



#AHA24

# IMPLEMENTING GUIDELINES, IMPROVING OUTCOMES & LOWERING COST WITH REMOTE PATIENT CARE

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# Objectives

- Demonstrate the value of Remote Patient Care as a scalable solution for improving the trajectory of chronic disease in the U.S.
- Review analysis of hypertension program, which achieved a **7/5 mmHg reduction in blood pressure** and **70% increase in patients at goal** (n=23,638)
- Present analysis showing **\$1,308 annual total savings per patient** (inclusive of RPM costs) and **27% reduction in hospital admissions** (n=5,872, compared to 11,449 in propensity-score matched control group)

**"It's a tragedy because we have the tools, the investments to extend life expectancy to improve people's lives. We don't have a health system that's invested or constructed to do that."**

Asaf Bitton

HARVARD T.H. CHAN SCHOOL OF PUBLIC  
HEALTH

**"We're losing ground. I think the biggest single remediable issue for us is that **we don't have a primary care system in the U.S. that's functional.**"**

Robert Califf

U.S. FOOD AND DRUG  
ADMINISTRATION COMMISSIONER  
AND CARDIOLOGIST

**"You could do all the basic research you want, but if you can't implement it, it doesn't translate to improved outcomes."**

Clyde Yancy

CHIEF OF CARDIOLOGY, NORTHWESTERN  
UNIVERSITY FEINBERG SCHOOL OF MEDICINE

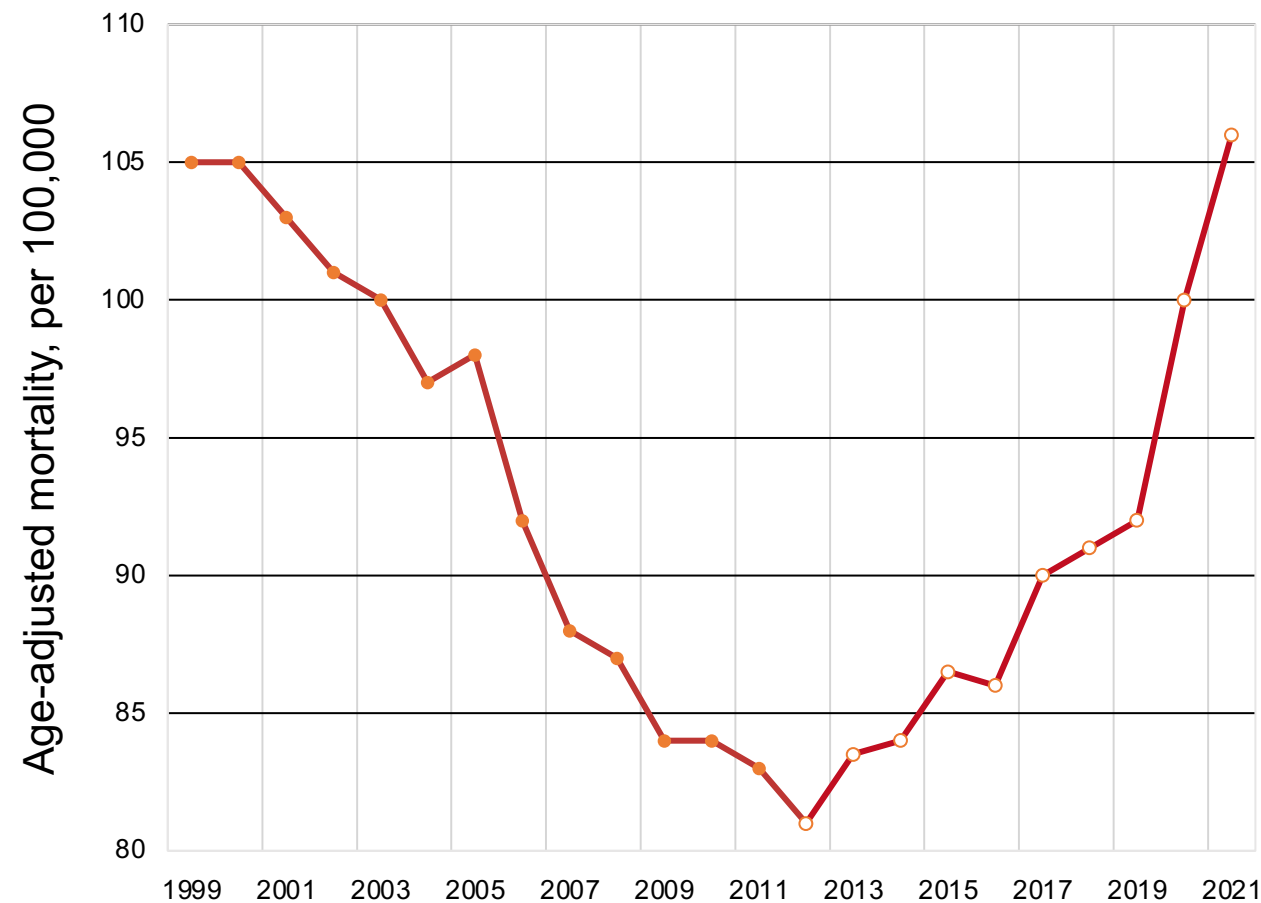
**"If we found a way to equitably distribute the fruits of American research to date, I think we can make an incredible change in our health outcomes."**

