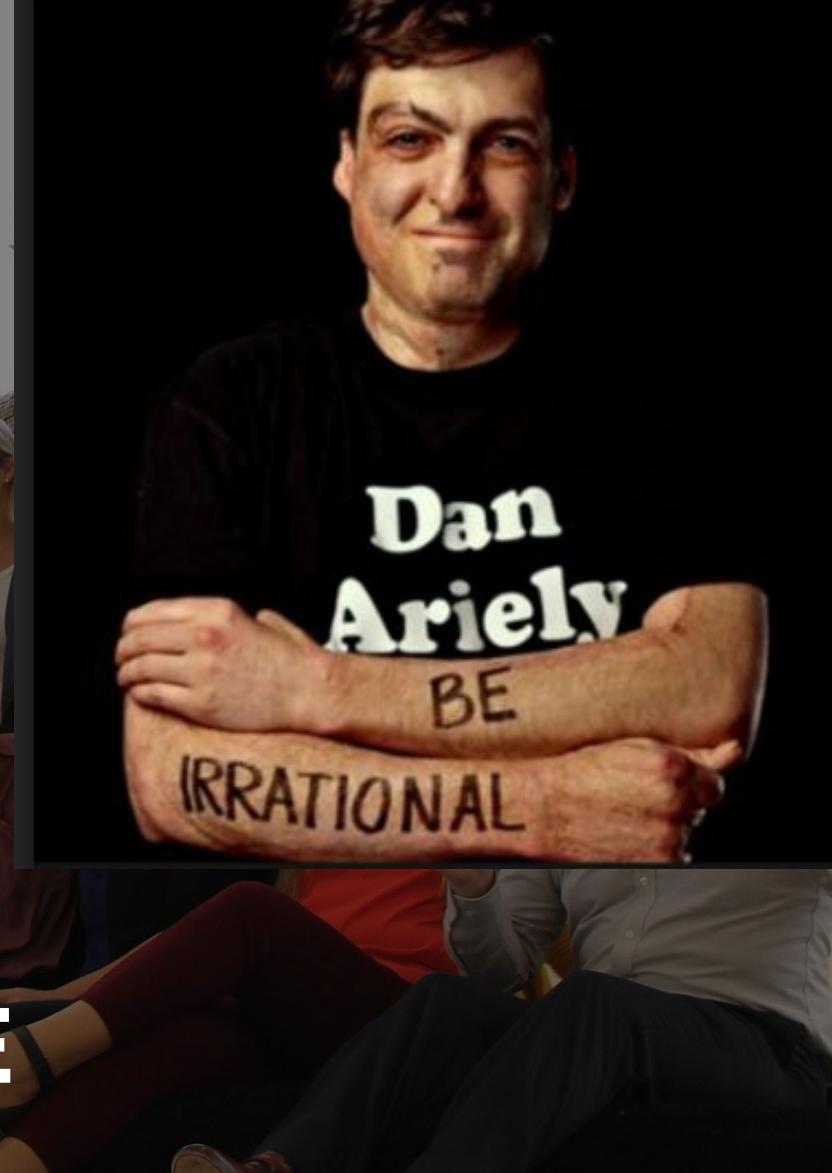




MAKING PEOPLE  
HAPPIER, HEALTHIER, AND  
WEALTHIER  
WITH BEHAVIORAL SCIENCE



Duke  
UNIVERSITY



CENTER FOR  
ADVANCED  
HINDSIGHT

# Which works better?

## 1. Monetary Incentive + loss aversion

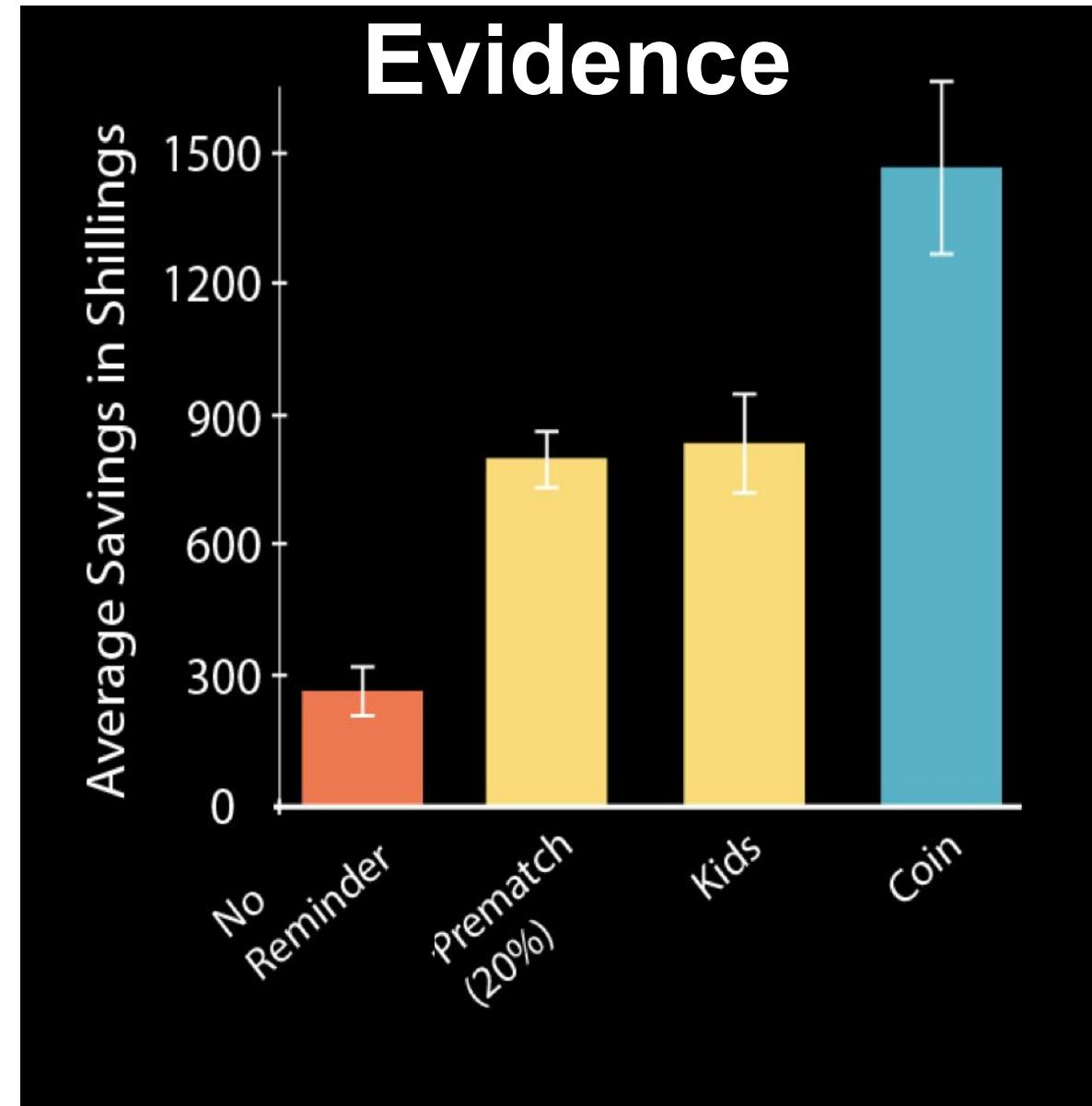
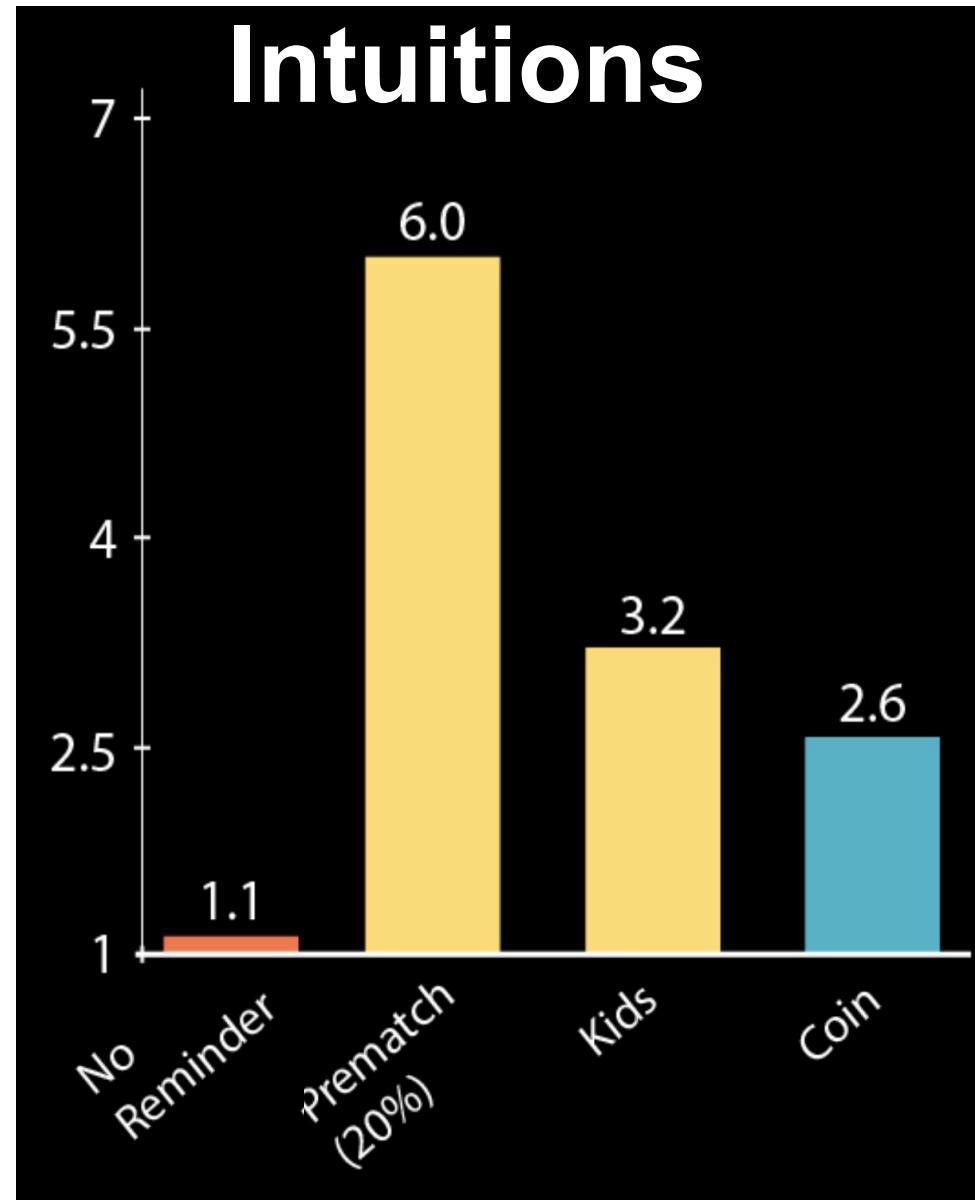
"MBAO PENSION PLAN deposited 20/- into your account. Save at least 100/- this week to keep it...If you don't, MBAO will take it back."

## 2. SMS on behalf of kids

*"Hi (daddy), Please deposit as much as you can this week to MBAO PENSION PLAN for our future! Thank you for saving. (Jane)"*

## 3. Gold coin





---

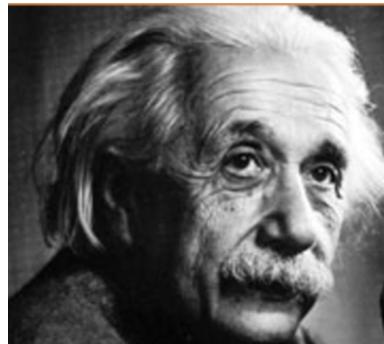
# Can *Behavioral Science* help save more lives?



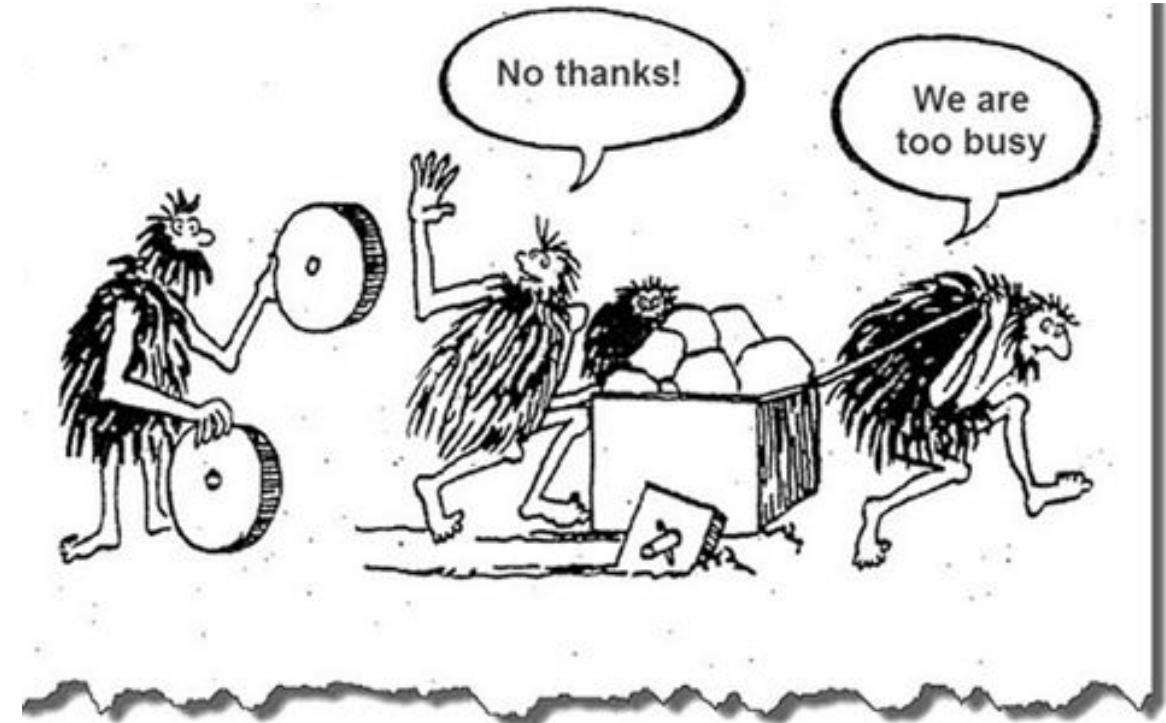
# What can Behavioral Science add?

