



Financial Incentives and Smart Mobile Design to Improve Population Health

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READMISSIONS COST \$12B TO THE SYSTEM

Preventable readmissions are prevalent and expensive.
Biggest problem in four high-volume conditions:



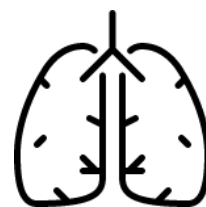
HEART FAILURE

24.4%



HEART ATTACK

19.9%



COPD

20.0%



PNEUMONIA

17.1%

National rates
of readmission
within 30 days

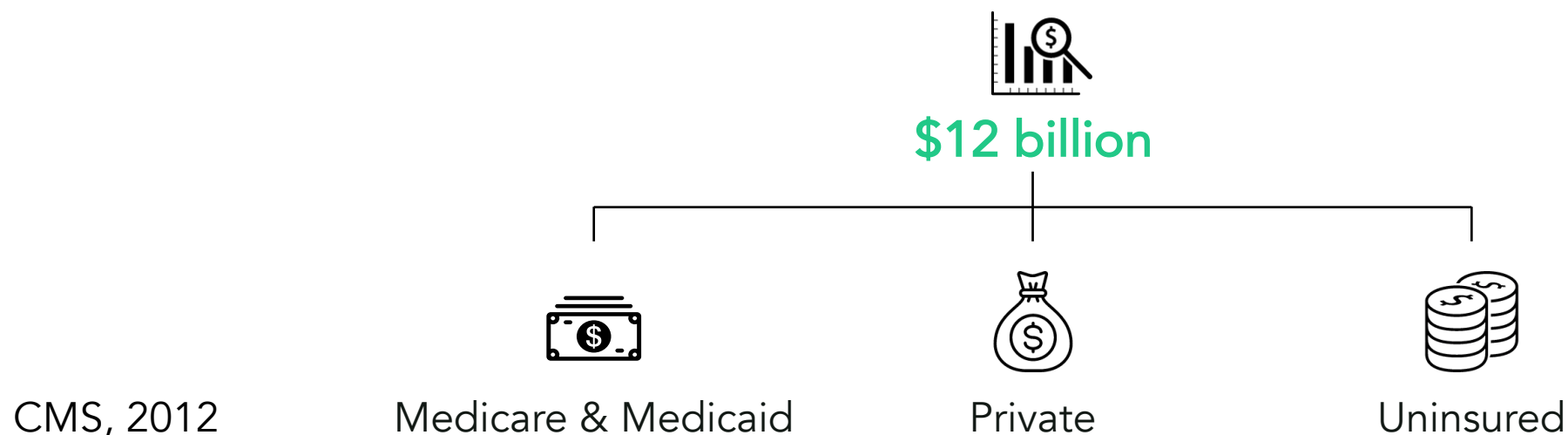


Annual readmissions across four above areas: **500,000**

Total preventable rehospitalization cost: **\$12 billion**

HISTORICALLY A PAYER PROBLEM

Payers have begun to transfer this massive risk transfer to providers



MASSIVE RISK TRANSFER ACCELERATING

The risk transfer is accelerating with new payer initiatives

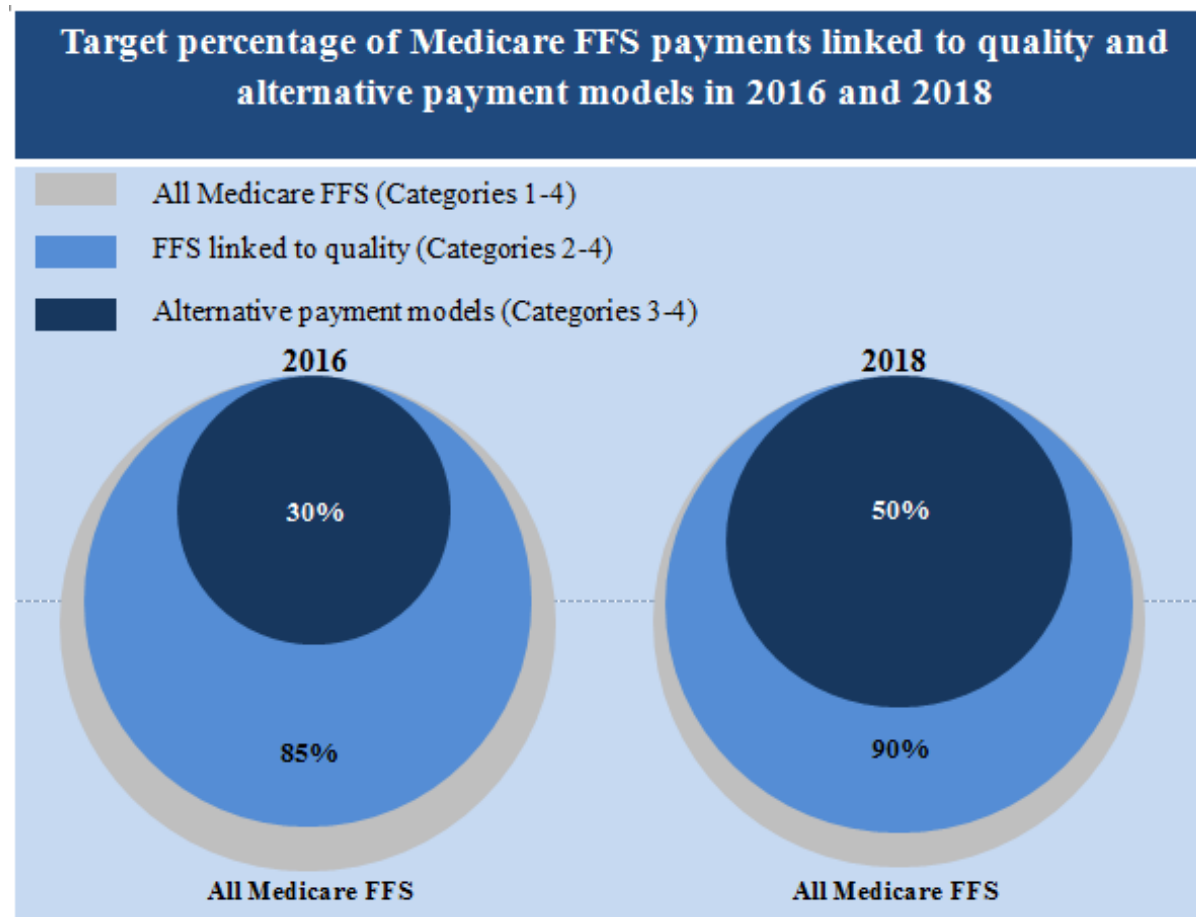
All payers are adopting value-based frameworks