Herman Taylor

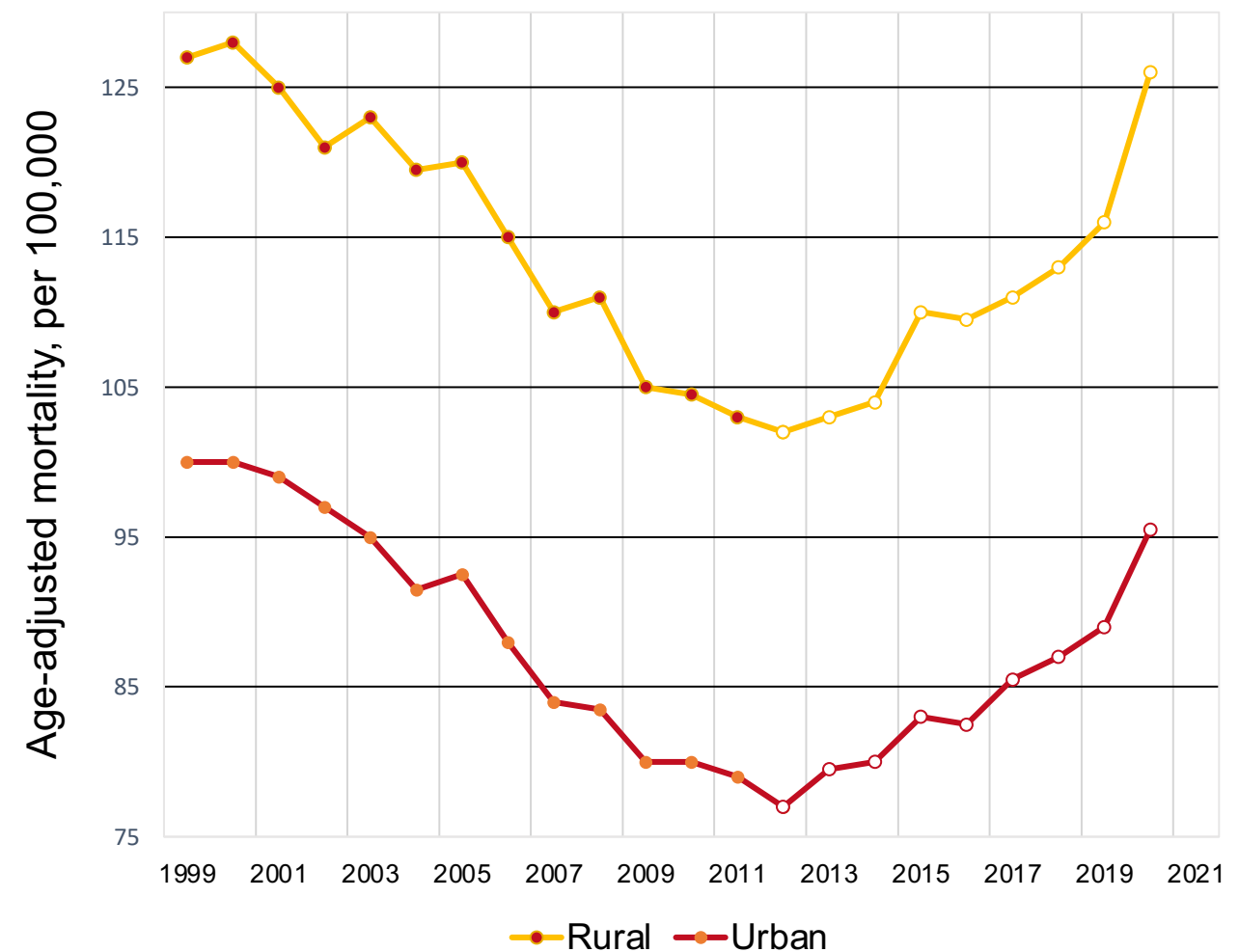
FOUNDING DIRECTOR, CARDIOVASCULAR  
DISEASE RESEARCH INSTITUTE AT  
MOREHOUSE COLLEGE