## 1. Help define the problem

*"If I had one hour to save the world,  
I would spend 55 minutes defining  
the problem and only 5 minutes  
finding the solution."*



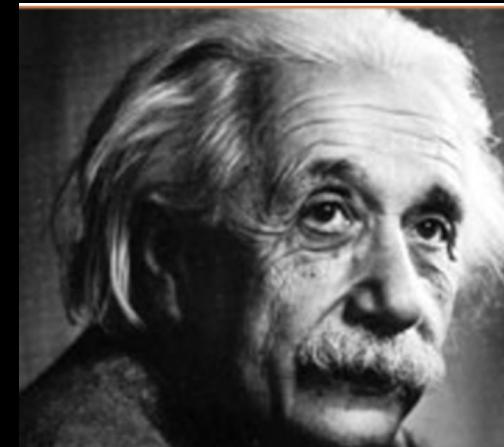
## 2. Test & Tweak the treatment



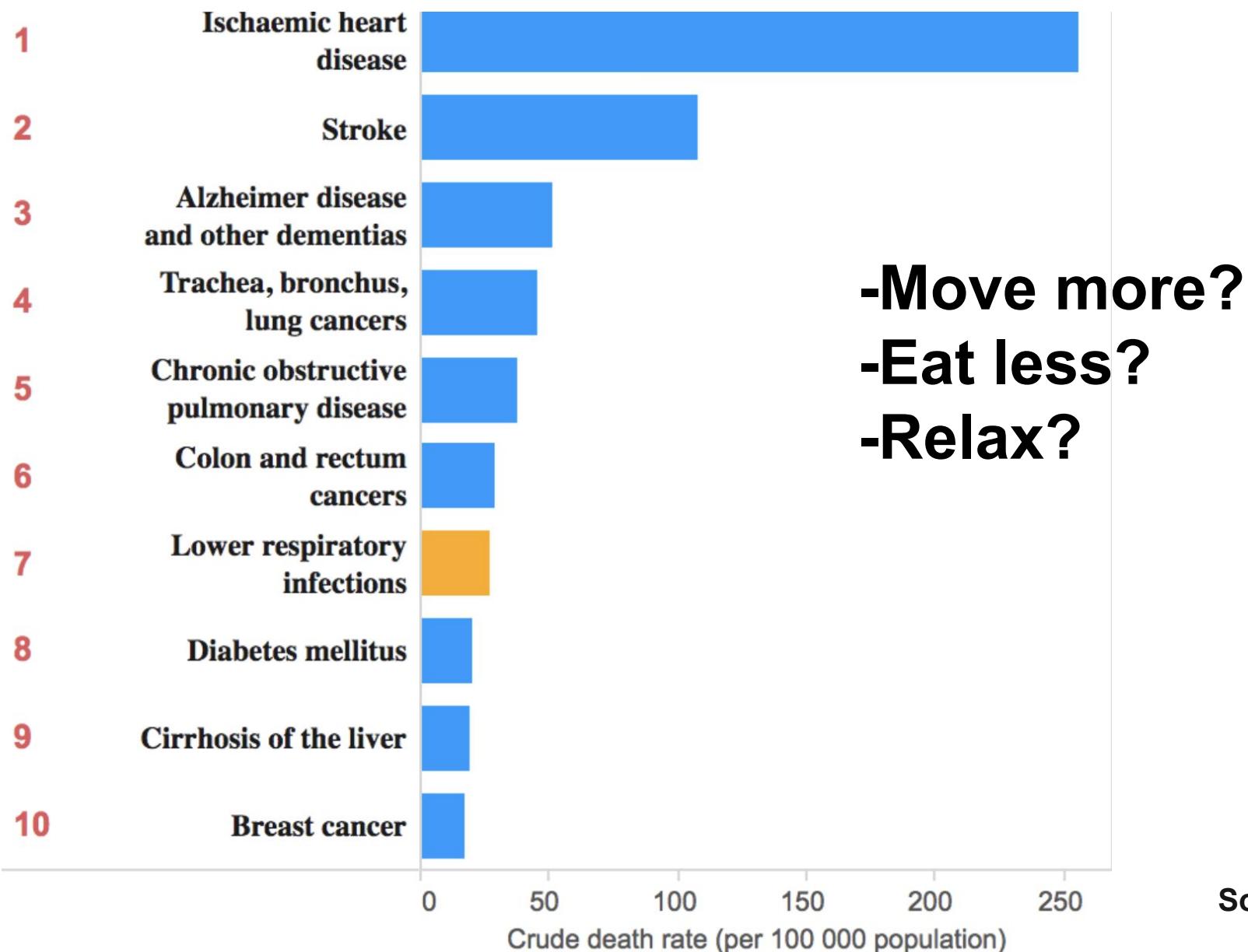
# What kills us?

## 1. Wrong diagnosis → wrong interventions

*“If I had one hour to save the world, I would spend 55 minutes defining the problem and only 5 minutes finding the solution.”*



# European Region



Source: WHO, 2016

23%

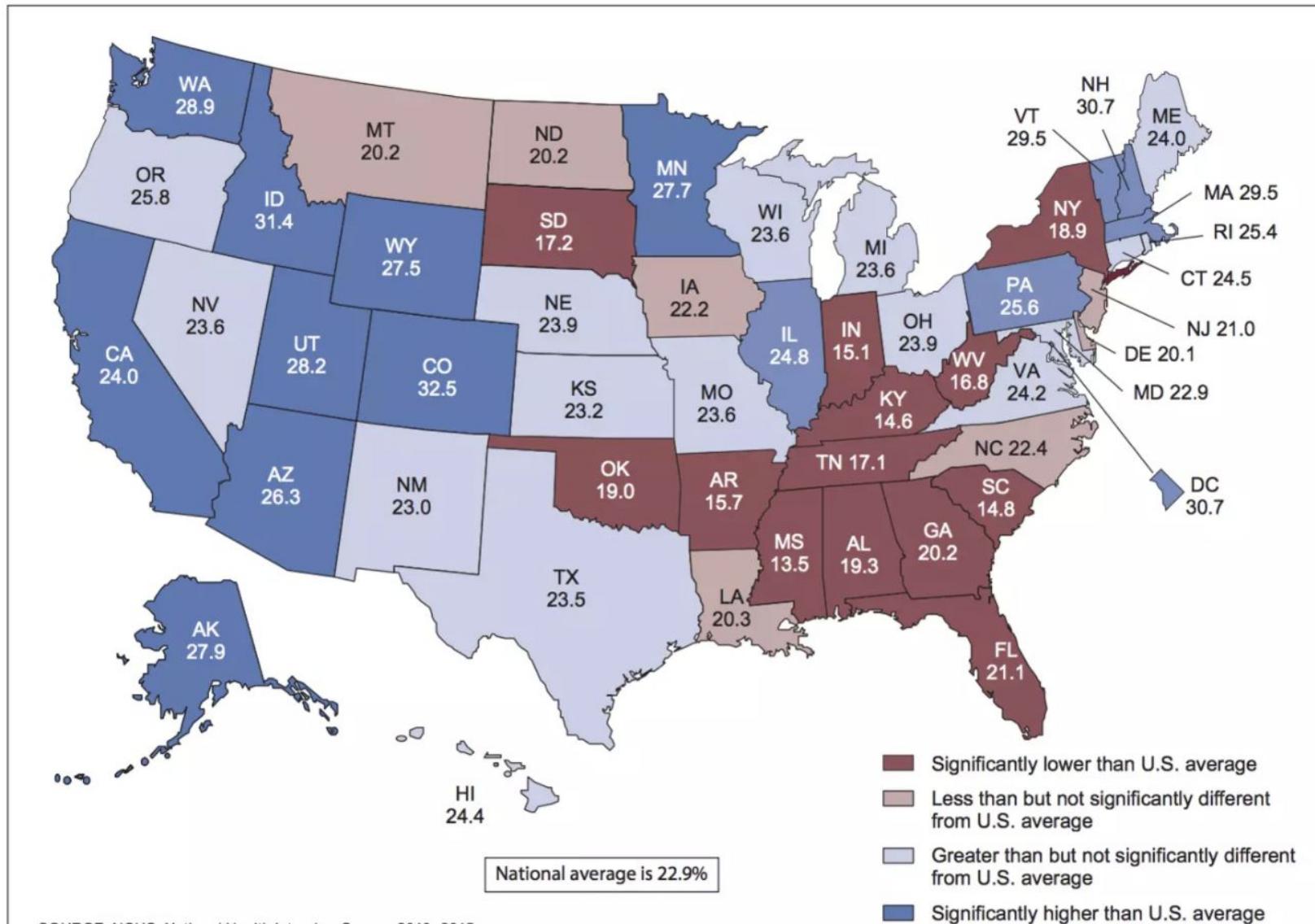
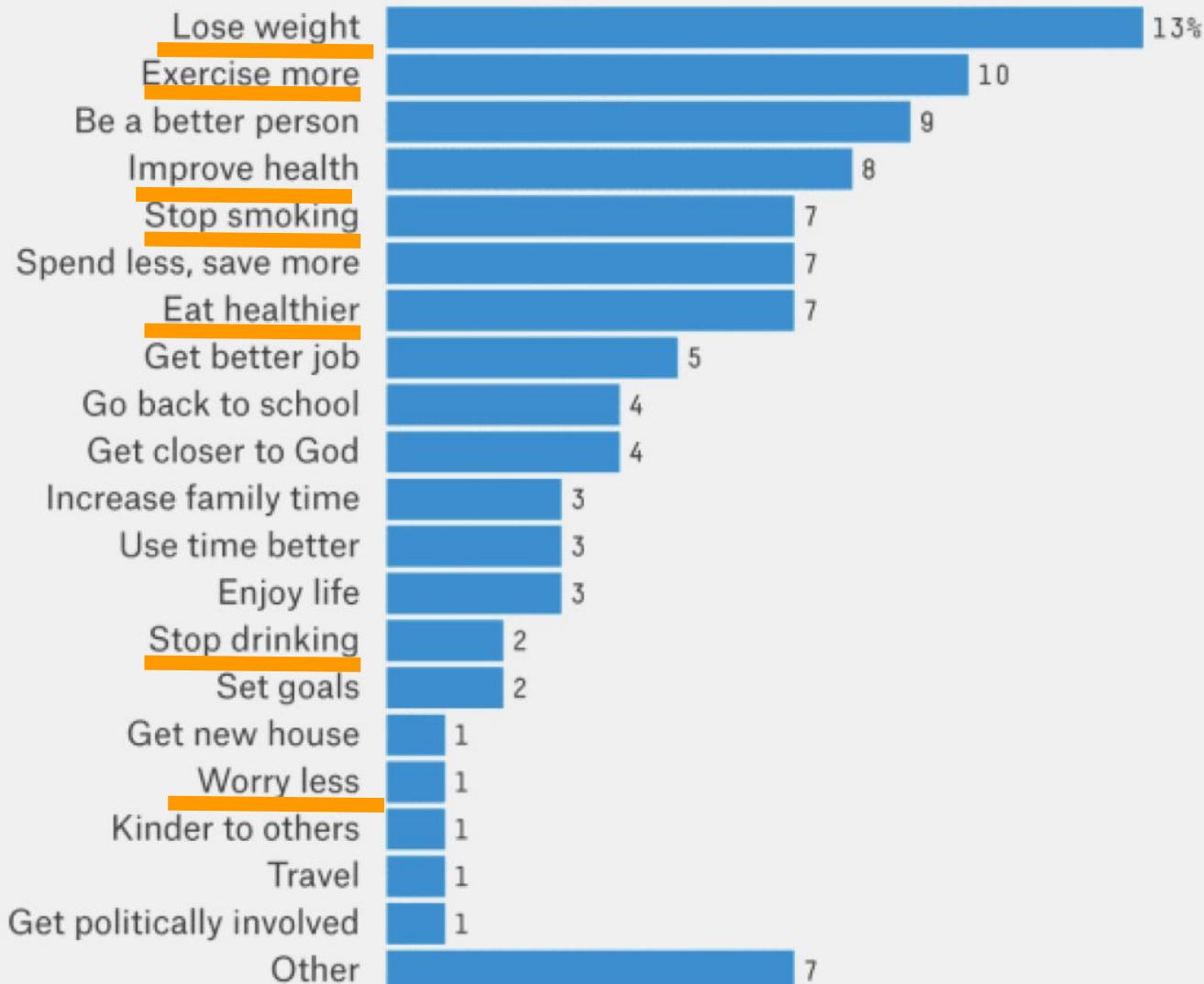