1. Quality Contracts

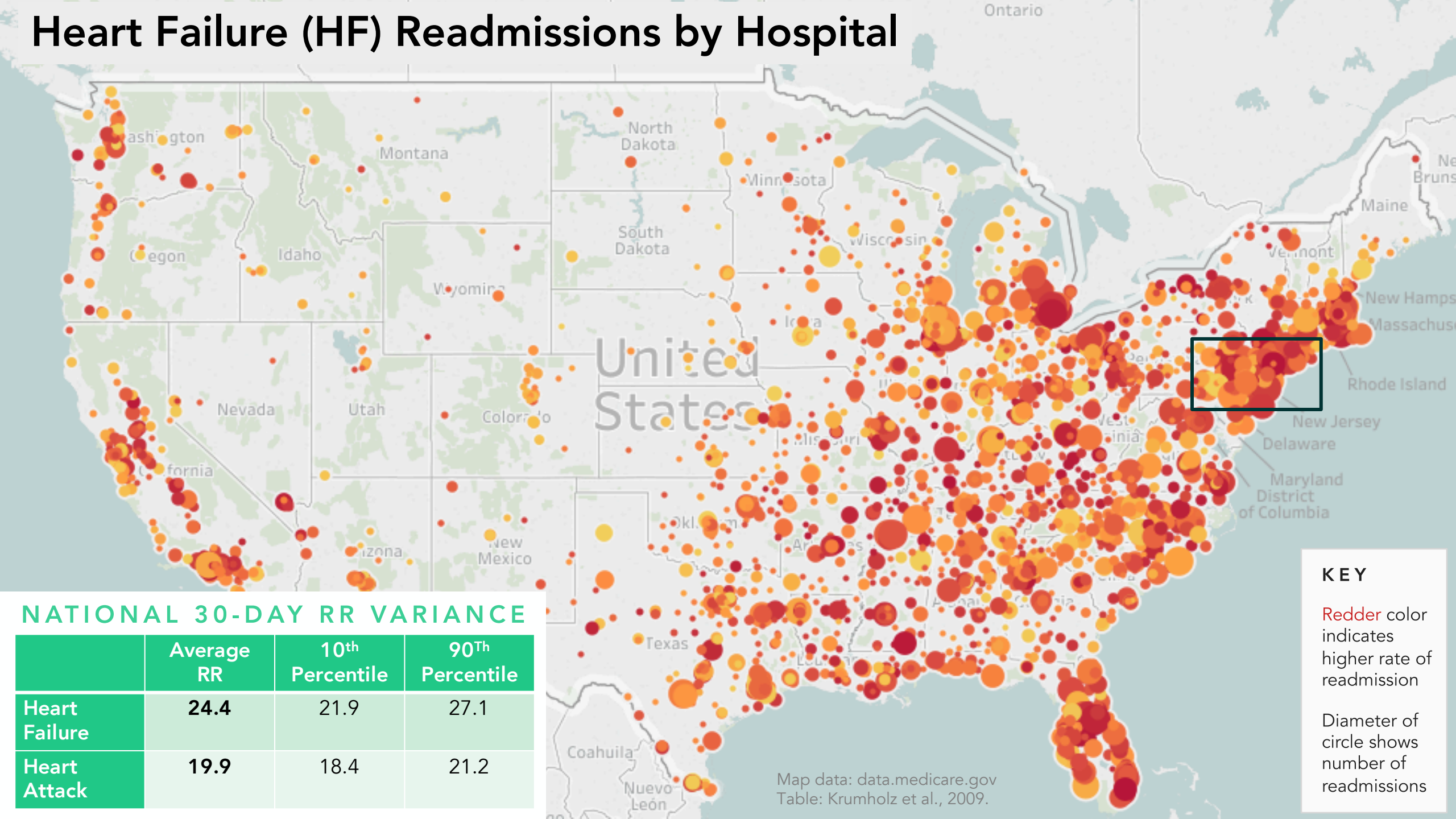
- Financial penalties for poor performance
- P4P and shared savings from private payers

2. APMs (Alternative Payment Models)

- ACOs, Bundles



Heart Failure (HF) Readmissions by Hospital



NATIONAL 30-DAY RR VARIANCE

	Average RR	10 th Percentile	90 th Percentile
Heart Failure	24.4	21.9	27.1
Heart Attack	19.9	18.4	21.2

KEY

Redder color indicates higher rate of readmission

Diameter of circle shows number of readmissions

PROVIDERS ARE LARGELY UNPREPARED

Providers lack the capability, culture, and infrastructure to appropriately adapt to manage this new risk

LACK OF KNOW-HOW

- **Hospitals are only designed** to provide care within their four walls, but readmissions depend on patient behavior at home
- **75% of MSSP ACOs made \$0** in shared savings bonuses in 2014-2015

FINANCIAL REPERCUSSIONS

- Hospitals have huge legacy capital expenditures with **very low margins** completely dependent on capacity utilization.
- Razor-thin margins mean that any **unexpected costs are disastrous**. And readmissions are expensive (\$16k+)

How can we improve
improve population
health outcomes and
help providers succeed
in a value-based world?