# Heart Failure mortality rates have been on the rise since 2012

US Heart Failure Mortality (1999 to 2021)

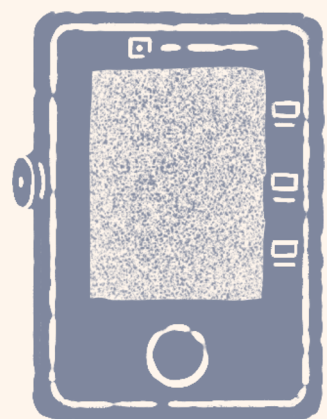


Rural vs Urban Heart Failure Mortality

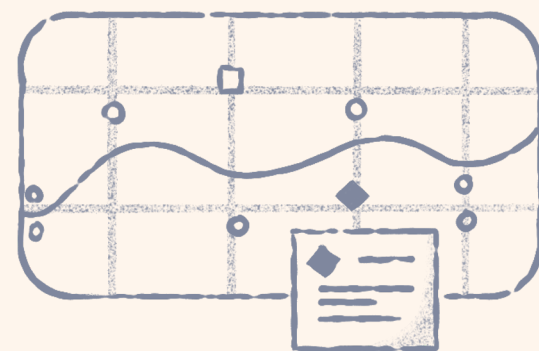




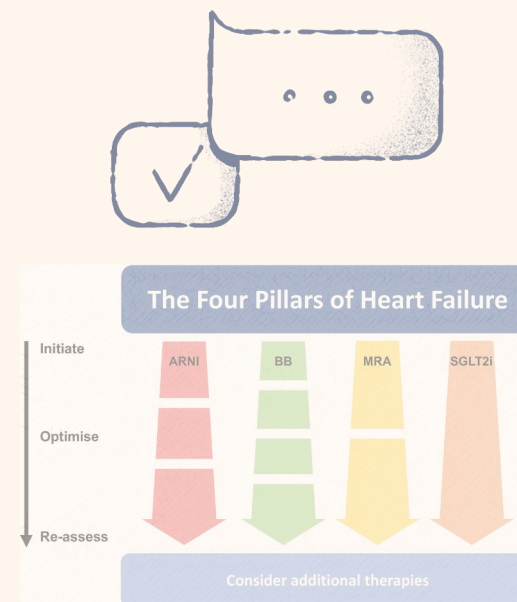
# Remote Patient ~~Monitoring~~ Care



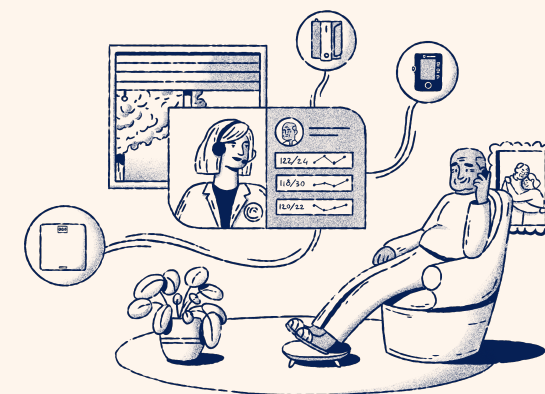
**Monitoring Only**



**Monitoring + Decision Support**



**Monitoring + Treatment Support**



**Remote Monitoring + Virtual Care**

# Remote Patient Care meets the needs of providers, patients, and health systems

## Physicians

- Clinical and administrative support with focus on guidelines and care plan execution
- Reduces burden and pajama time

## Patients

- 24/7 access & monitoring from NP-led team
- Easy-to-use devices utilizing cellular networks for maximum connectivity

