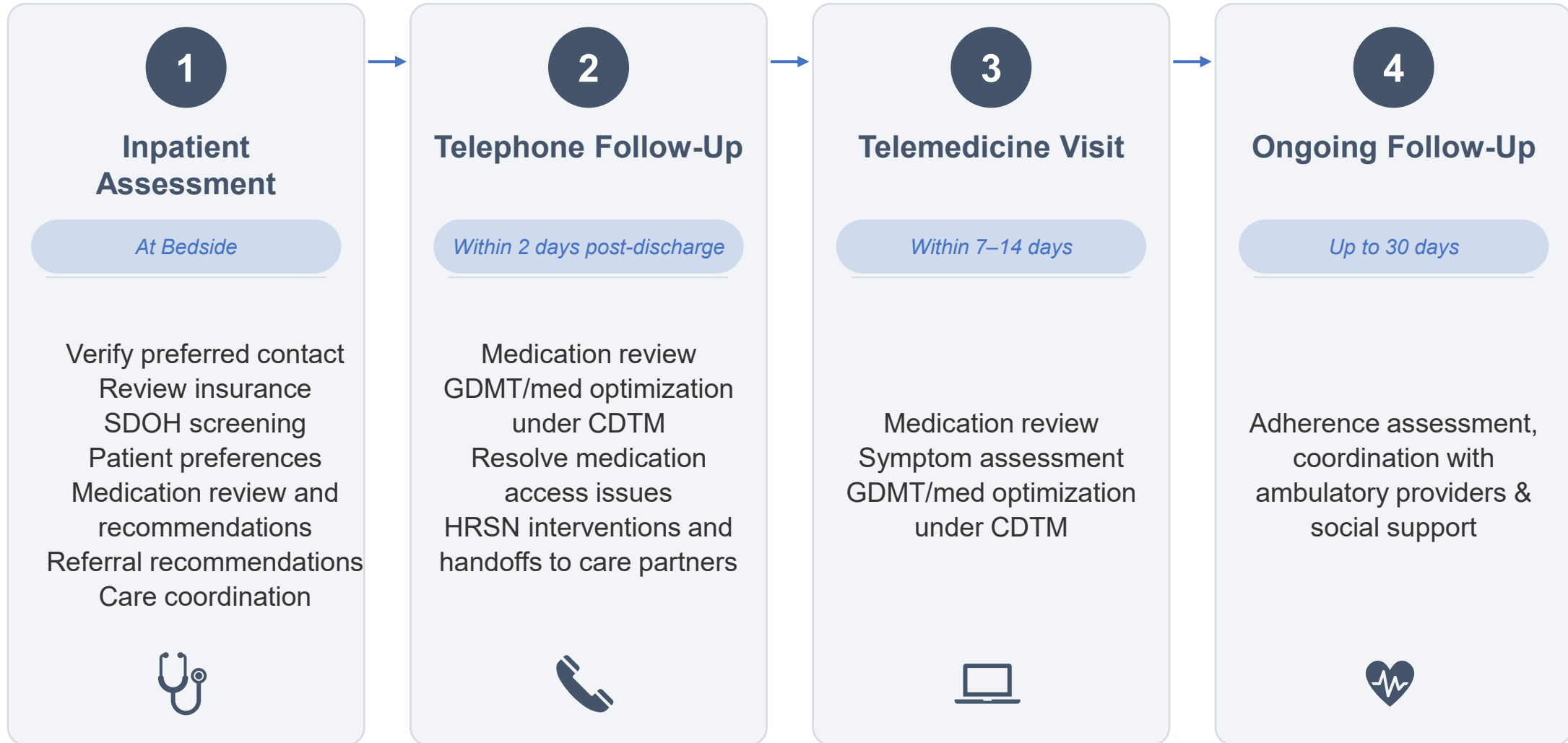
Strategies to Facilitate GDMT in HF Patients



Transitional Care Excellence – It Takes a Village



Transitional Care Excellence Workflow



The Devil is in the Details

- **Standardized, structured assessments**
 - Clinical and HRSN
 - Inpatient note templates, outreach calls, Telemedicine encounters
- **Patient-centered care**
 - What matters to YOU
- **Communication is Key**
 - Closing the loop with care partners, including longitudinal care team
- **Thinking Outside the Box**
 - Leveraging 100+ years of shared experiences