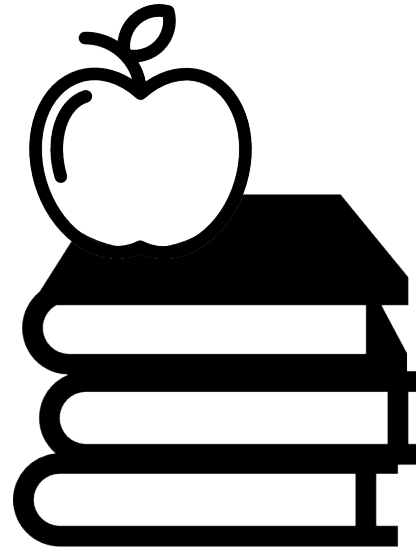
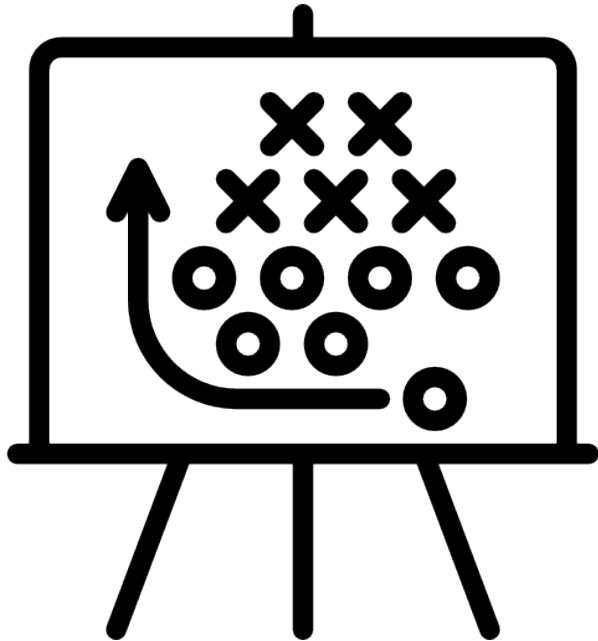
Drugs don't work in patients **who don't take them.**

Drugs don't work in patients **who don't take them.**

Devices don't work in patients **who don't use them.**

FAILED ATTEMPTS

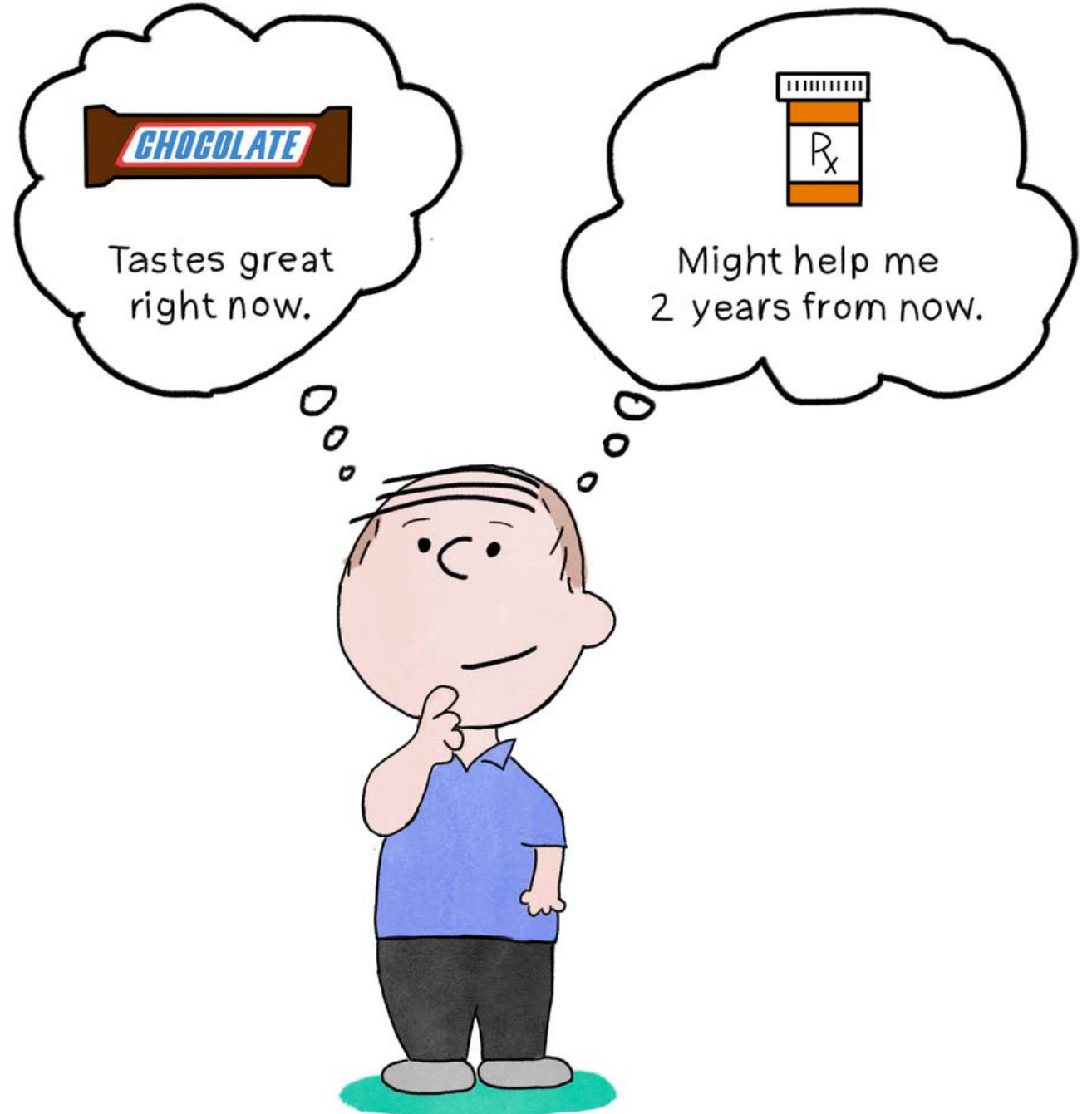
To date we have tried to change behaviors by pushing **coaching, education, and new technology** onto patients



WHAT DRIVES BEHAVIOR

A new approach based on behavioral economics is needed to overcome the root problem:

Present bias



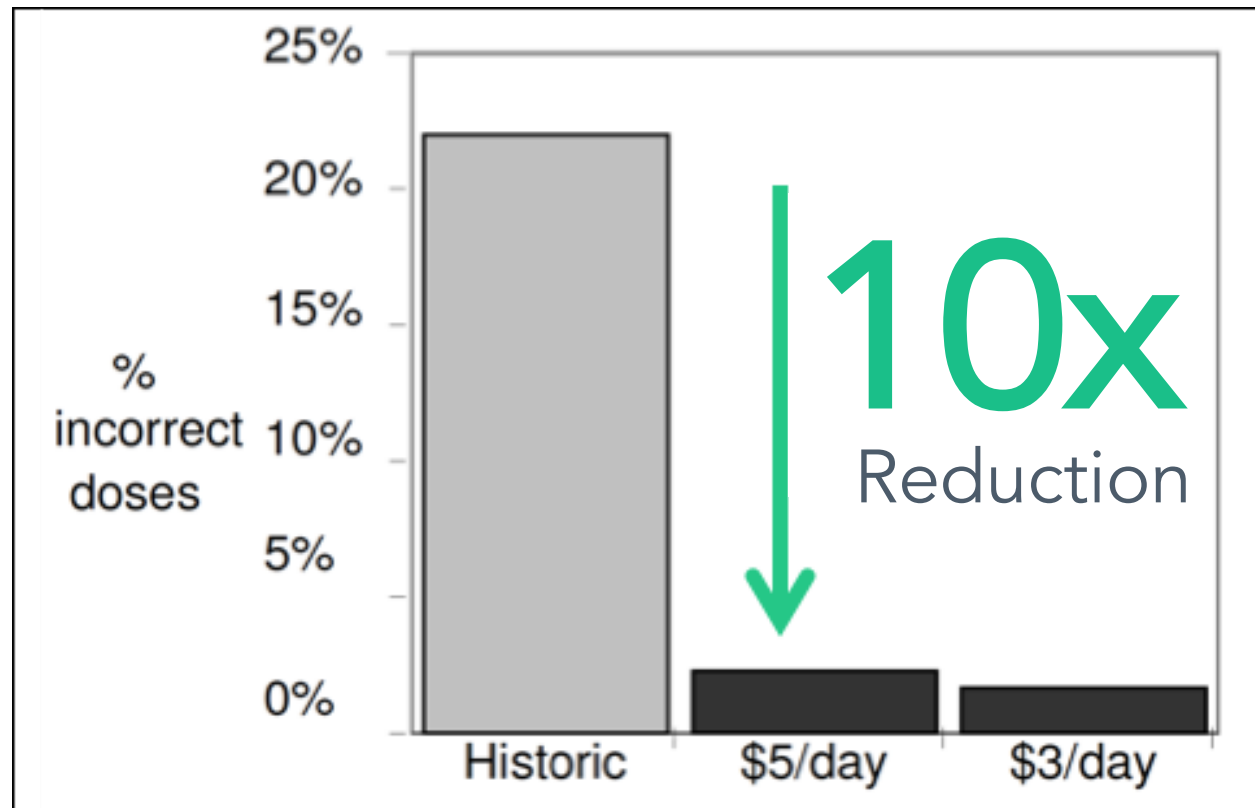
BEHAVIORAL ECONOMICS CAN HELP

Many health behaviors we want to change can be affected by behavioral economics

- Medication adherence
- Chronic disease monitoring adherence
- Follow-up adherence
- Physical activity