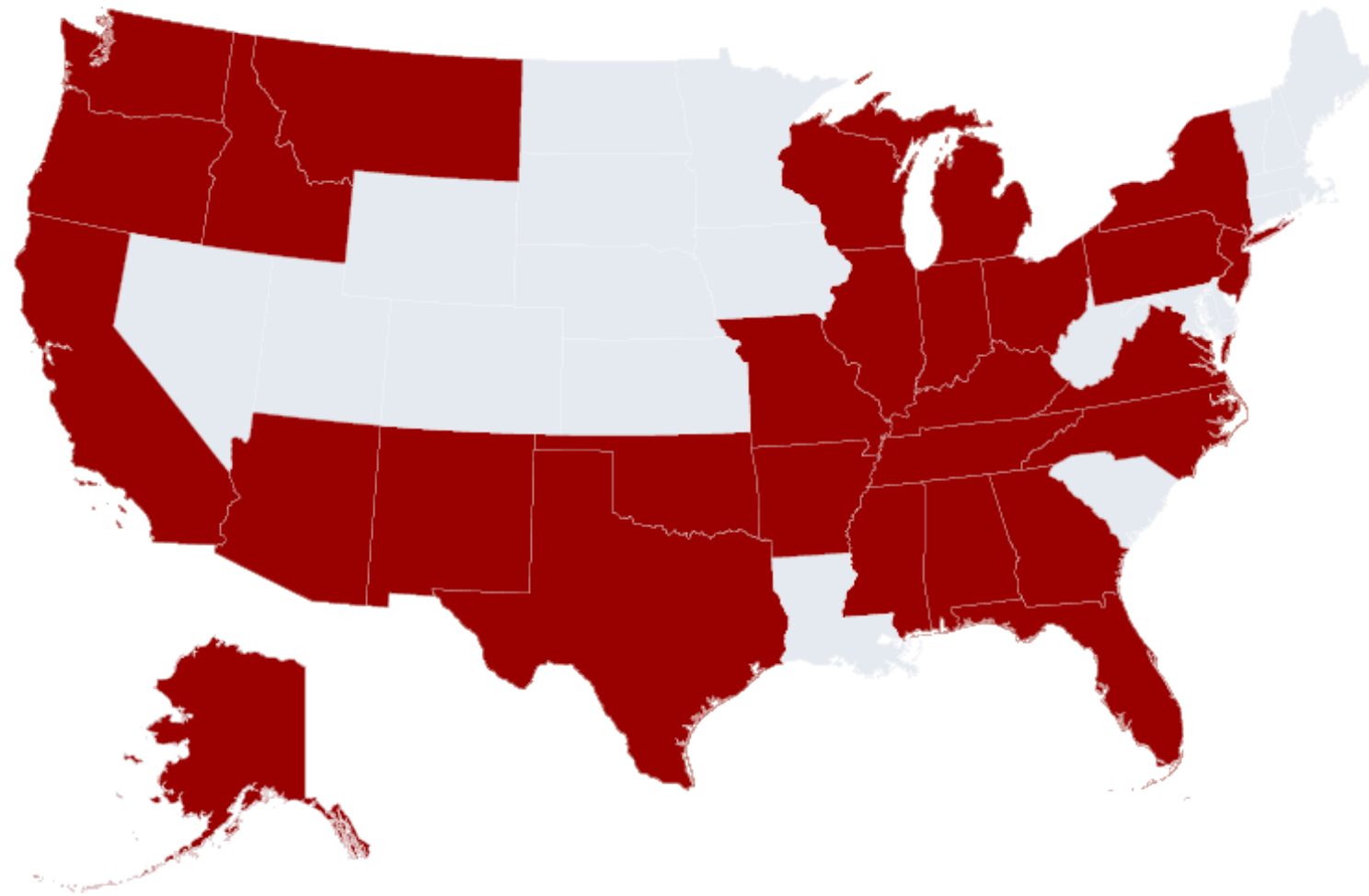
## Health Systems

- One EMR integration to minimize overhead
- Financially sustainable in both fee-for-service and value-based settings



# Launched in 2021, Cadence is the chronic disease management partner for leading health systems

## Select Health System Partners



 RUSH  Providence

 CHS Community Health Systems  BayCare

 Hackensack Meridian Health  Montefiore

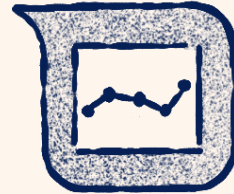
 MONTAGE Health  ArdentHealth

 Lifepoint Health  Texas Health Resources®

**“It is amazing that being heart healthy is like a never-ending loop of goodness – I improve my lifestyle, my heart gets healthier, my health improves, and my quality of life improves.” — *Cadence Patient***