Figure 1. Age-adjusted percentages of adults aged 18–64 who met both aerobic and muscle-strengthening federal guidelines through leisure-time physical activity, by state: United States, 2010–2015

# Most Common New Year's Resolutions

Of 1,140 U.S. adults surveyed in December 2014





# Behavioral Diagnosis

Lack intention

Intention-behavior gap

Not so effortful

Uninformed;  
False beliefs

Mindless

[Forgetfulness;  
Inattention]

Effortful

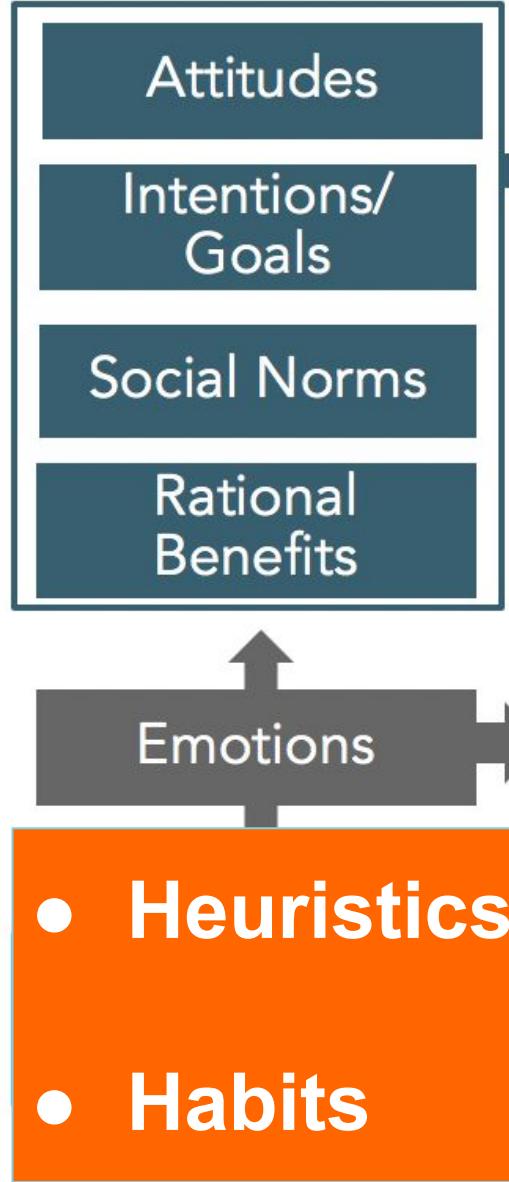
Bounded willpower

[Lack self-control]

**The war for attention!**

**DRIVER**

**BRAIN SYSTEM**



**Lack intention**

**Intention-behavior gap**

# System II

IT SAYS HERE  
DONUT-EATING LEADS  
TO DIABETES!



# System I

FASCINATING!



## System 1



Fast



Unconscious



Automatic



Everyday  
Decisions



Error prone

## System 2



Slow



Conscious



Effortful



Complex  
Decisions



Reliable



***The limited cognitive energy in System II can be depleted...***

***Not sustainable if always dependent on self-control...***

***We are often too tired to use self-control...***

# New Year Resolutions - “Which ones last longer?”

**Useful,  
life-changing,  
important?**

**vs.**

**Rewarding,  
fun,  
enjoyable?**

# New Year Resolutions - “Which ones last longer?”

**Life-changing,  
useful, important?**

but painful,  
difficult, non-  
gratifying

**VS.**

**Rewarding,  
fun, enjoyable?**

Actually persisted  
3 mos later!

# Can BS help save more lives?

**1. Diagnose before treating → System I vs. II**

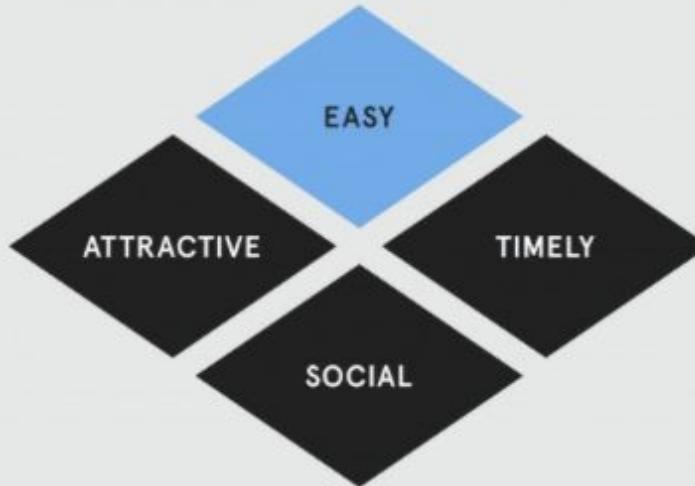
# Myopia?

## Intention-behavior gap

→ fail to act upon invisible long-term benefits...

# BIT: operation 20 times more efficient!.

THE  
BEHAVIOURAL  
INSIGHTS TEAM.



## EAST

Four simple ways to  
apply behavioural insights

Owain Service, Michael Hallsworth, David Halpern,  
Felicity Algate, Rory Gallagher, Sam Nguyen, Simon Ruda, Michael Sanders  
with Marcos Pelenur, Alex Gyani, Hugo Harper, Joanne Reinhard & Eispeth Kirkman.

IN PARTNERSHIP WITH | Cabinet Office Nesta

# Make it Easy



vs.



Increased sales by 71%

Wansink (2013)

# Make it Attractive



**Reward  
Substitution**

Immediate System I gratification  
substituting long-term rewards!



*Good idea, but  
not scalable!*



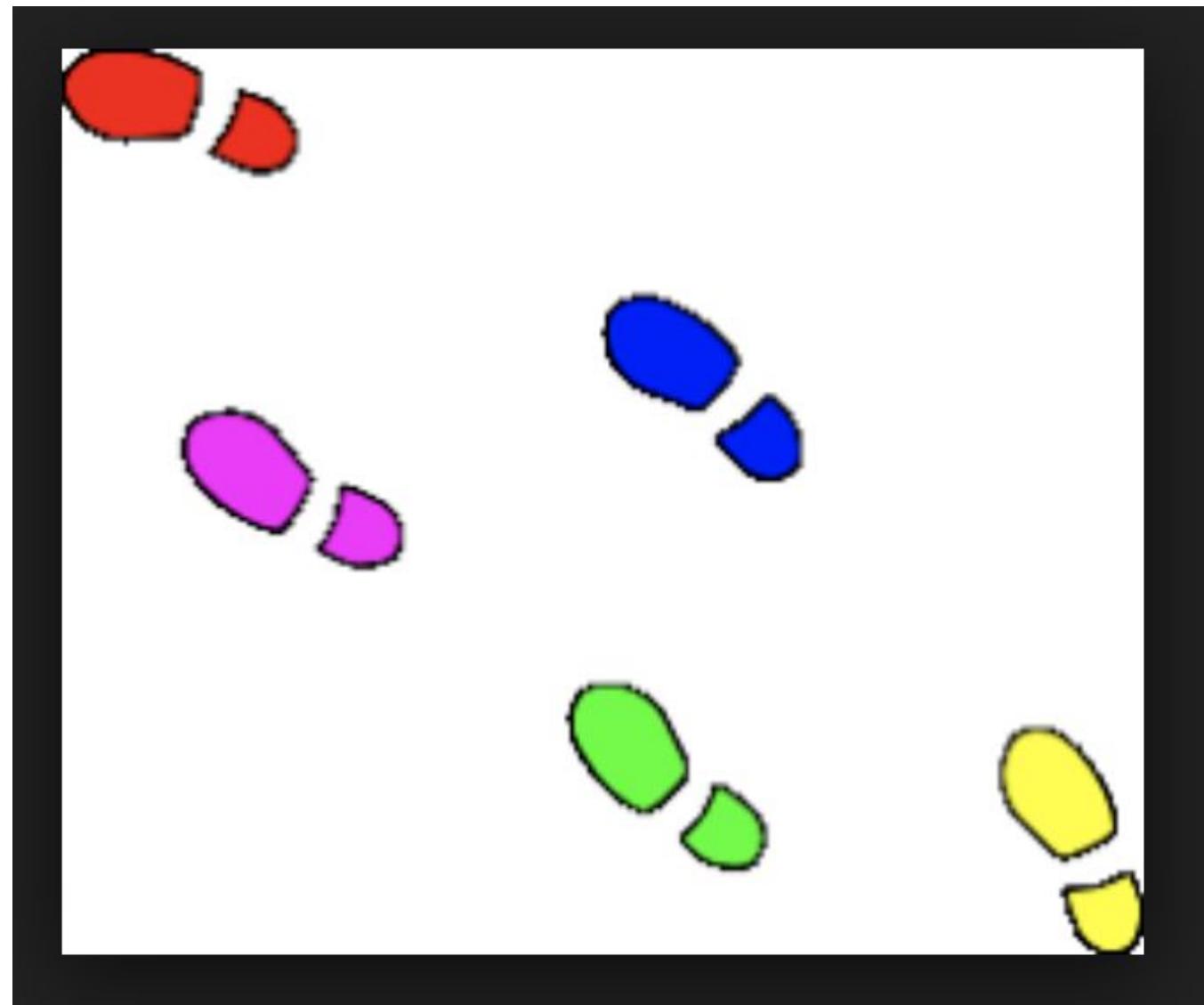
# *Gamification of “targeting”*



# Make it Social



Make it *Timely*



Do the right thing for the  
wrong reason!

# Choice architecture



# Behavioral Diagnosis

Lack intention

Intention-behavior gap

Not so effortful

Uninformed;  
False beliefs

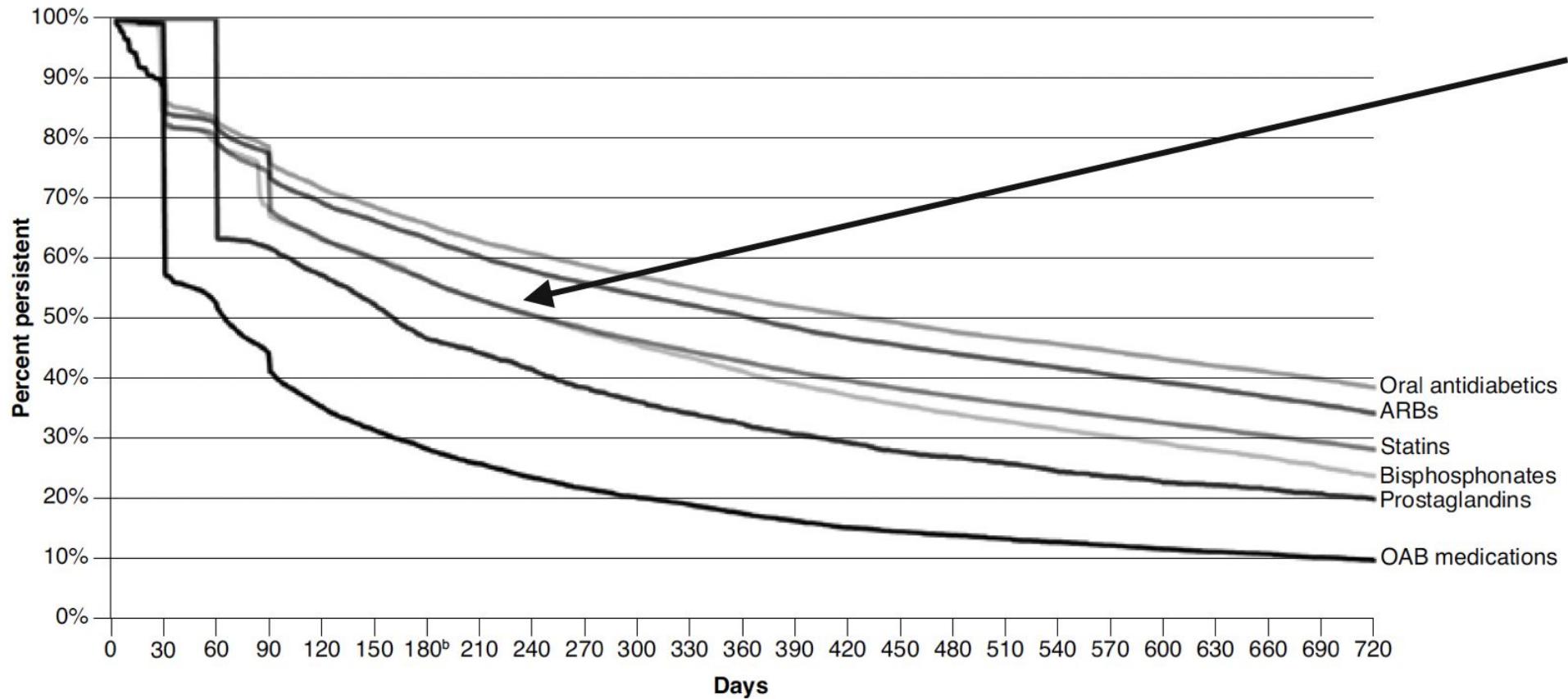
Mindless  
[Forgetfulness;  
Inattention]

Effortful

Bounded willpower  
[Lack self-control]

# Our behavior vs. medicines

**FIGURE 2** Time to Discontinuation<sup>a</sup> of 6 Chronic Therapy Classes, Allowing for 60-Day Treatment Gap



~50% are non-adherent by 6 months

Yeaw et al. (2009)

**[Not so effortful]**

Mindless  
(Habitual response)



Habits: cue-response-rewards

**[Effortful]**

Bounded willpower



Rewards-substitution!