**Optimizing Pharmacotherapy and Transitional
Interventions for Heart Failure and Related
Conditions
(OPTI-HEART)**

Methods

Category	Description
Study Design	Observational cohort study
Study Period	December 1, 2024 – August 31, 2025
Location	Montefiore Medical Center, an academic teaching institution in Bronx, NY
Population	Hospitalized patients who received a TCE consult and assessment by a pharmacist
Inclusion Criteria	EF \leq 49% or inclusion in the HF registry
Statistical Test	Descriptive and inferential (baseline); McNemar's test for paired binary data (primary outcome)
Outcomes	Changes in GDMT prescribing prior to admission vs. discharge
Significance	Two-sided p-value of <0.05 considered statistically significant

Patient Demographics (N=1,031)

Characteristic	N (%)
Total patients	1,031
Age (years), mean (SD)	71.1 ± 13.9
Sex	
Male	570 (55.3)
Female	461 (44.7)
Race and Ethnicity	
Non-Hispanic Black	437 (42.4)
Hispanic	367 (35.6)
White	125 (12.1)
Other	102 (9.9)
Preferred Language	
English	834 (80.9)
Spanish	147 (14.3)
Other	50 (4.8)
Payer	
Medicare Managed Care	442 (42.9)
Medicare FFS	268 (26.0)
Medicaid Managed Care	146 (14.2)
Medicaid FFS	85 (8.2)
Commercial/Other	90 (8.7)

Patient Demographics (N=1,031) — Continued

Characteristic	N (%)
EF Category	
HFrEF ($\leq 40\%$)	465 (45.1)
HFpEF ($\geq 50\%$)	383 (37.1)
HFmrEF (41–49%)	147 (14.3)
Unknown	36 (3.5)
CKD Stage (KDIGO)	
G1 (≥ 90 mL/min/1.73m ²)	138 (13.4)
G2 (60–89)	295 (28.6)
G3 (30–59)	357 (34.6)
G4 (15–29)	150 (14.5)
G5 (<15)	91 (8.8)
Dialysis	78 (7.6)
Primary Diagnosis	
ADHF	416 (40.3)
ACS	93 (9.0)
Sepsis	73 (7.1)
COPD	46 (4.5)
Pneumonia	45 (4.4)
Other	358 (34.7)
Discharge Disposition	
Home discharge	835 (81.0)
SNF/Rehab	163 (15.8)
Length of Stay (days), median [IQR]	6.0 [4.0–10.0]

Social Determinants of Health Screener

	Are you worried that in the next 2 months, you may not have a safe or stable place to live? (risk of eviction, being kicked out, homelessness)	<input type="checkbox"/> YES	<input type="checkbox"/> NO
	Are you worried that the place you are living now is making you sick ? (has mold, bugs/rodents, water leaks, not enough heat)	<input type="checkbox"/> YES	<input type="checkbox"/> NO
	In the past 12 months, has the electric, gas, oil or water company threatened to shut off services to your home?	<input type="checkbox"/> YES	<input type="checkbox"/> NO
	In the last 12 months, did you worry that your food could run out before you got money to buy more?	<input type="checkbox"/> YES	<input type="checkbox"/> NO
	In the last 12 months, has lack of transportation kept you from medical appointments or getting your medications?	<input type="checkbox"/> YES	<input type="checkbox"/> NO
	In the last 12 months, did you have to skip buying medications or going to doctor's appointments to save money?	<input type="checkbox"/> YES	<input type="checkbox"/> NO
	Do you need help getting child care or care for an elderly or sick adult?	<input type="checkbox"/> YES	<input type="checkbox"/> NO
	Do you need legal help ? (child/family services, immigration, housing discrimination, domestic issues, etc)	<input type="checkbox"/> YES	<input type="checkbox"/> NO
	Are you finding it hard to get along with a partner, spouse, or family members?	<input type="checkbox"/> YES	<input type="checkbox"/> NO