**28,000+**  
Active patients<sup>1</sup>



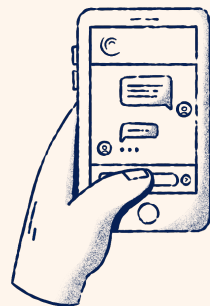
**8,465,565**  
Vitals<sup>2</sup>



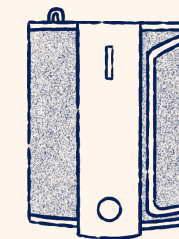
**4.91**  
Patient satisfaction<sup>3</sup>



**145,470**  
Alerts<sup>2</sup>



**26,755**  
Encounters outside  
of business hours<sup>2</sup>



**74%**  
Of patients taking  
vitals 16+ days per  
month at 3 months<sup>2</sup>

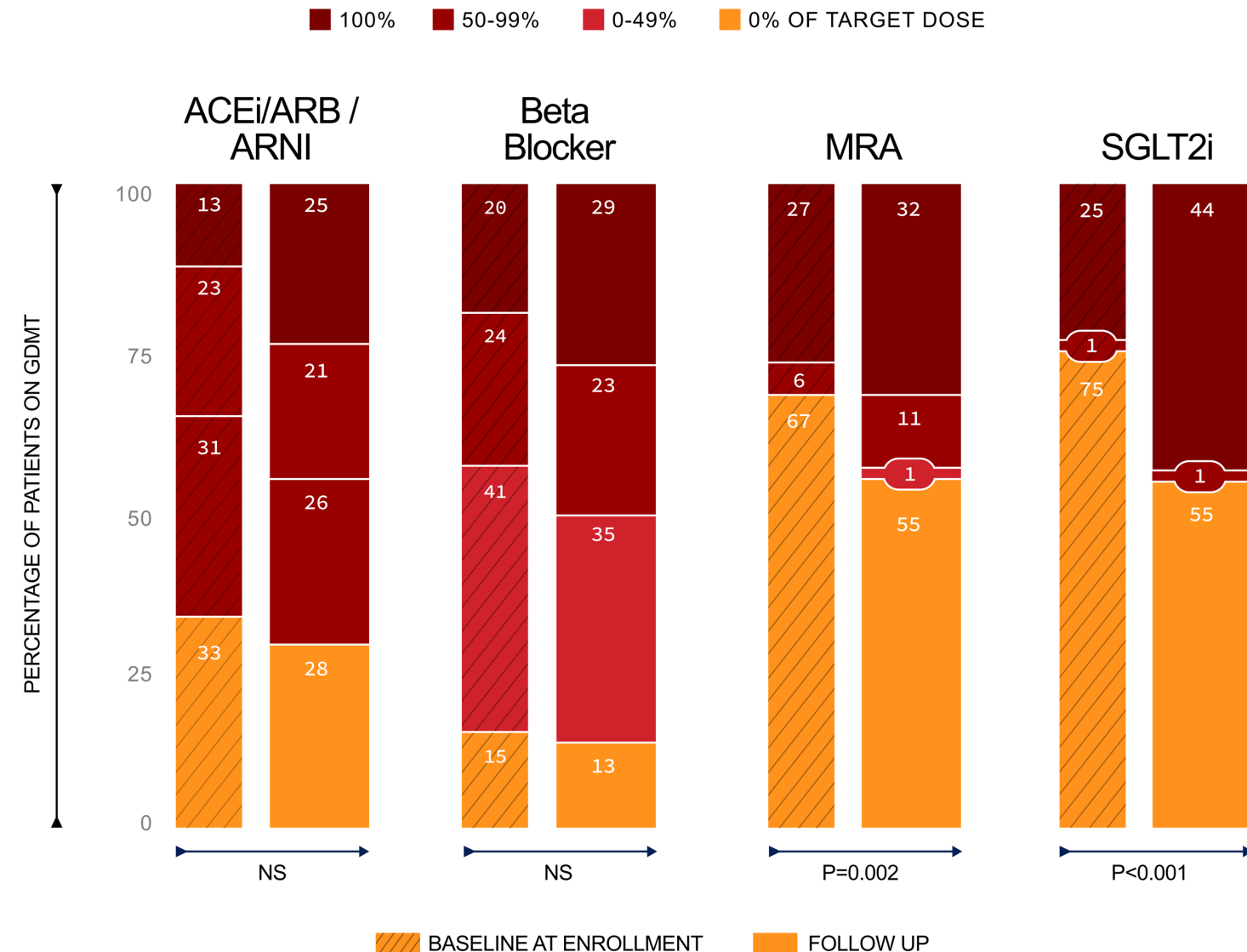
(1) As of 11/7/2024

(2) Data from from 1/1/24 - 10/31/24

(3) n = 12,341

# 2024 Journal of Cardiac Failure: Leveraging RPM to put Heart Failure guidelines into practice

- **230% increase** (from 7% to 23%) in Heart Failure patients achieving all four pillars of GDMT with RPM (n=367 patients)