Case: M-TIBA

# A mobile health wallet just for health

[HOME](#)[FIND CLINIC](#)[MEDIA](#)[FAQS](#)[OWN A CLINIC?](#)[DIAL \\*253#](#)

## Case For Change

02<sup>nd</sup> November 2017

40% of Kenyans can't afford to seek treatment from hospitals when they need it, and it's often those who need it most who have to choose between putting food on their table or paying for healthcare. The #CaseForChange has traveled with Janet Mbugua to Kawangware, a slum near Nairobi where most people live on less [...]

[Read More](#)

#Loeries2017 Gold Award



## M-TIBA wins Shared Value Gold Award at Loeries Awards

31<sup>st</sup> August 2017

M-Tiba wins gold at 2017 Loeries awards in Durban

[Read More](#)

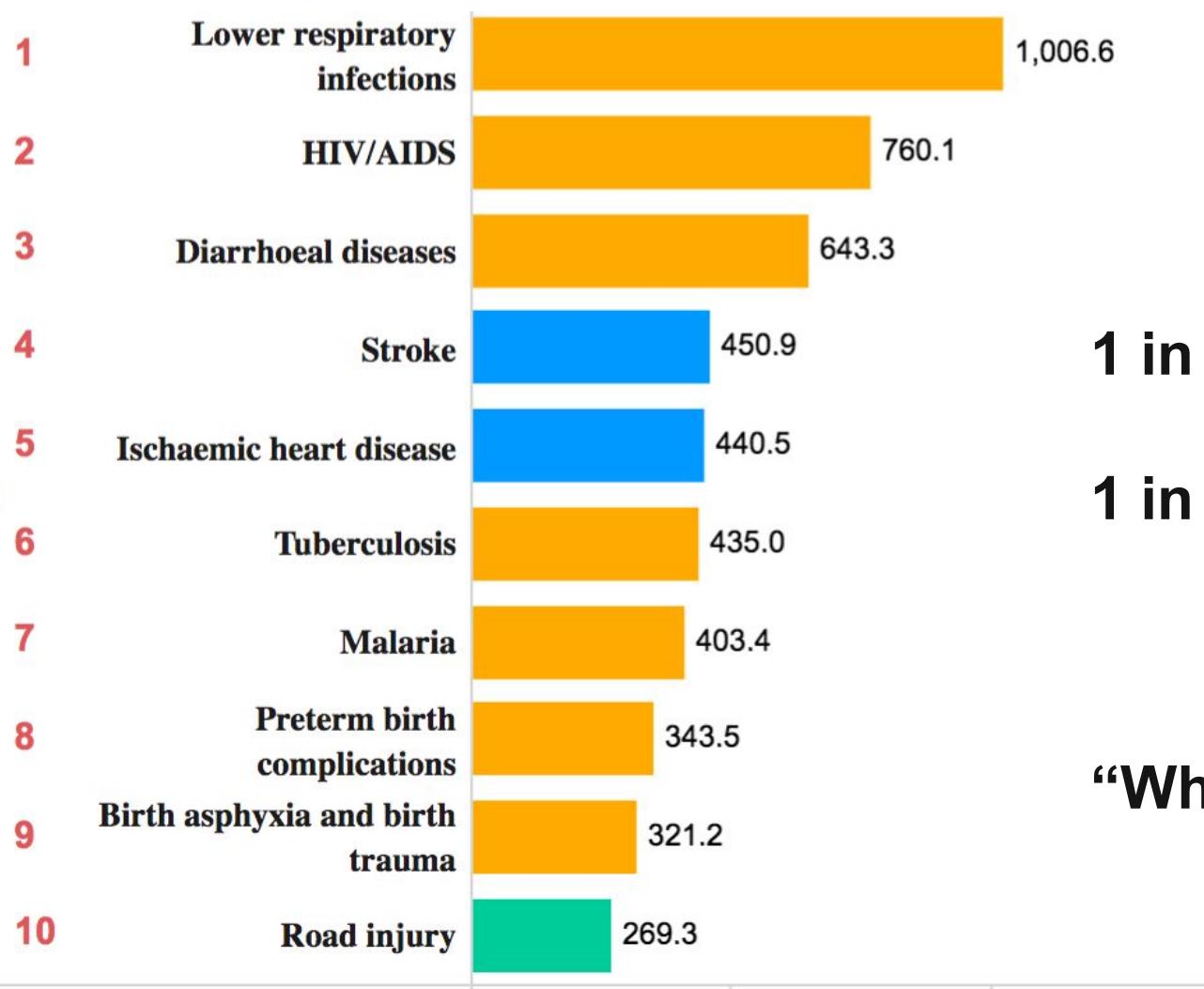
## M-TIBA wins FT/IFC transformation business awards 2017

11<sup>th</sup> July 2017

M-TIBA wins FT/IFC international award for its achievement in sustainable development- Health, Wellness and Disease Prevention

[Read More](#)

# Top 10 Causes of Death in African Region



**1 in 3 die from treatable...**

**1 in 26 children from diarrhoeal...**

**“What if you save enough to pay for it...”**

Suppose you are the CMO of M-TIBA...

Common  
Sense/intuitions

BE interventions?

Bonus, save 100/-, get 50/-...

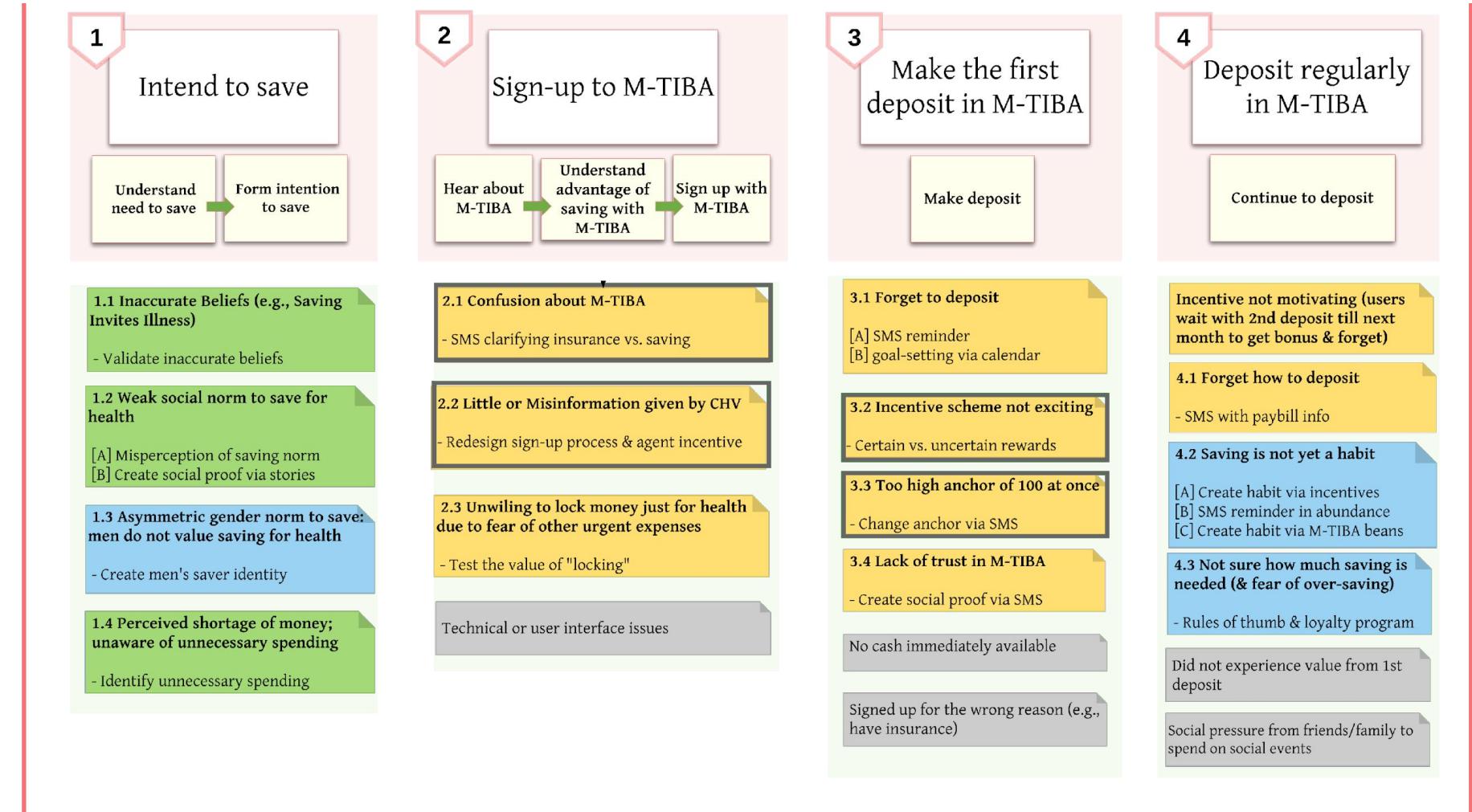
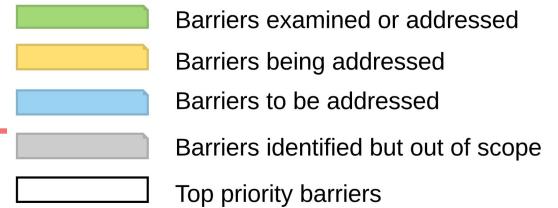
SMS reminding people how important it is...

Radio campaigns...

What did we do?