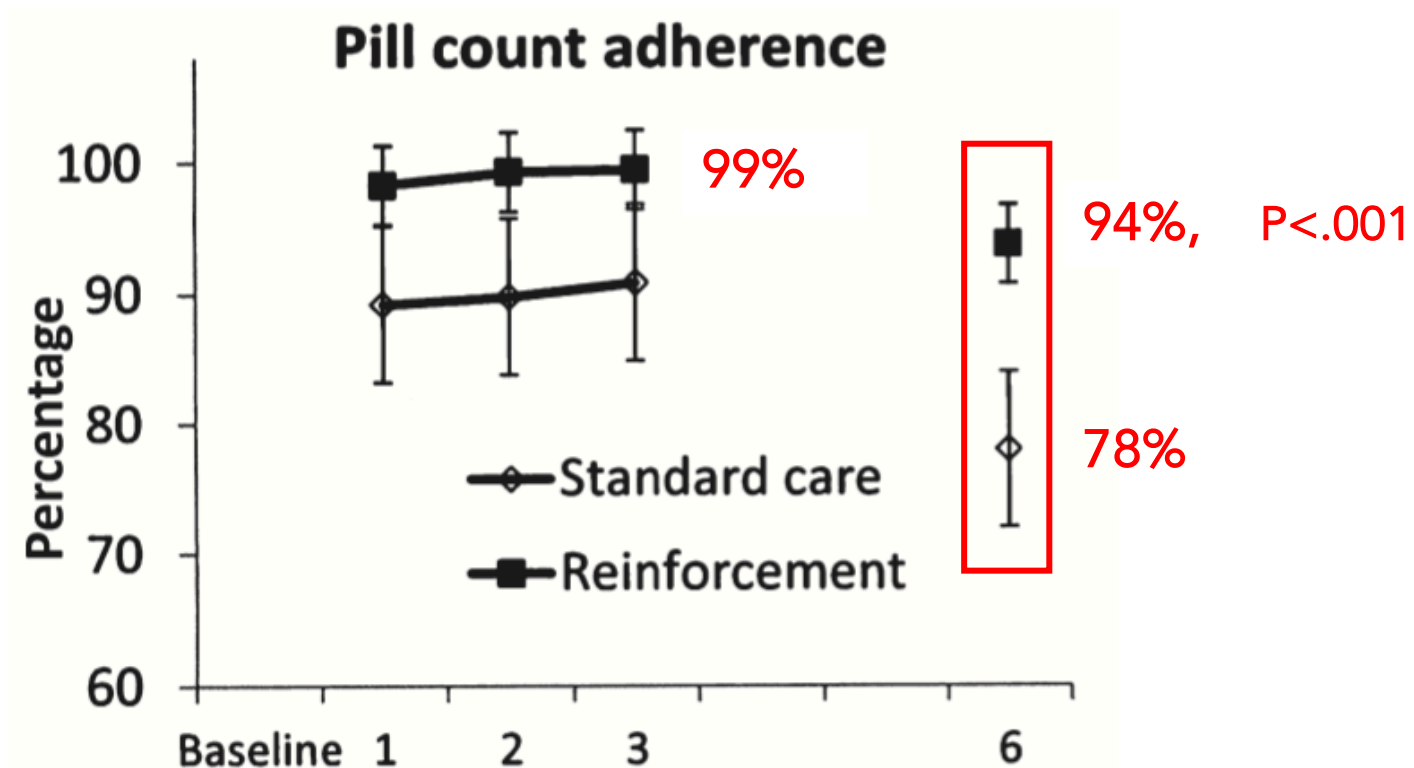
IMPROVING MEDICATION ADHERENCE

Financial incentives drove a 10x reduction in warfarin nonadherence¹



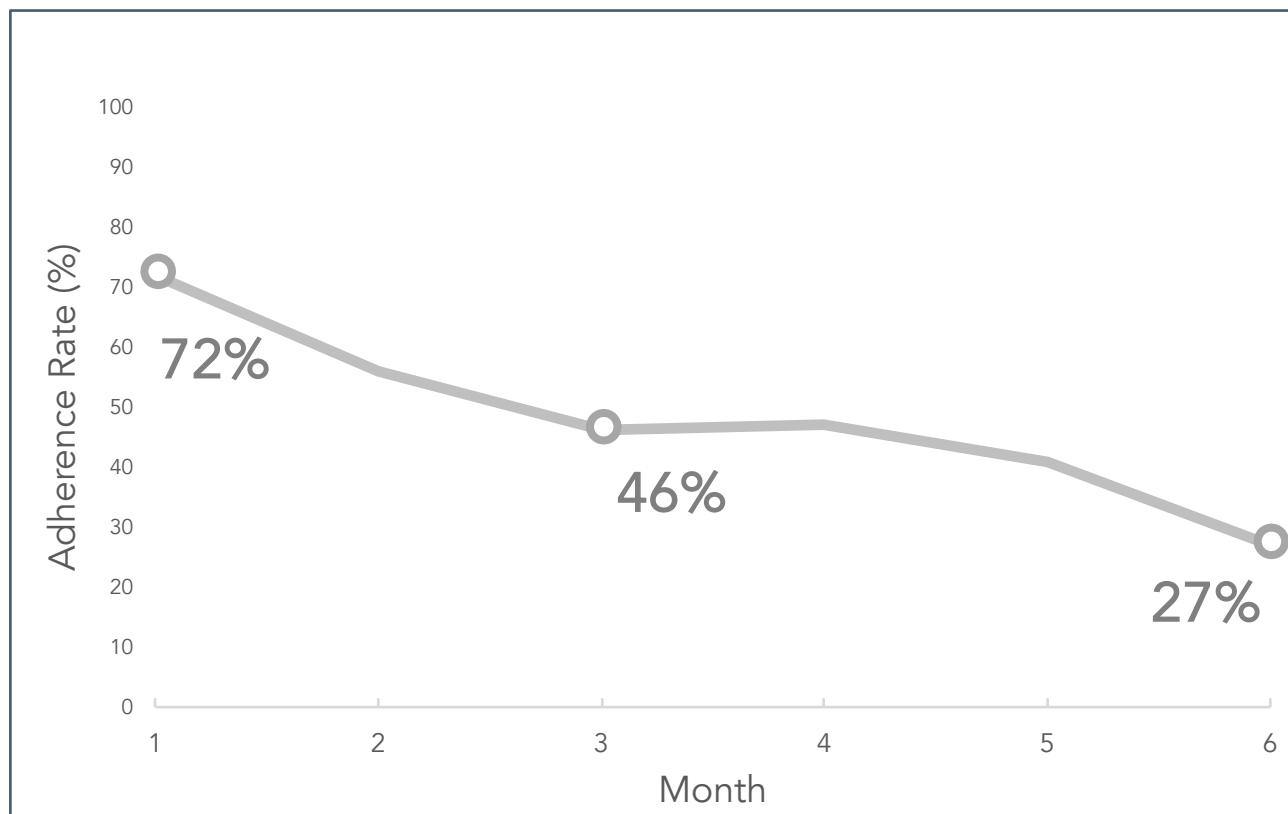
DOES THE MED ADHERENCE IMPROVEMENT LAST?

When the incentive reinforces daily habits, the medication adherence improvement lasts after the incentive ends