- **% of patients taking  $\geq 50\%$  of target dosage significantly increased** for all pillars of GDMT
- **Average monthly savings of over \$1,000 per patient** due to reduced hospital and post-hospital discharge spending



# Results from largest Hypertension Remote Patient Care retrospective analysis in U.S. (pre-published)

**n=23,638**

RPC patients from 21 states

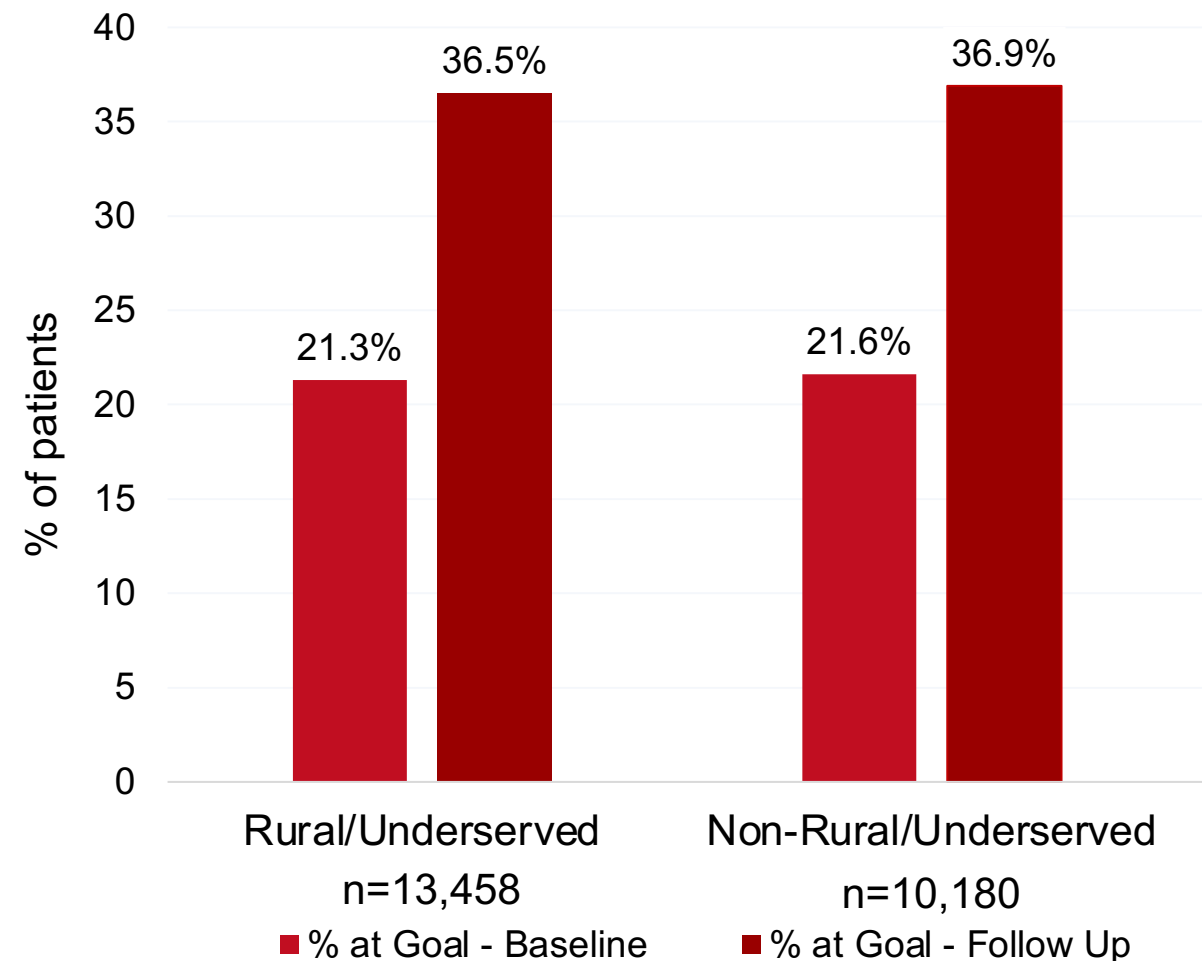
**-7/5 mmHg**

BP reduction ( $p < 0.001$ )

**70%**

Relative increase in % who achieve goal  $< 130/80$  mmHg ( $p < 0.001$ )

Similar clinical outcomes among patients from rural/underserved areas of the U.S.