# 1. Diagnose

## PATIENT JOURNEY



# Hard constraint?

*Do they have enough money  
to set aside?*

# Women



# Men



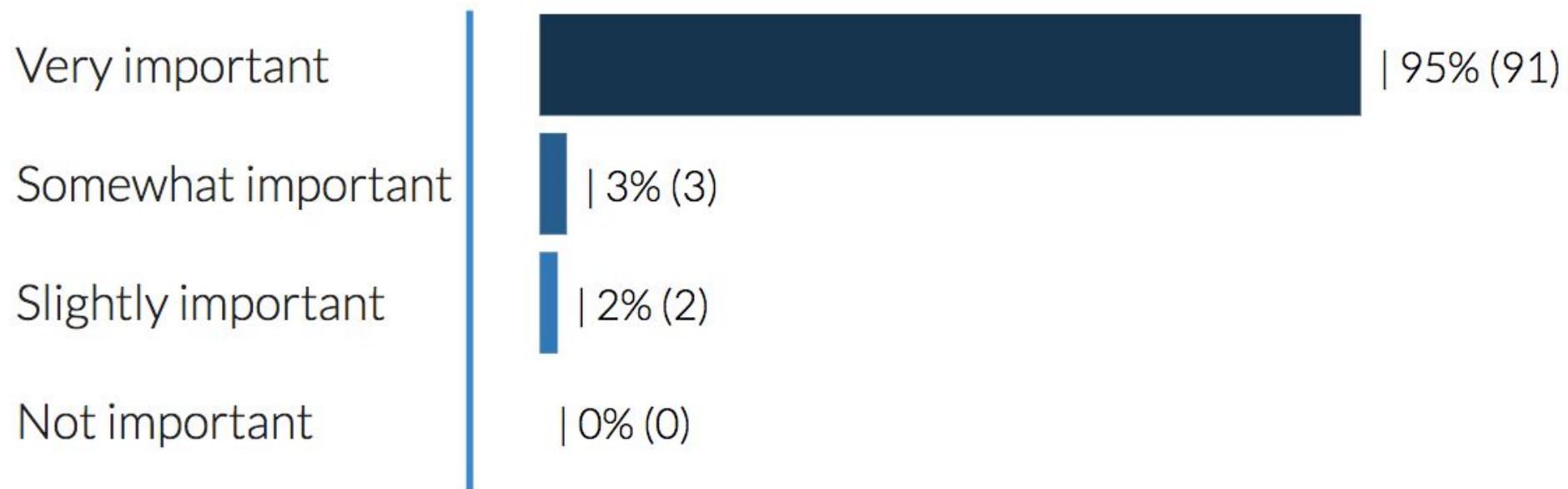
Using bodaboda on transport

# Intention?

*Do they want to save for  
health expenses?*

MC

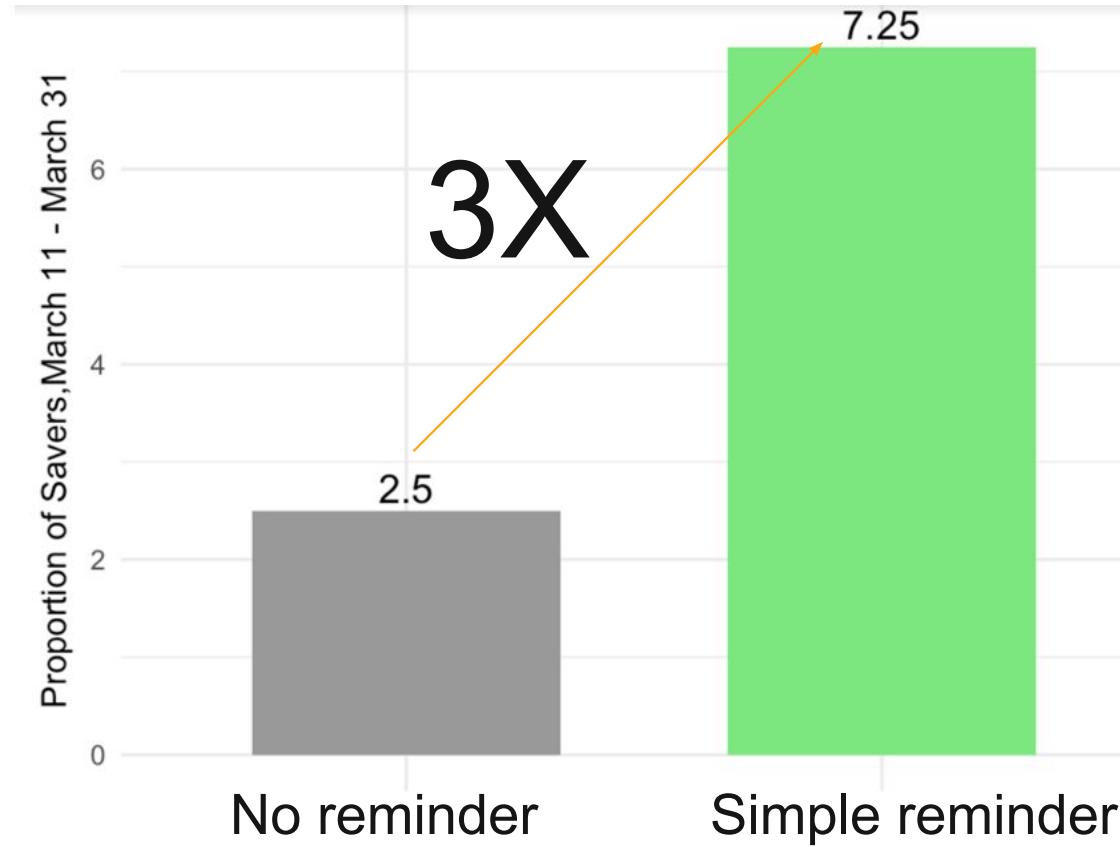
According to you, how important is it to save money for health expenses?



# Intention-behavior gap?

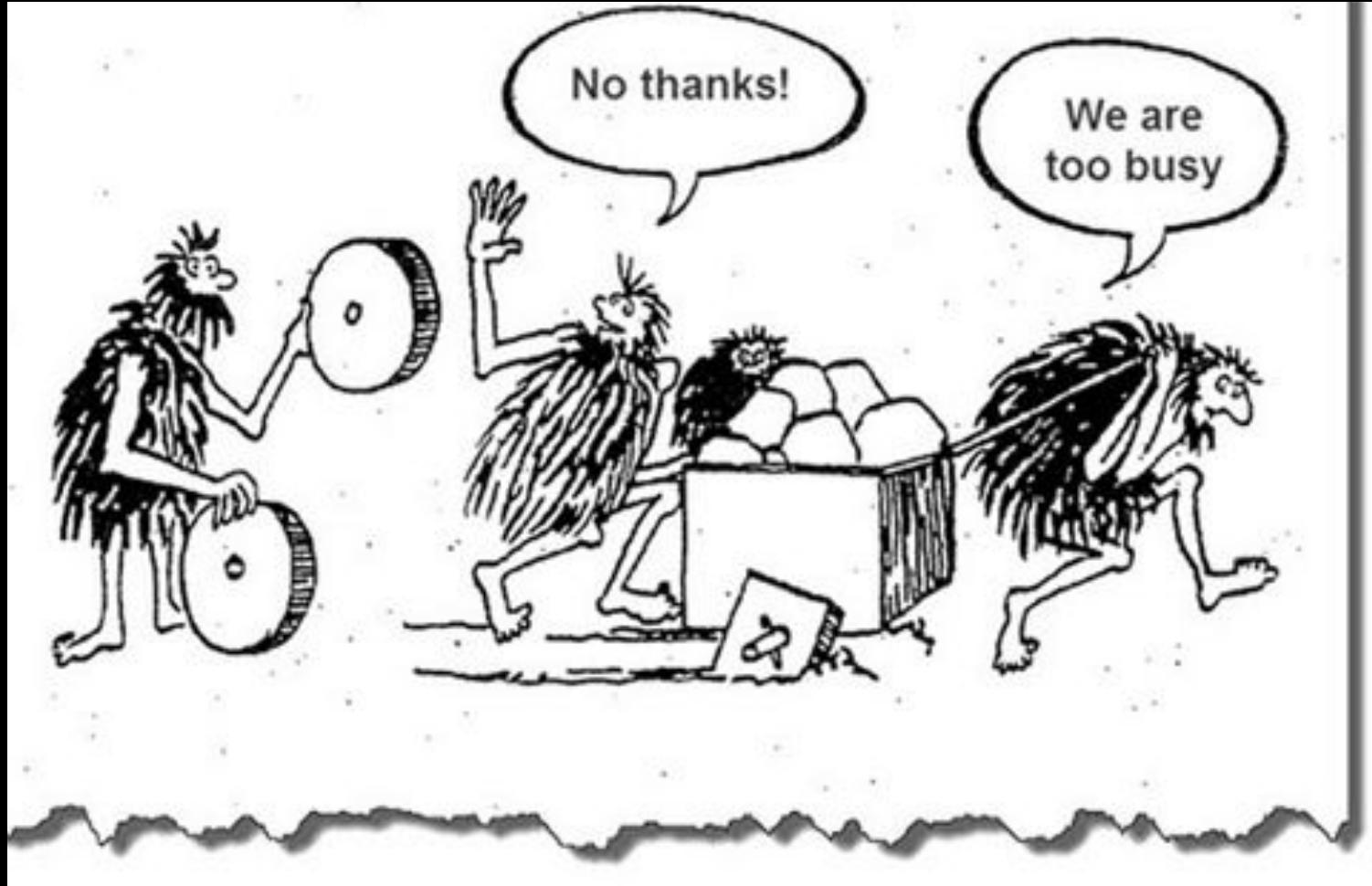
*Did they simply forget to?*

# Simple reminder: Hi {user\_name}, did you save, as little as 10/-?



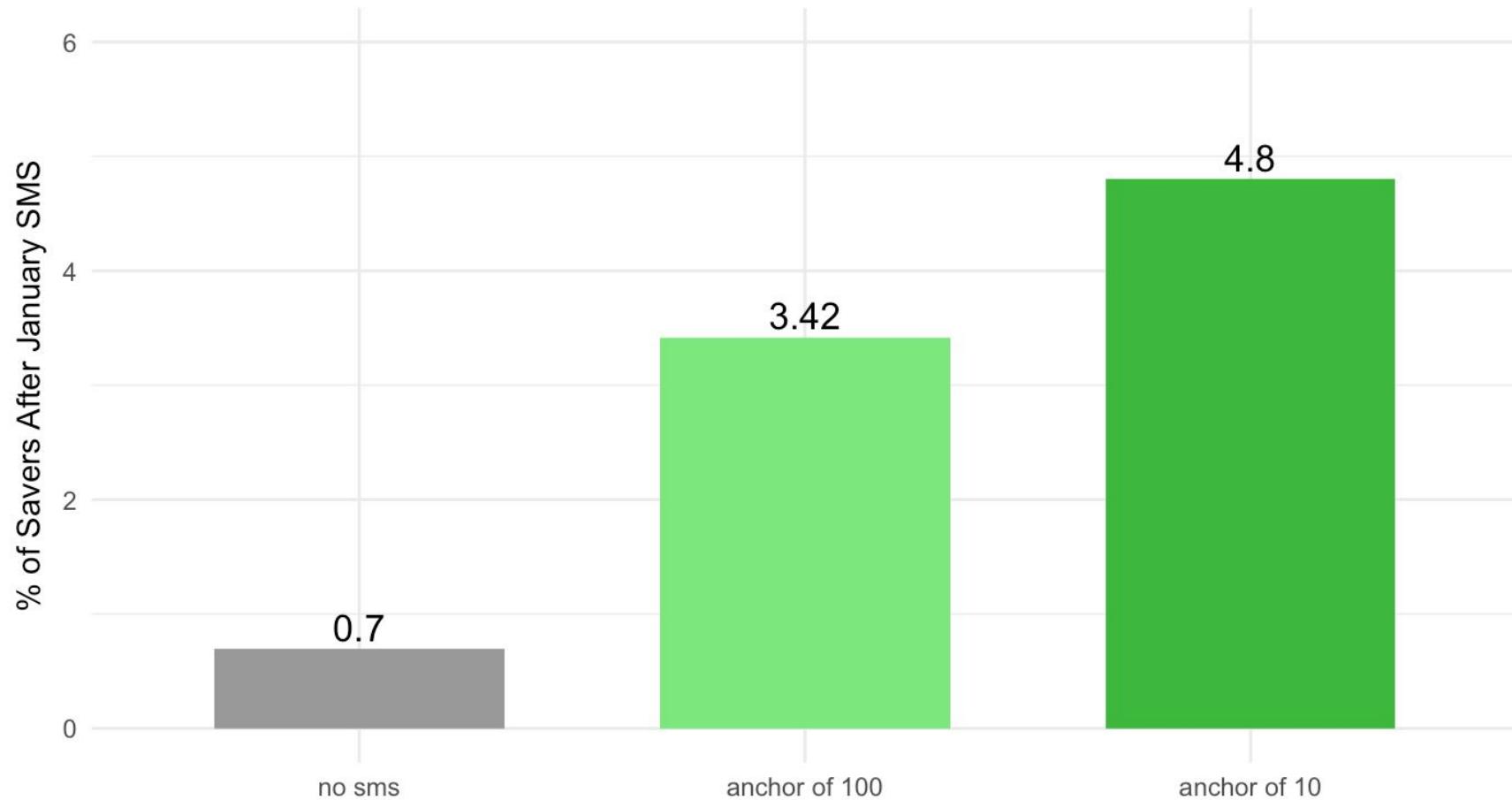
# Can BS help save more lives?

## 2. Validate diagnoses, tweak interventions before scaling



- A. **Anchor of 100:** Save 100/- in M-TIBA, and unlock 50/- bonus this month!
- B. **Anchor of 10:** Save as little as 10/- in M-TIBA, and unlock 50/- bonus if you save at least 100/- this month!

- A. **Anchor of 100:** Save 100/- in M-TIBA, and unlock 50/- bonus this month!
- B. **Anchor of 10:** Save as little as 10/- in M-TIBA, and unlock 50/- bonus if you save at least 100/- this month!

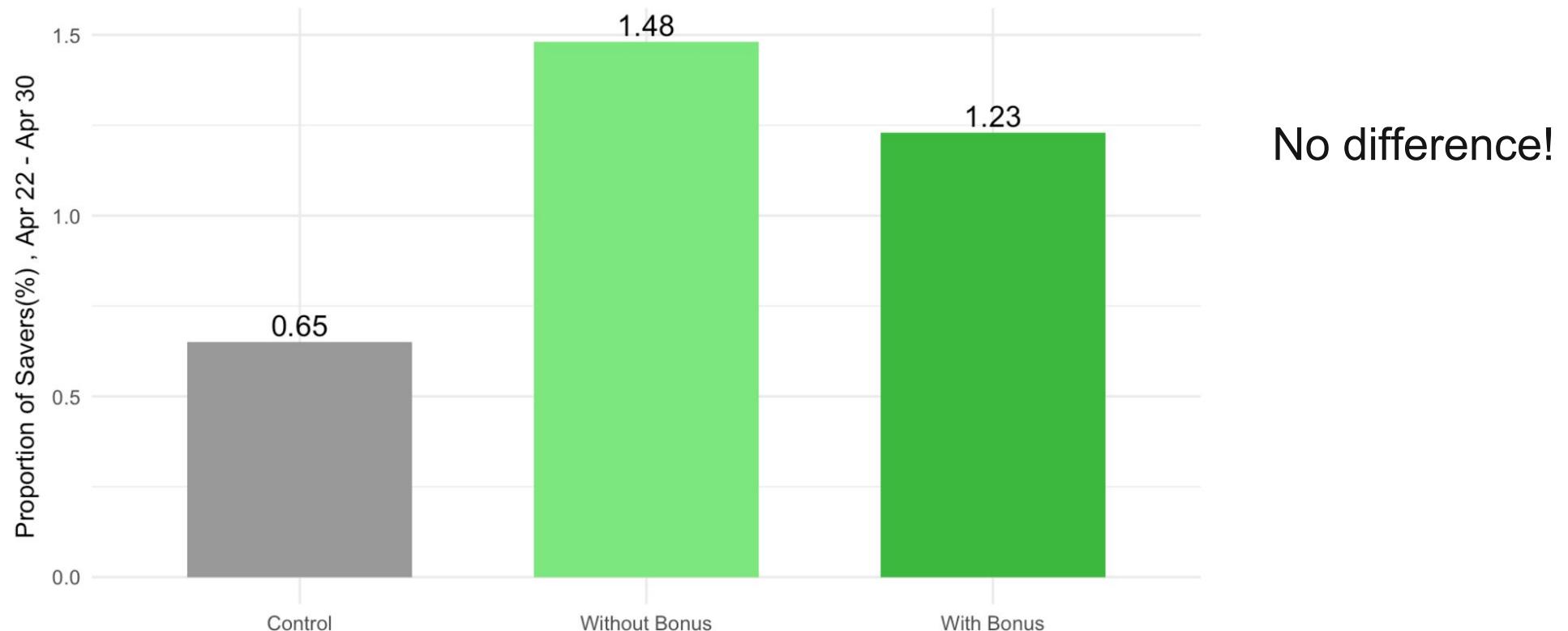


## **Make a guess: Which works better?**

- **Without reminding them the bonus:** Did you save, as little as 10/-?
- **With reminding them the bonus:** Did you save, as little as 10/-? Save in total 100/- or more by April 30th to get 50/- bonus.