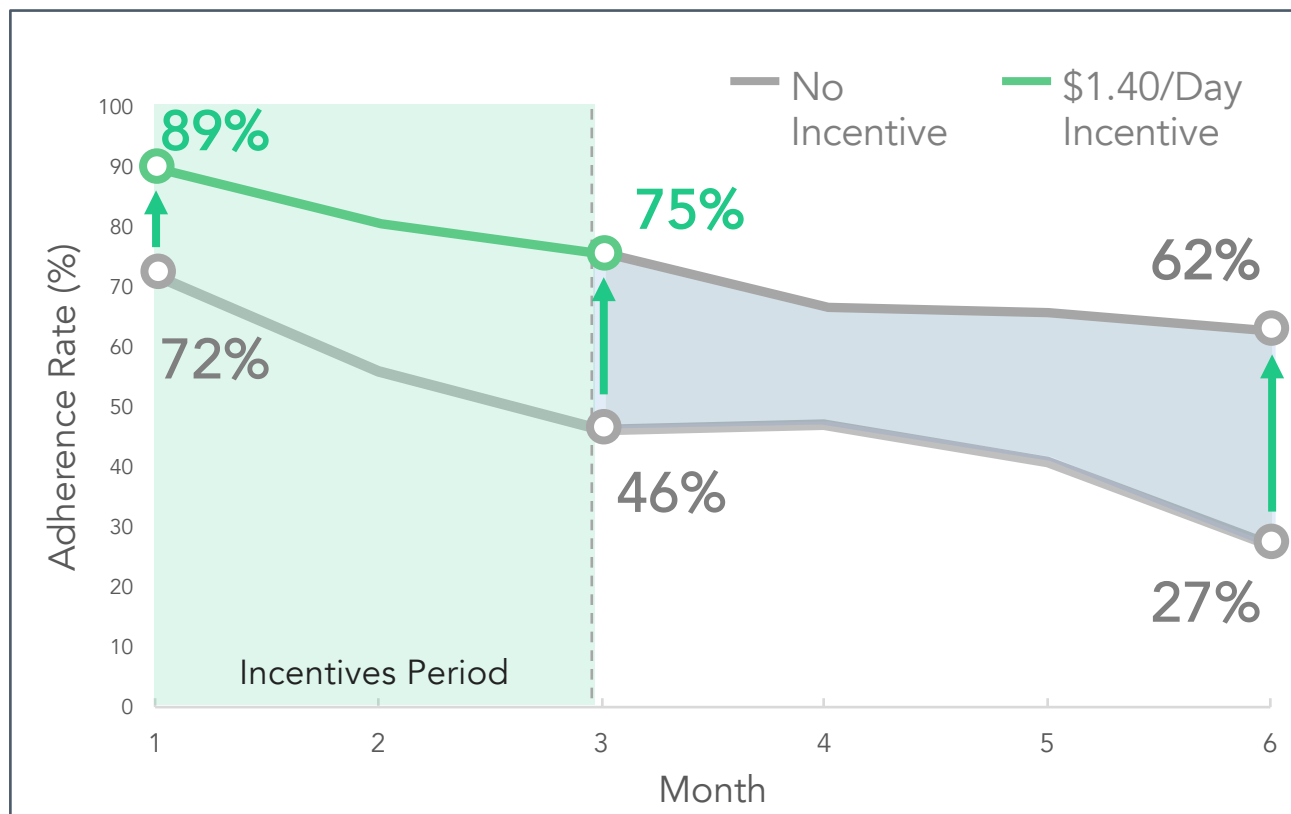
DEVICE ADHERENCE PROBLEM

When given connected BP Cuffs, Scales, and Glucometers, about one quarter of patients still use them after 6 months