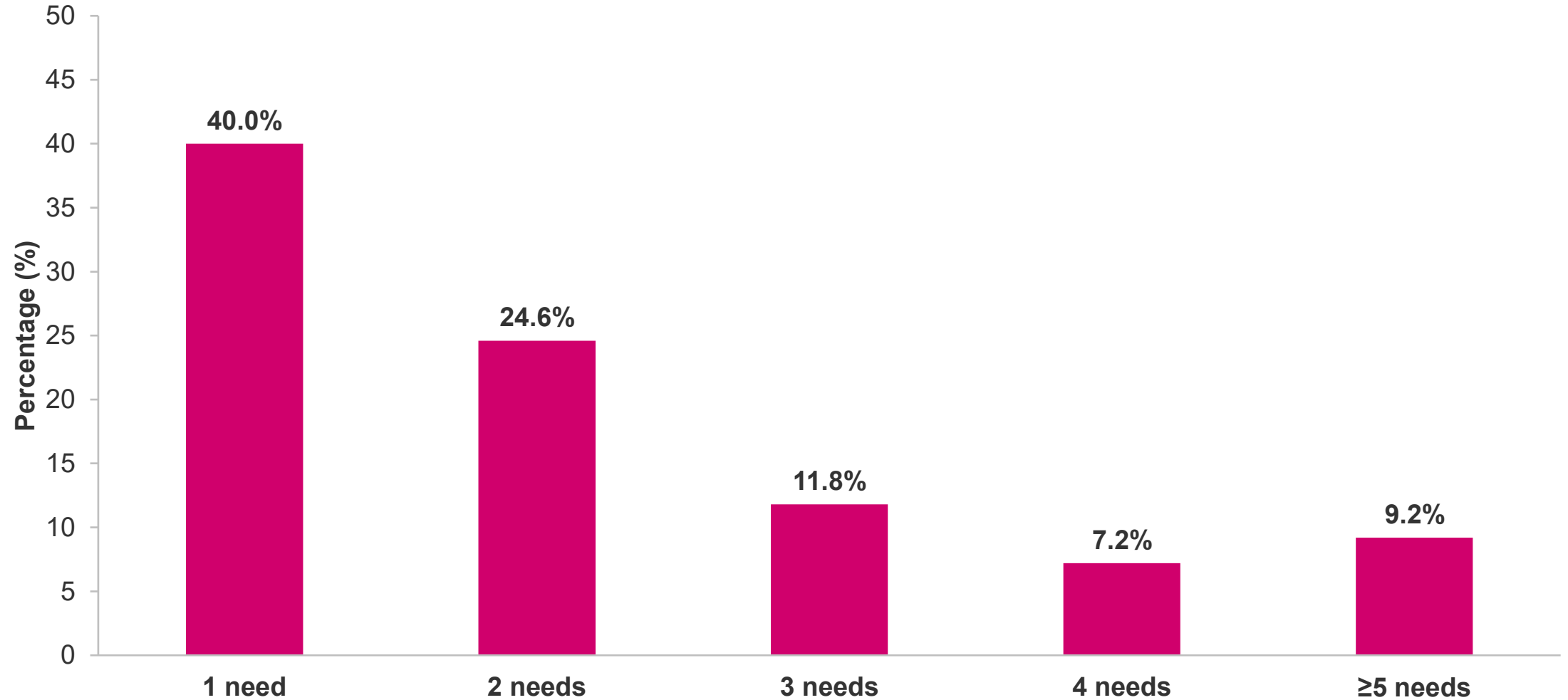
Results: Positive SDOH Screening

Characteristic	N (%)
Patients screened	916 (88.8)
Positive screen (≥ 1 need)	195 (21.3)
Individual social needs*	
Transportation barriers	77 (8.4)
Food insecurity	74 (8.1)
Housing instability	69 (7.5)
Housing quality concerns	60 (6.6)
Healthcare cost concerns	55 (6.0)
Legal assistance needs	37 (4.0)
Utility shut-off threat	30 (3.3)
Child/adult care needs	19 (2.1)
Safety concerns	7 (0.8)

**Percentages calculated among screened patients (n=916); Categories not mutually exclusive.*

Number of Social Needs Among Positive Screens (n=195)

Patients by Number of Needs (%)



Results: HFrEF (EF ≤40%, n = 465)