# Make a guess: Which works better?

- **Without reminding them the bonus:** Did you save, as little as 10/-?
- **With reminding them the bonus:** Did you save, as little as 10/-? Save in total 100/- or more by April 30th to get 50/- bonus.



# Behavioral Diagnosis

## Lack intention (System II & I)

Uninformed;  
False beliefs

Or,  
not in system I

## Intention-behavior gap (Mostly System I barriers)

Not so effortful

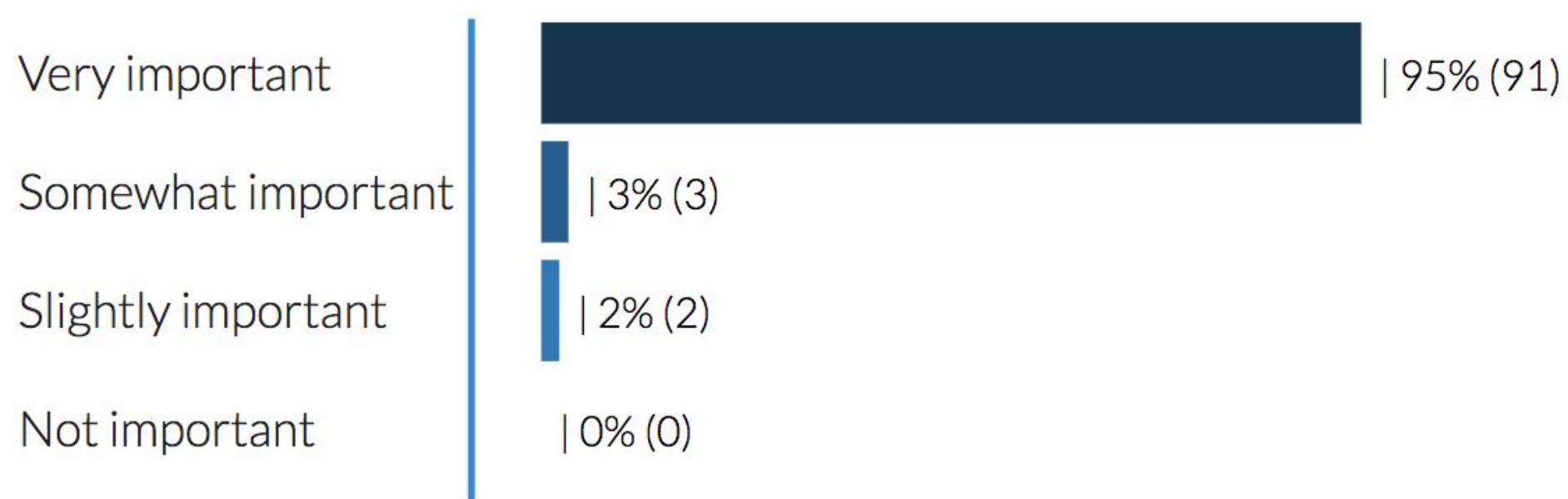
Mindless  
[Forgetfulness;  
Inattention]

Effortful

Bounded willpower  
[Lack self-control]

MC

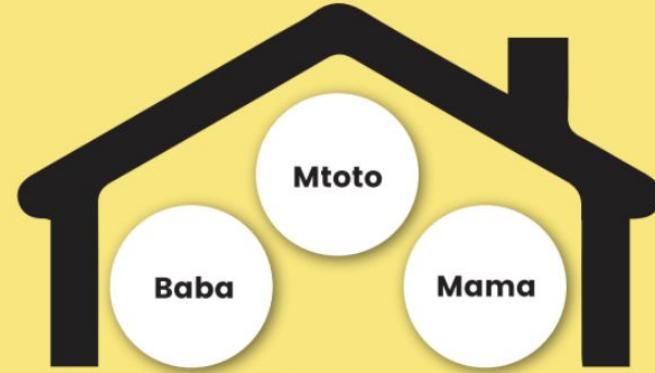
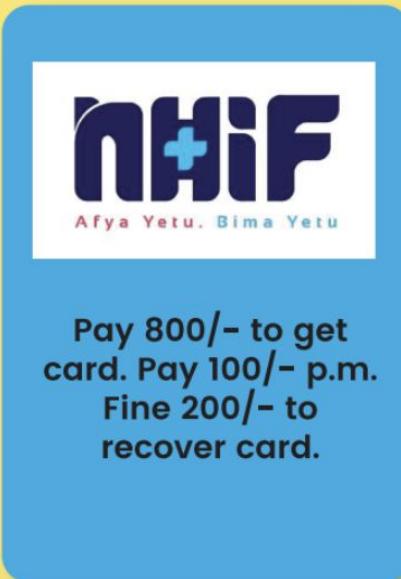
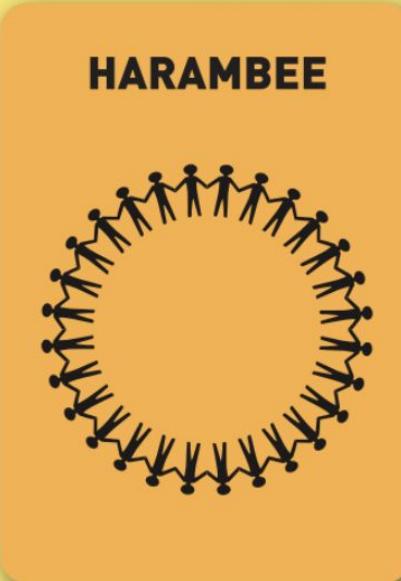
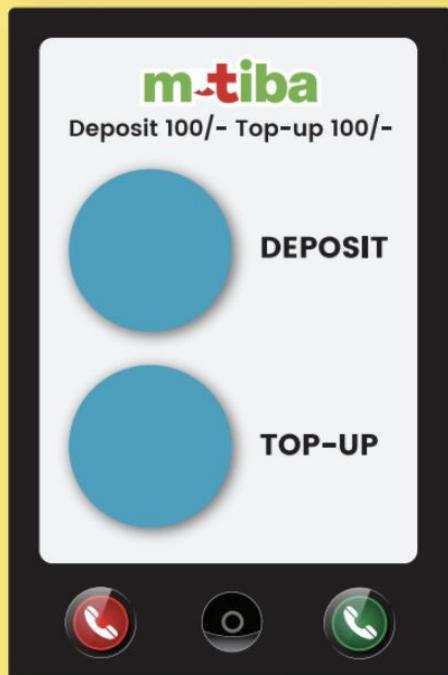
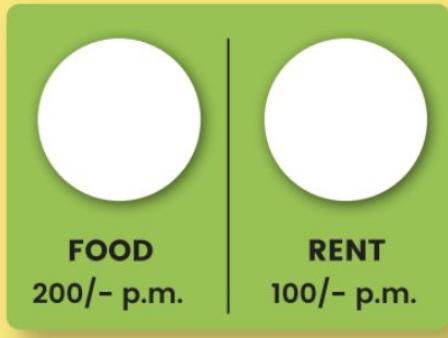
According to you, how important is it to save money for health expenses?



→ YES, but at the level  
of system I or II?

# *Health Financing Game: Happy Money*





Job card  
(Husband)

Unskilled job: 200/-  
Basic job: 500/-  
Advanced job: 900/-

Job card  
(Wife)

Unskilled job: 200/-  
Basic job: 500/-  
Advanced job: 900/-

## KUCHEZA

1. Pata na panga mapato na lipia chakula na nyumba
2. Ukiwa umeweka pesa kwa MTIBA, poka ongezeo, lipa 100/- ukiwa na NHIF
3. Pata kadi za tukio (Msimu wa 2 na 3)
4. Tumia wakati wako
5. Hesabu na weka alama ya furaha
6. Ukiwa umenunua, rudisha soda na nyama sokoni
7. Chukua familia yako



Roll a 6,  
win 400/-



100/-



Raise  
chicken



300/-

Soda



100/-

Meat



200/-

Build house



+Free rent

900/-

HAPPY MARKET



# HAPPY MONEY



## **UNSKILLED JOB**



**200/-**

## **CARPENTER BASIC JOB**



**500/-**

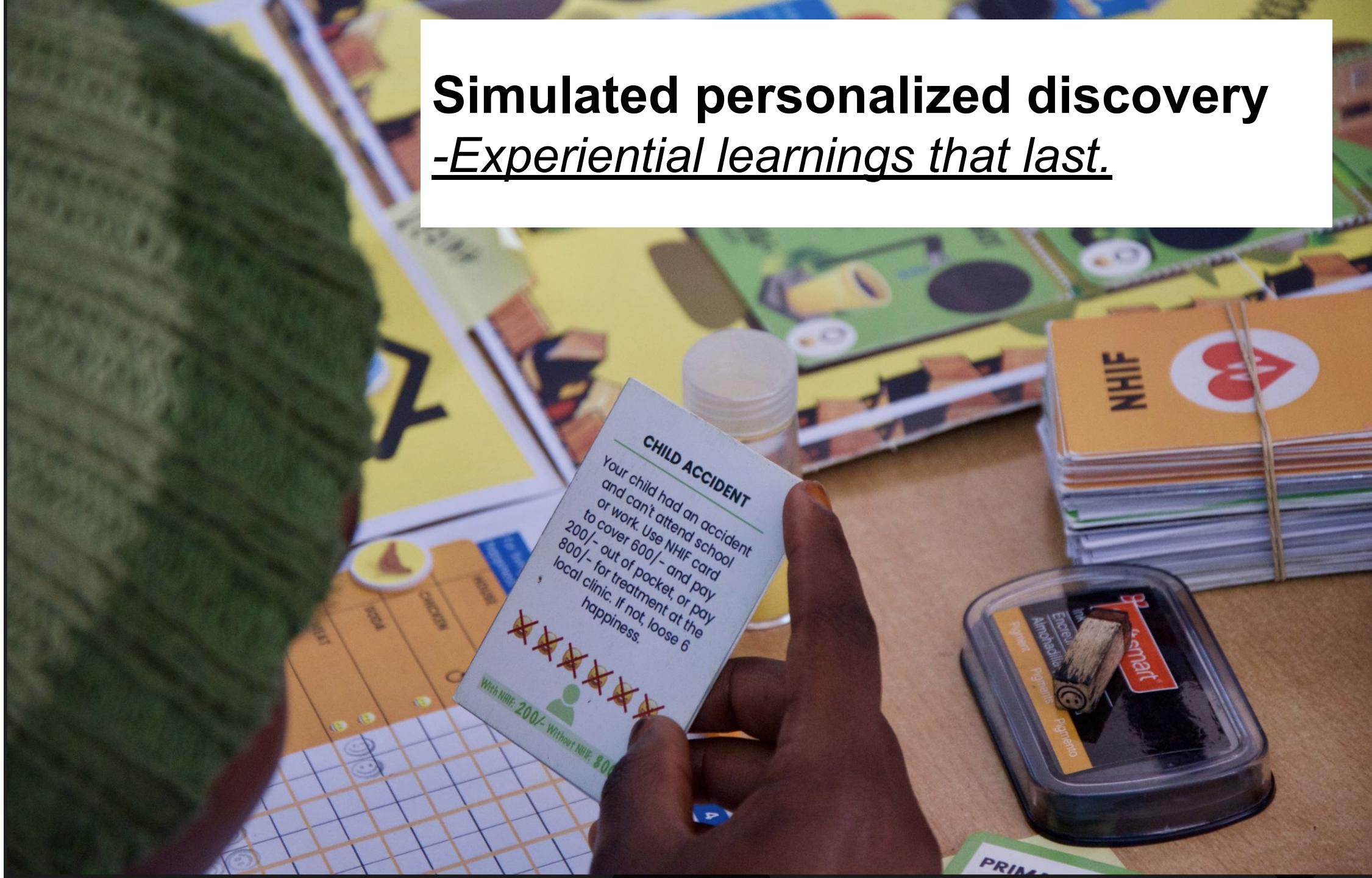
## **PROGRAMMER ADVANCED JOB**



**900/-**

# Simulated personalized discovery

-Experiential learnings that last.