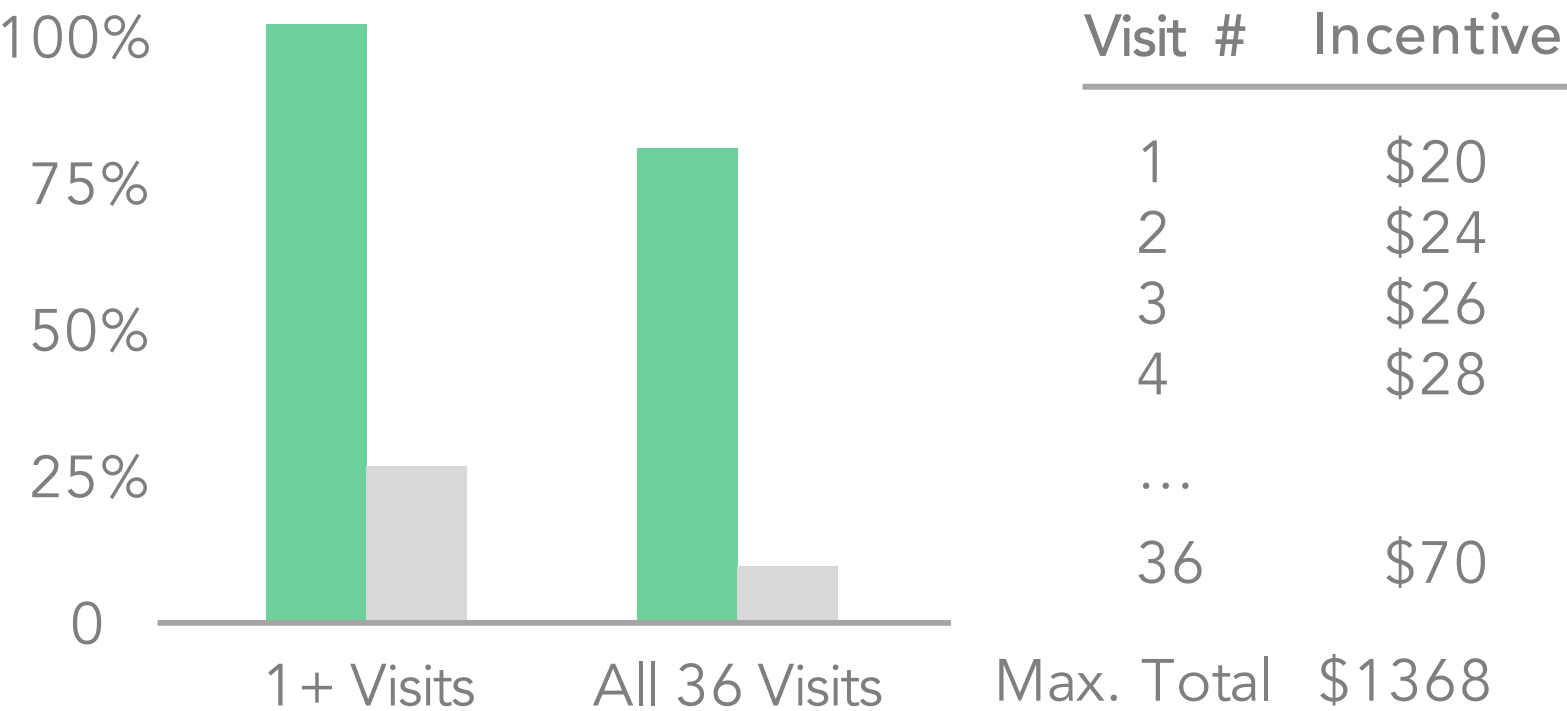
DEVICE ADHERENCE SOLUTION

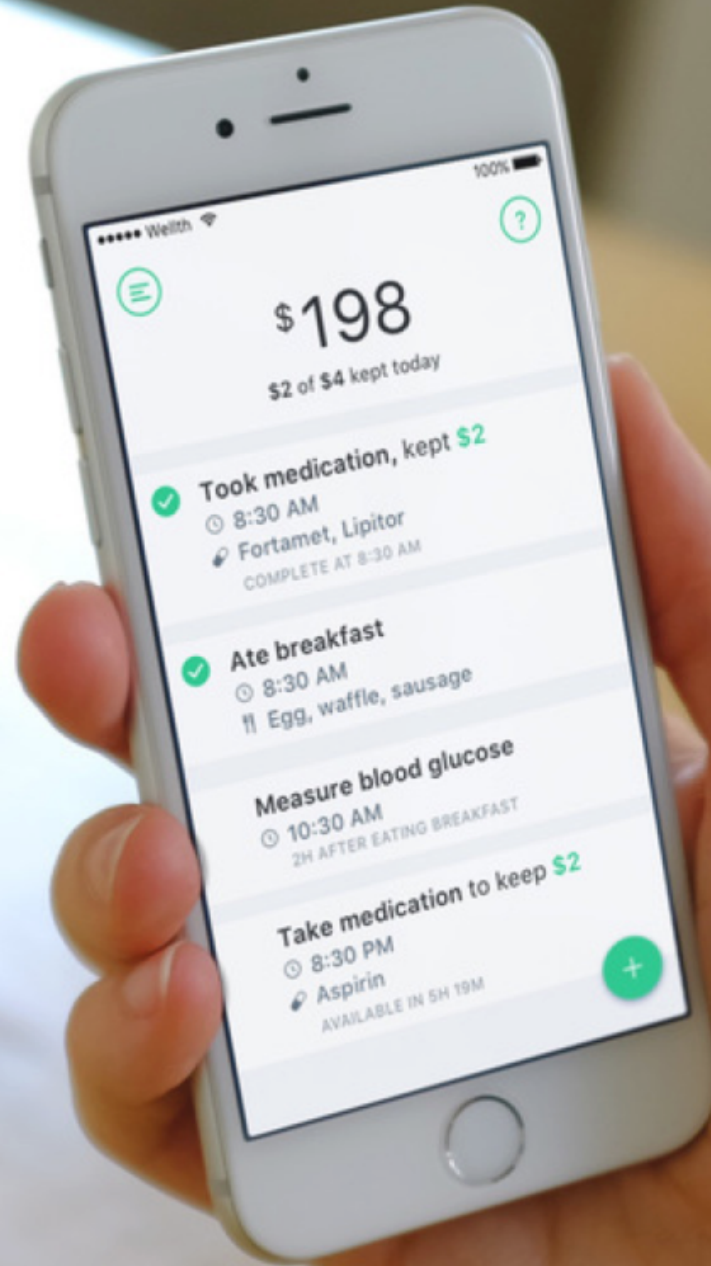
Paying \$1.40/day for 3 months increased device adherence by 2.3x at 6 months







CAN YOU IMPROVE FOLLOW-UP ATTENDANCE?

Average adherence among Medicaid patients post hospitalization for MI or coronary revascularization





[] WELLTH	Type 2 Diabetes	Congestive Heart Failure	Cardiovascular Disease	COPD & Asthma
Prevalence	9% (+37% prediabetes)	2% (#1 cause of death)	>25%	6% COPD (overall) 9% Asthma (children)
Annual Cost	\$11,000	\$22,000	\$19,000	\$4,000 (COPD)
Interventions	Medications BP Monitoring BG Monitoring Diet	Medications Daily Weight Diet	Medications Diet	Mainten. Therapies Rescue Therapies Smoking Cessation
Devices	BP Cuff & Glucometer 	Scale 	BP Cuff 	Smart Inhaler 

How it works for a patient who just had his first HF admission



Enroll in the Hospital

\$150 deposited into account, to be paid out in 30-day installments of \$50

Reward for Adherence

Adhere to medications and daily weigh-ins to avoid losing \$2/day over 90 days

Achieve Good Outcomes

Improved adherence, better health, and lowered risk of hospitalization

8:00

Monday, November 7



Wellth now

Complete your Wellth actions today to keep \$2. Weigh in now. Use the toilet but don't eat or drink.