Medication	Prior to Admission (%)	Discharge (%)	p-value
Any RASi	65.4	71.8	0.0142
ARNI	34.6	51.0	<0.0001
ACEi	11.4	5.2	0.0003
ARB	22.2	16.1	0.0044
Beta-blocker	64.7	84.1	<0.0001
MRA (eligible, n=354)*	31.6	50.6	<0.0001
SGLT2i (eligible, n=420)**	47.6	76.4	<0.0001



*MRA: eGFR >30 mL/min/1.73m² AND serum potassium <5.0 mEq/L

**SGLT2i: empagliflozin eGFR >20 mL/min/1.73m² and dapagliflozin eGFR >25 mL/min/1.73m².

Results: HFmrEF (EF 41–49%, n =147)

Medication	Prior to Admission (%)	Discharge (%)	p-value
Any RASi	49.7	61.2	0.0196
ARNI	21.1	34.7	0.0005
ACEi	12.2	9.5	0.4240
ARB	19.7	19.7	0.8638
Beta-blocker	49.7	74.1	<0.0001
MRA (eligible, n=93)*	9.7	23.7	0.0023
SGLT2i (eligible, n=121)**	40.5	67.8	<0.0001

*MRA: eGFR >30 mL/min/1.73m² AND serum potassium <5.0 mEq/L

**SGLT2i: empagliflozin eGFR >20 mL/min/1.73m² and dapagliflozin eGFR >25 mL/min/1.73m².

Results: HFpEF (EF \geq 50%, n=383)

Medication	Prior to Admission (%)	Discharge (%)	p-value
Any RASi	48.3	42.6	0.0058
ARNI	13.1	19.1	0.0003
ACEi	12.3	6.8	<0.0001
ARB	24.3	16.7	<0.0001
Beta-blocker	49.3	49.6	1.0000
MRA (eligible, n=252)	13.9	23.0	<0.0001
SGLT2i (eligible, n=322)	35.1	50.6	<0.0001

*MRA: eGFR >30 mL/min/1.73m² AND serum potassium <5.0 mEq/L

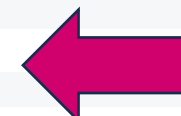
**SGLT2i: empagliflozin eGFR >20 mL/min/1.73m² and dapagliflozin eGFR >25 mL/min/1.73m².

GDMT Persistence: Discharge → Post-Discharge

Medication	Discharge (%)	Post-Discharge (%)	p-value	Interpretation
HFrEF (n=465)				
Any RASi	71.8	71.4	0.91	Maintained
ARNI	51.0	52.0	0.65	Maintained
ACEi	5.2	8.2	0.03	↑ <i>Some re-initiation</i>
ARB	16.1	17.2	0.54	Maintained
Beta-blocker	84.1	81.1	0.07	Maintained
MRA (eligible, n=354)*	50.6	55.1	0.045	↑ <i>Continued optimization</i>
SGLT2i (eligible, n=420)**	76.4	74.5	0.32	Maintained
HFmrEF (n=147)				
Any RASi	61.2	64.6	0.38	Maintained
ARNI	34.7	36.7	0.65	Maintained
Beta-blocker	74.1	68.7	0.10	<i>Trend ↓</i>
MRA (eligible, n=93)*	23.7	22.6	1.00	Maintained
SGLT2i (eligible, n=121)**	67.8	66.1	0.79	Maintained
HFpEF (n=383)				
Any RASi	42.6	46.7	0.049	↑ <i>Increased</i>
ARNI	19.1	17.2	0.25	Maintained
ACEi	6.8	9.9	0.008	↑ <i>Re-initiated</i>
ARB	16.7	22.2	0.001	↑ <i>Re-initiated</i>
Beta-blocker	49.6	46.7	0.14	Maintained
MRA (eligible, n=252)*	23.0	24.2	0.65	Maintained
SGLT2i (eligible, n=322)**	50.6	50.0	0.87	Maintained