## MONEY IN Pesa inaingia

Description Maelezo	What kind of work? Unafanya kazi gani?	How much? Kiasi gani?	Comments Maoni
Self Mwenyewe		/-	
		/-	
		/-	
		/-	
Spouse Mke/bwana		/-	
		/-	
		/-	
		/-	
Remittance Peana		/-	
		/-	
		/-	
		/-	
Chama		/-	
		/-	
		/-	
		/-	
Loans Mkopo		/-	
		/-	
		/-	
		/-	
Other Mengine		/-	
		/-	
		/-	
		/-	
Total Jumla		/-	



## MONEY OUT Pesa inatoka

Which items? Ni vitu gani?	How much? Kiasi gani?	Ideal spend? Kiasi bora?
<b>Daily Kila siku</b>		
E.g. Food   k.v. chakula	/-	/-
E.g. Transport   k.v. usafiri	/-	/-
E.g. Utilities   k.v. maji	/-	/-
E.g. Phone   k.v. simu	/-	/-
Other   mengine	/-	/-
<b>Total   Jumla</b>	/-	/-
<b>Weekly Kila wiki</b>		
E.g. Special Food   k.v. chakula si cha kila siku	/-	/-
E.g. Special Transport   k.v. nauli ya kutembelea	/-	/-
E.g. Church alms   k.v. sadaka kanisani	/-	/-
E.g. Grocery shopping   k.v. sabuni na vitu vingine vya nyumba	/-	/-
E.g. Utilities   k.v. maji, stima	/-	/-
Other   mengine	/-	/-
<b>Total   Jumla</b>	/-	/-
<b>Monthly Kila mwezi</b>		
E.g. Rent   k.v. kodi ya nyumba	/-	/-
E.g. School fees   k.v. ada za shule	/-	/-
E.g. Salon/barber   k.v. pesa za nywele	/-	/-
E.g. Grocery shopping   k.v. sabuni na vitu vingine vya nyumba	/-	/-
E.g. Merry-go-round   k.v. mchango wa chama	/-	/-
Other   mengine	/-	/-
<b>Total   Jumla</b>	/-	/-
<b>Occasional (shocks) Mara kwa mara</b>		
E.g. Health expenses   k.v. daktari	/-	/-
E.g. Natural shocks e.g. floods   k.v. mafuriko	/-	/-
E.g. Negative experiences e.g. robbery   k.v. uwizi	/-	/-
E.g. Harambee   k.v. mchango wa Harambee	/-	/-
Other   mengine	/-	/-
<b>Total   Jumla</b>	/-	/-
<b>Others Mengine</b>		
Other   mengine	/-	/-
<b>Total   Jumla</b>	/-	/-
<b>TOTAL/JUMLA</b>	/-	/-

Common  
Sense/intuitions

BE interventions?



A calendar with a bit of extra...

# Social norm?

**Jiwezeshe na m-tiba dial \*253#**

Mary and Joseph live in Kibera and have three young children.

**August**

SUN	MON	TUE	WED	THU	FRI	SAT
1	2	3	4	5	6	
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

**September**

SUN	MON	TUE	WED	THU	FRI	SAT
1	2	3				
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

**October**

SUN	MON	TUE	WED	THU	FRI	SAT
1						
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

20th October - Mauyaa Day

**November**

SUN	MON	TUE	WED	THU	FRI	SAT
1	2	3	4	5		
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

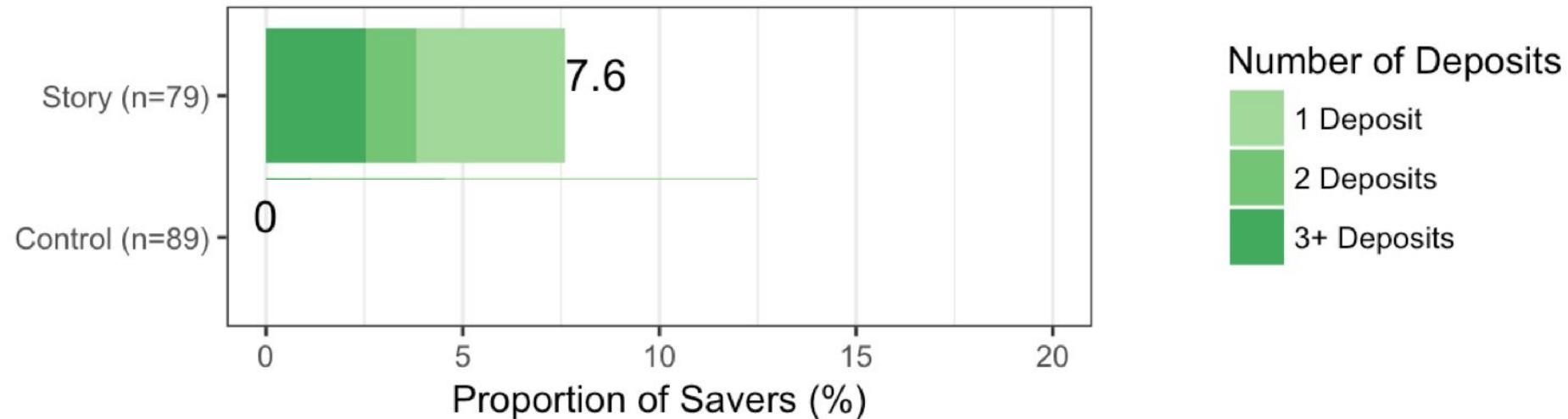
**December**

SUN	MON	TUE	WED	THU	FRI	SAT
1	2	3				
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

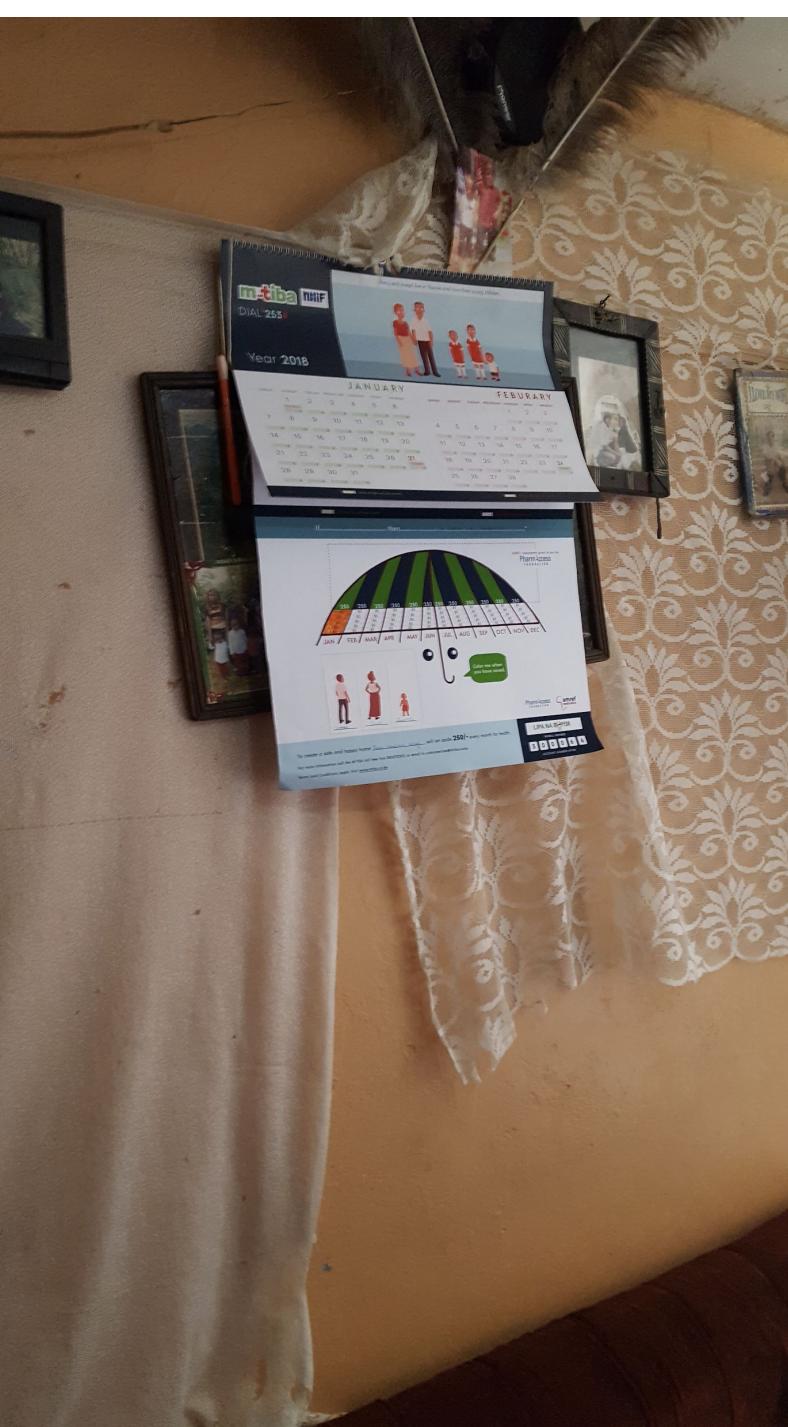
**January**

SUN	MON	TUE	WED	THU	FRI	SAT
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

### Proportion of Savers After Day of Camp Within 3 Months



Women and men react differently to these interventions!



# MY HEALTH SAVINGS CALENDAR

**m-tiba**



Afya Yetu. Bima Yetu

Mary insisted on taking Olivia to the clinic to see the doctor.



## SEPTEMBER 2018

SUN	MON	TUE	WED	THU	FRI	SAT
					1	/-
2	3	4	5	6	7	8
/-	/-	/-	/-	/-	/-	/-
9	10	11	12	13	14	15
/-	/-	/-	/-	/-	/-	/-
16	17	18	19	20	21	22
/-	/-	/-	/-	/-	/-	/-
23	24	25	26	27	28	29
/-	/-	/-	/-	/-	/-	MAKE SURE YOUR UMBRELLA IS COLORED IN!
30						
/-						

## OCTOBER 2018

SUN	MON	TUE	WED	THU	FRI	SAT
	1	2	3	4	5	6
	/-	/-	/-	/-	/-	/-
7	8	9	10	11	12	13
/-	/-	/-	/-	/-	/-	/-
14	15	16	17	18	19	20 MASHUJAA DAY
/-	/-	/-	/-	/-	/-	/-
21	22	23	24	25	26	27
/-	/-	/-	/-	/-	/-	MAKE SURE YOUR UMBRELLA IS COLORED IN!
28	29	30	31			
/-	/-	/-	/-			

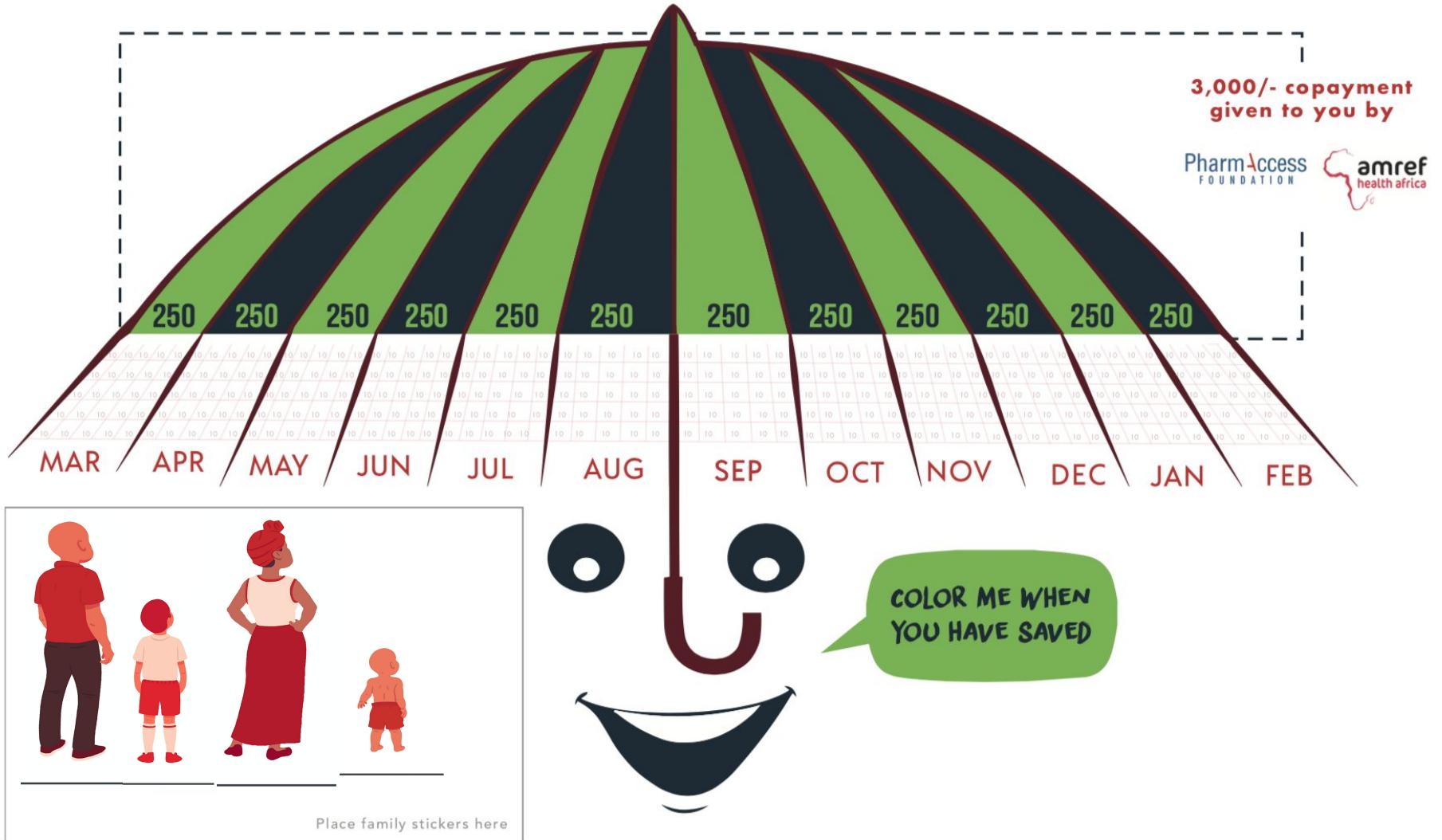
\*

/- Write M-TIBA savings amount

\*

/- Write M-TIBA savings amount

"If I \_\_\_\_\_, I will colour my \_\_\_\_\_."