"Rural" as defined by the Health Resources & Services Administration and Federal Office of Rural Health Policy. "Underserved" as defined by the Federal Housing Finance Agency (low-income areas, minority census tracts, and designated disaster areas).



# Results from total cost of care & utilization analysis of Remote Patient Care (pre-published)

**n=5,872**

RPC patients for whom Medicare claims were analyzed at 12 months following enrollment compared to **11,449 patients in a propensity-score matched\* control group**

**\$1,308**

**Annual total savings per patient**  
(p-value = 0.0026)

**27%**

Reduction in hospital admissions, driven by reduced hospitalizations for **heart failure, cardiac dysrhythmias, sepsis, and stroke**  
(p-value = 0.0002)

\* Patients were matched using demographic factors, health status, risk scores, geography (15 states), as well as cost and utilization at baseline

# Significant cost savings and reductions in hospital admissions across all Cadence programs (pre-published)

Program (RPC Patients)	Annual Total Savings Per Patient	Annual Inpatient Cost Savings Per Patient	Admissions Reduction at 12 Months
Overall (n=5,872)	\$1,308 p-value = 0.0026	\$1,428 p-value < 0.0001	27% p-value = 0.0002
Hypertension (n=3,936)	\$696 p-value = 0.0696	\$1,056 p-value = 0.0005	27% p-value = 0.0047
CHF (n=897)	\$3,180 p-value = 0.0805	\$3,264 p-value = 0.0105	25% p-value = 0.0737



# Looking ahead: Cadence hopes to provide guideline-directed care to one million patients by 2030

**Empowering patients with chronic conditions** by providing the tools and support they need at home

**Enhancing access to care** by bridging the gap for patients who may struggle to regularly visit healthcare providers

**Improving health outcomes and reducing costs** by effectively implementing guideline-directed clinical care in a proactive, instead of reactive, manner



# APPENDIX

# Cost of care & utilization methodology (pre-published)

- Analyzed outcomes at month 12 for **5,872 RPC patients** enrolled in the Cadence program as compared against **11,449 patients in a propensity-score matched control group**, matched using **demographic factors, health status, risk scores, and cost and utilization at baseline**
- Analysis assessed cost and utilization for patients across **15 states**, comparing patients in **same markets and ACOs**
- Cost savings reported benefit the risk-bearing entity (ACO/CMS) and are **net of incremental costs of RPM**
- The propensity-score matching approach used in this analysis utilized the PSMATCH function in SAS

# Treatment & control groups matched by demographics, risk score, health status, costs, utilization, location

Demographic, risk scores & health	Treatment (5,872)	Control (11,449)	p-value
Age (avg)	73.8	73.7	0.3214
Gender (female%)	58%	57%	0.4346
Risk Score (avg)	1.09	1.09	0.9702
Atrial Fibrillation	19%	19%	0.6458
Alcohol, Drug Abuse	3%	3%	0.7573
Rheumatoid Arthritis	48%	47%	0.5382
Behavior Health	21%	20%	0.1138
Cancer	13%	13%	0.599
CKD	29%	29%	0.267
CKD4+	3%	3%	0.5491
Chronic Liver Disease	2%	2%	0.6193
Cerebrovasuclar Disease	9%	9%	0.8443
Electrolyte/Fluid Disorder	20%	20%	0.9574
Heart Disease	37%	37%	0.4197
Malnutrition	1%	1%	0.2719
Diabetes	5%	5%	0.9539
Pulmonary Disease	31%	31%	0.4395
Plegia	3%	3%	0.4521