*MRA: eGFR >30 mL/min/1.73m² AND serum potassium <5.0 mEq/L

**SGLT2i: empagliflozin eGFR >20 mL/min/1.73m² and dapagliflozin eGFR >25 mL/min/1.73m².



Results: 4-Pillars GDMT Analysis for HFrEF

Pillars	Prior To Admission	Discharge	Post-Discharge
0	74 (20.9%)	15 (4.2%)	20 (5.6%)
1	49 (13.8%)	30 (8.5%)	36 (10.2%)
2	73 (20.6%)	66 (18.6%)	54 (15.3%)
3	86 (24.3%)	110 (31.1%)	97 (27.4%)
4	72 (20.3%)	133 (37.6%)	147 (41.5%)

Metric	Prior To Admission	Discharge	Post-Discharge
4-pillar GDMT	20.3%	37.6%	41.5%

Eligible HFrEF Patients (n = 354)

(eGFR >30 + K <5.0 for MRA; eGFR ≥20 for SGLT2i)

McNemar's test: Prior To Admission → Discharge: p < 0.0001 | Discharge → Post-Discharge: p = 0.11 (maintained)

Key Findings: OPTI-HEART

- **4-pillar achievement nearly doubled** — From 20.3% at admission to 37.6% at discharge among eligible patients ($p < 0.0001$)
- **Continued improvement post-discharge** — 4-pillar achievement increased further to 41.5% post-discharge (trending up, $p = 0.11$)
- **≥ 3 pillars achievement** — Increased from 44.6% to 68.6% at discharge and maintained at 68.9% post-discharge
- **Patients on zero GDMT dramatically reduced** — From 20.9% at admission to just 4.2% at discharge among eligible patients

TCE Touch Point Analysis

Touch Point Attempts (n=863)		
Metric	N	%
Outreach attempted (telephone)	749	86.8%
Telemedicine scheduled within 30 days	652	75.6%
Any TCE engagement attempted	802	92.9%

Among TCE Engagement Attempted (n=802)		
Touch Points	N	%
0	113	14.1%
1	305	38.0%
2	384	47.9%
≥1 touch point	689	85.9%

Key Takeaways

- **High engagement attempt rate** — 92.9% of home-discharged patients had at least one TCE touch point attempted
- **Nearly half achieved both touch points** — 47.9% completed both telephone outreach AND a telemedicine visit within 30 days
- **Among those with any attempt, 85.9% had at least one successful contact** — only 14.1% had outreach attempted but never completed

So,
What's
the
Secret
Sauce?



PATIENT

A Personalized Touch



B.Y.O.B BRING YOUR OWN MEDICATION BOTTLES

Your Health, Our Priority

At Montefiore Medical Center, the Transitional Care Excellence team prioritizes your health and well-being. Our dedicated team of professionals are here to help navigate from hospital to home.

For personal medication management BYOB!

WHEN: After Hospital Discharge



- WHERE:
- Primary Care
 - Pulmonology
 - Cardiology
 - TCE Appointment



 Clinician: Danielle Garcia, PharmD
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Montefiore Einstein

Conclusions and Future Directions

- The OPTI-HEART pharmacist-led model significantly improved GDMT optimization in heart failure patient
- Future analyses will evaluate post-discharge GDMT adherence, dose titration, and clinical outcomes at 90 days
- Findings can support state-level CDTM discussions and strengthen the evidence base for pharmacist provider status in New York State
- Results demonstrate clinical and potential economic impact
 - Can advance expanded prescriptive authority and reimbursement pathways for pharmacists

Summary

- ***Clinical and structural barriers to implementing CKM care exist.*** Clinical inertia, siloed care, lack of access and HRSN negatively impact care.
- ***Pharmacists are patient-champions.*** Our contributions to patient care can be operationalized for high impact and fit within a multidisciplinary framework.
- ***Show me the data!*** Evaluating process measures and sharing data with team members as well as institutional leadership is key to scalability.

Acknowledgements

- NYSCHP and the REF Committee
- Co-Principal Investigator and Senior Director
 - Katherine Di Palo, PharmD, MBA, MS, BCACP, BCGP, FAHA, FHFSa
- Transitional Care Excellence team
 - Medical Director, PharmDs, NPs and Research Associates
 - Our PATIENTS

Pharmacoequity

...health system where all patients, regardless of race, class, or availability of resources, have access to the highest quality, evidence-based medical therapy indicated for their condition.

**- Utibe R. Essien, MD,
MPH, FACP**

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