Search Users

Filters

☐ Pilot 2

Users

Betty Walker
Adherence: 66%

Carol Sanchez
Adherence: 69%

Jeffrey Hernandez
Adherence: 72%

Anna Baker
Adherence: 76%

Mark Evans
Adherence: 79%

Chris Bennett
Adherence: 79%

Sarah Davis
Adherence: 83%

Carl Ross
Adherence: 83%

Diana Long
Adherence: 83%

Jeffrey Hernandez

123 Pine St
Wayne, PA 11249
US

0000000002

User2@wellthapp.com

August 17, 2001

Male

123456

en

EDIT USER

Adherence

Start Date

8/1/2016

End Date

9/14/2016

Submitted Actions

Required Tasks

Medication Actions

Glucose Actions

26

40

6

20

65%

Reward Currency

Total Reward Value

USD

\$20

\$12.83

today

back

next

August 2016

month

week

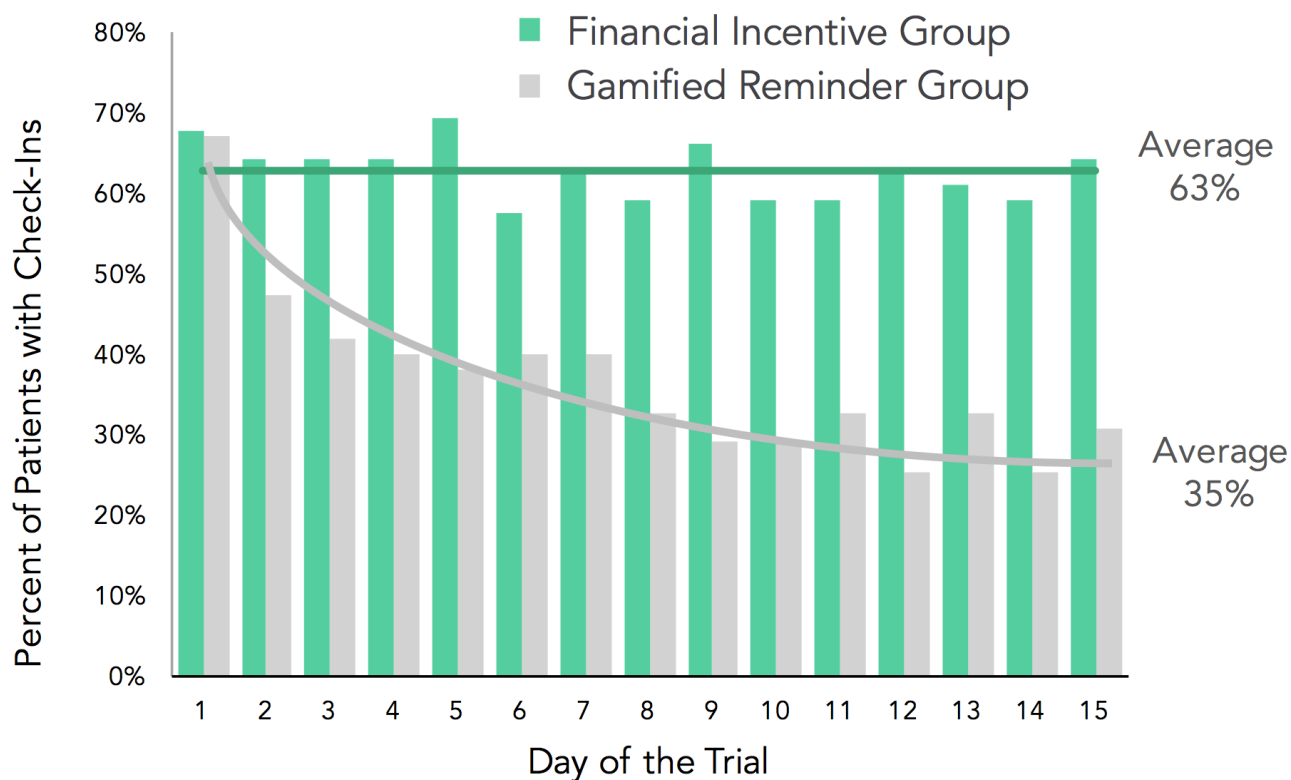
day

actions

Sun	Mon	Tue	Wed	Thu	Fri	Sat
31	01	02	03	04	05	06
07	08	09	10	11	12	13
	med 8:00 AM	med 8:07 AM	med 8:07 AM	med 8:00 AM	med 8:09 AM	med 9:07 AM
	glu 10:09 AM	glu 10:00 AM	glu 10:06 AM	glu 10:09 AM	glu 10:00 AM	glu 10:10 AM
	+2 more	+2 more	+2 more	+2 more	+2 more	+2 more
14	15	16	17	18	19	20
med 10:00 AM	med 8:04 AM	med 8:05 AM	med 8:00 AM			
glu 10:09 AM	glu 10:00 AM	glu 10:01 AM	glu 10:05 AM			
+2 more	+2 more	+2 more	+2 more			
21	22	23	24	25	26	27

WELLTH IMPROVES MEDICATION ADHERENCE

Wellth paid pilot with national health insurer demonstrated 78% better medication adherence vs. control



+78%

Improvement in Adherence

Ongoing Clinical Trials

1. Heart Failure

2. Heart Attack

(Search for Wellth on
ClinicalTrials.gov)

WELLTH INTERIM RESULTS: MANAGED MEDICAID POPULATION

The results from another population (with many dual eligibles) indicates the success we can achieve with the toughest patients

Population:	Patients with T2 Diabetes, A1c > 8%, avg. age = 66, taking oral meds, and consuming long term care
Intervention:	\$250 / 6 months to take meds and lower A1c



ElderServe Health
now
RiverSpring at Home

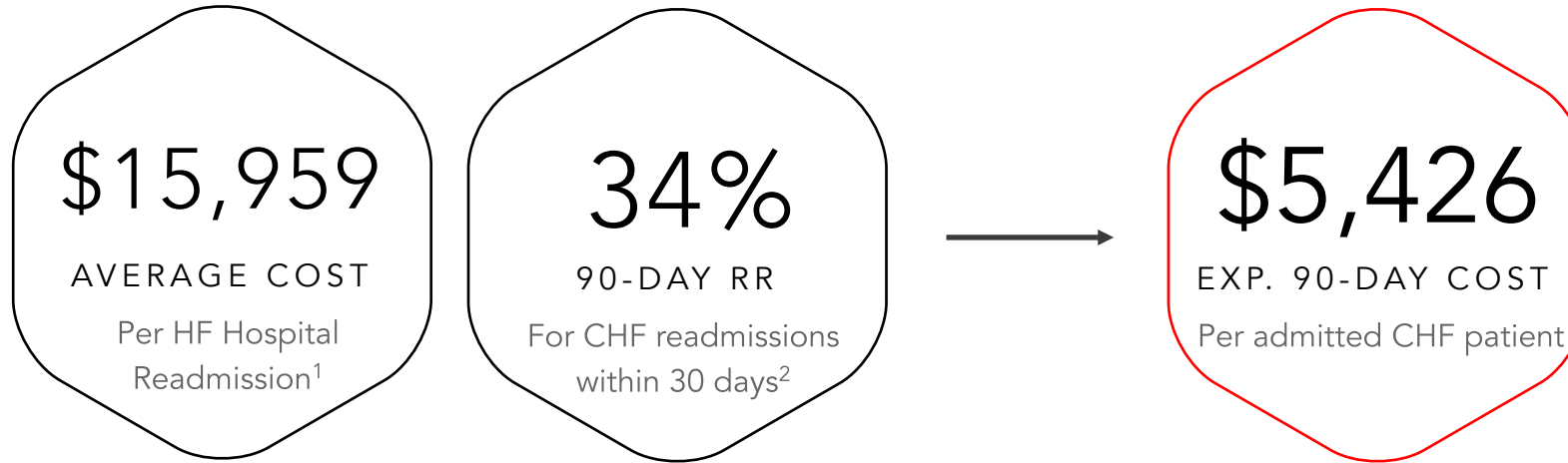
79%

Eligible patients signed up
for our program

98%

Medication Adherence
as of 3/15/17

EXPECTED HF COSTS



EXAMPLE SAVINGS OPPORTUNITY

	RR Reduction	RR _{initial} → RR _{final}	Savings
Conservative	20%	34% → 27%	\$1,085/pt
Aggressive³	40%	34% → 20%	\$2,170/pt

PERSONALIZED INTERVENTIONS

How to make interventions even more targeted by stratifying populations based on diagnoses and other risk factors

Risk adjustment based on diagnoses

- HF Stage (I-IV) risk adjusting

Improve predictive modeling over time based on individual risk factors

- Prior admission within one year
- Prior heart failure
- Comorbidities
- Creatinine level >2.5 mg/dL

Thanks for your time

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