Cost & Utilizations	Treatment (5,872)	Control (11,449)	p-value
Baseline Cost PMPM	\$838	\$847	0.7606
Baseline IP PMPM	\$264	\$249	0.4429
Baseline ED PMPM	\$23	\$23	0.9634
Baseline OP PMPM	\$205	\$218	0.2918
Baseline Prof PMPM	\$339	\$323	0.1698
Baseline SNF PMPM	\$6	\$33	<.0001
Baseline IP Admits/1000	235	238	0.8016
Baseline ED Visits/1000	450	462	0.6115
Baseline OP Visits/1000	4,990	5,083	0.3726
Baseline Prof Visits/1000	22,574	19,370	<.0001
Baseline SNF Days/1000	134	831	<.0001

# Remote Patient Care patients overall are saving \$109 per month or \$1,308 annually in total cost of care (n=5,872)

## Difference in Difference Cost Summary

	Baseline	Post 12 mon	Difference	DID	p-value	% change
<b>Total Paid PMPM</b>						
Control Group	\$ 846.6	\$ 920.6	\$ 74.0			
Treatment Group	\$ 838.0	\$ 803.5	\$ (34.6)	\$ (108.5)	0.0026	-12.9%
<b>Inpatient Paid PMPM</b>						
Control Group	\$ 249.1	\$ 337.8	\$ 88.7			
Treatment Group	\$ 264.1	\$ 233.8	\$ (30.3)	\$ (119.0)	<.0001	-45.1%

- Total cost savings largely driven by **reductions in hospitalizations** for primary diagnoses including complicated infection, heart failure, stroke
- Top three reasons for reduction in inpatient spend, as compared to control group:
  - 60% decline in hospitalizations for **sepsis**; 27% decline in hospitalizations for **cardiac dysrhythmias**; 64% decline in hospitalizations for **heart failure**
- Reductions in inpatient spend accompanied by moderate increases in utilization of less costly outpatient visits (+18%, p<.0001) and professional services (+31%, p<.0001)

# Remote Patient Care CHF patients are saving \$265 per month or \$3,180 annually in total cost of care (n=897)

## Difference in Difference Cost Summary

	Baseline	Post 12 mon	Difference	DID	p-value	% change
<b>Total Paid PMPM</b>						
Control Group	\$ 1,425.1	\$ 1,384.8	\$ (40.3)			
Treatment Group	\$ 1,375.4	\$ 1,069.8	\$ (305.7)	\$ (265.4)	0.0805	-19.3%
<b>Inpatient Paid PMPM</b>						
Control Group	\$ 559.1	\$ 602.9	\$ 43.7			
Treatment Group	\$ 599.8	\$ 372.1	\$ (227.7)	\$ (271.5)	0.0105	-45.3%

- Total cost savings largely driven by **reductions in hospitalizations** for primary diagnoses including heart failure, heart rhythm disorders, heart artery and valve disorders, stroke, complicated infection
- Top three reasons for reduction in inpatient spend, as compared to control group:
  - 71% decline in hospitalizations for **heart failure**; 35% decline in hospitalizations for **cardiac dysrhythmias**; 54% decline in hospitalizations for **coronary atherosclerosis and other heart disease**
- Reductions in inpatient spend accompanied by moderate increases in utilization of less costly outpatient visits (+20%, p=.013) and professional services (+22%, p<.0001)



# Remote Patient Care Hypertension patients are saving \$58 per month or \$696 annually in total cost of care (n=3,936)

## Difference in Difference Cost Summary

	Baseline	Post 12 mon	Difference	DID	p-value	% change
<b>Total Paid PMPM</b>						
Control Group	\$ 739.0	\$ 810.5	\$ 71.5			
Treatment Group	\$ 737.2	\$ 750.9	\$ 13.7	\$ (57.8)	0.0696	-7.8%
<b>Inpatient Paid PMPM</b>						
Control Group	\$ 189.9	\$ 280.6	\$ 90.7			
Treatment Group	\$ 193.8	\$ 197.0	\$ 3.2	\$ (87.5)	0.0005	-45.1%

- Total cost savings largely driven by **reductions in hospitalizations** for primary diagnoses including complicated infection, stroke, heart rhythm disorders, heart attacks, lung-related disorders
- Top three reasons for reduction in inpatient spend, as compared to control group:
  - 37% decline in hospitalizations for **sepsis**; 67% decline in hospitalizations for **cerebral infarction**; 74% decline in hospitalizations for **complication of internal orthopedic device implant**
- Reductions in inpatient spend accompanied by moderate increases in utilization of less costly outpatient visits (+19%, p<.0001) and professional services (+34%, p<.0001)

# THANK YOU

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