To create a safe and happy home \_\_\_\_\_ will set aside **250/-** every month for health.

Dial \*253# to manage your M-TIBA Account

For more information call the M-TIBA toll free line 0800721253, or email to [customercare@mtiba.co.ke](mailto:customercare@mtiba.co.ke) | Terms and Conditions apply. Visit [www.mtiba.co.ke](http://www.mtiba.co.ke)

LIPA NA M-PESA

PAYBILL: BUSINESS NO.

3 0 0 0 6 6

ACCOUNT NUMBER MTIBA

# Habit of spending & saving?

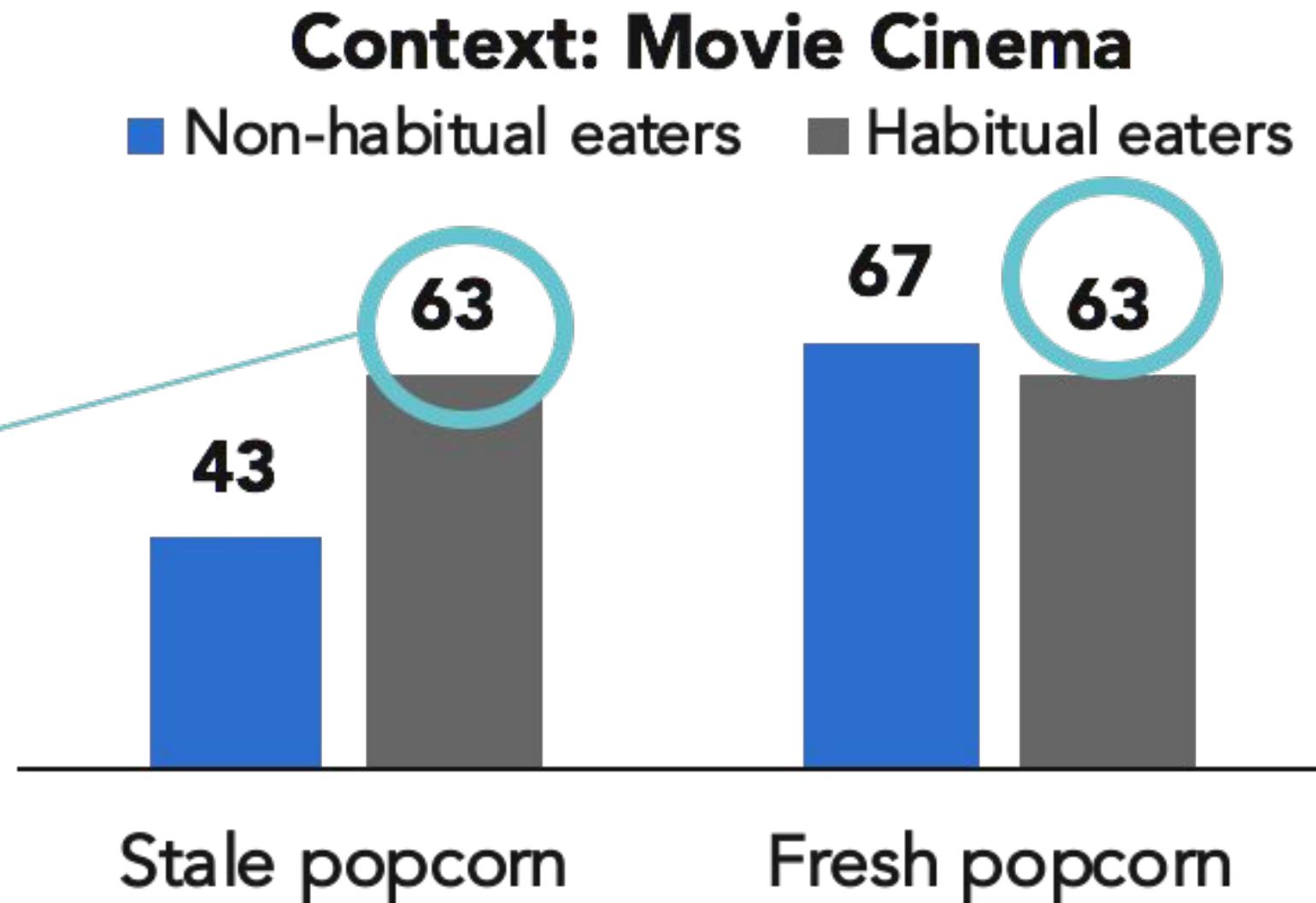
# Habit formation:

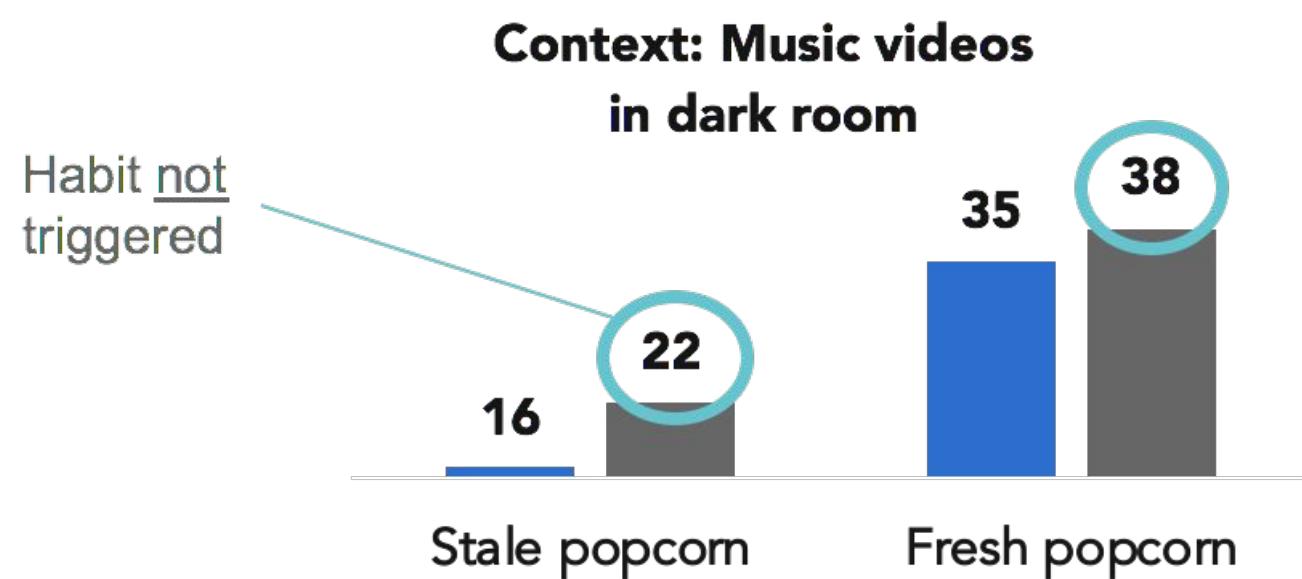
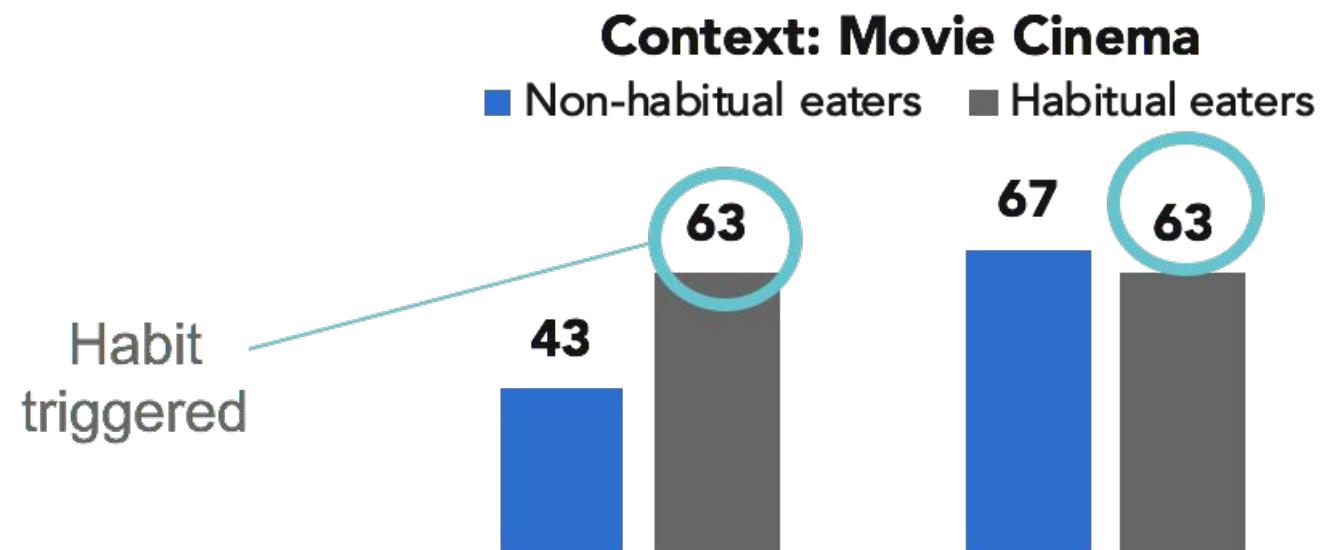
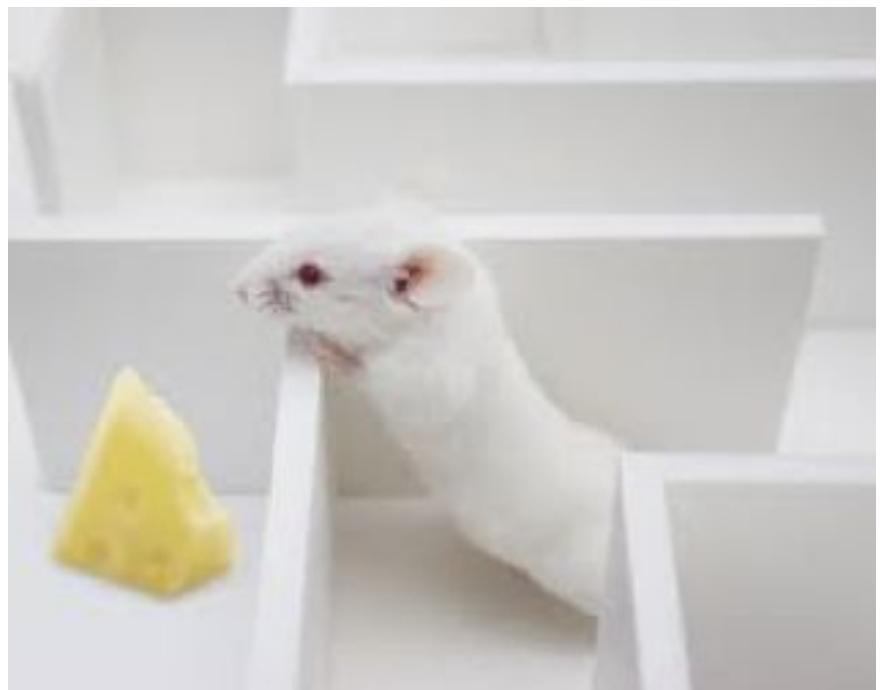
1. Stable **CUE** conditioning
2. **RESPONSE** rehearsal
3. Immediate, variable **REWARDS**

# 1. Stable **CUE** conditioning



Habit  
triggered





# 0%

Jiwezeshe na  
**m-tiba**  
dial \*253#



## January

SUN	MON	TUE	WED	THU	FRI	SAT
1 —	2 —	3 —	4 —	5 —	6 —	7 —
8 —	9 —	10 —	11 —	12 —	13 —	14 —
15 —	16 —	17 —	18 —	19 —	20 —	21 —
22 —	23 —	24 —	25 —	26 —	27 —	28 —
29 —	30 —	31 —				

2017

# 12.5%

Jiwezeshe na  
**m-tiba**  
dial \*253#



## January

SUN	MON	TUE	WED	THU	FRI	SAT
1 —	2 —	3 —	4 —	5 —	6 —	7 —
8 —	9 —	10 —	11 —	12 —	13 —	14 —
15 —	16 —	17 —	18 —	19 —	20 —	21 —
22 —	23 —	24 —	25 —	26 —	27 —	28 —
29 —	30 —	31 —				

2017

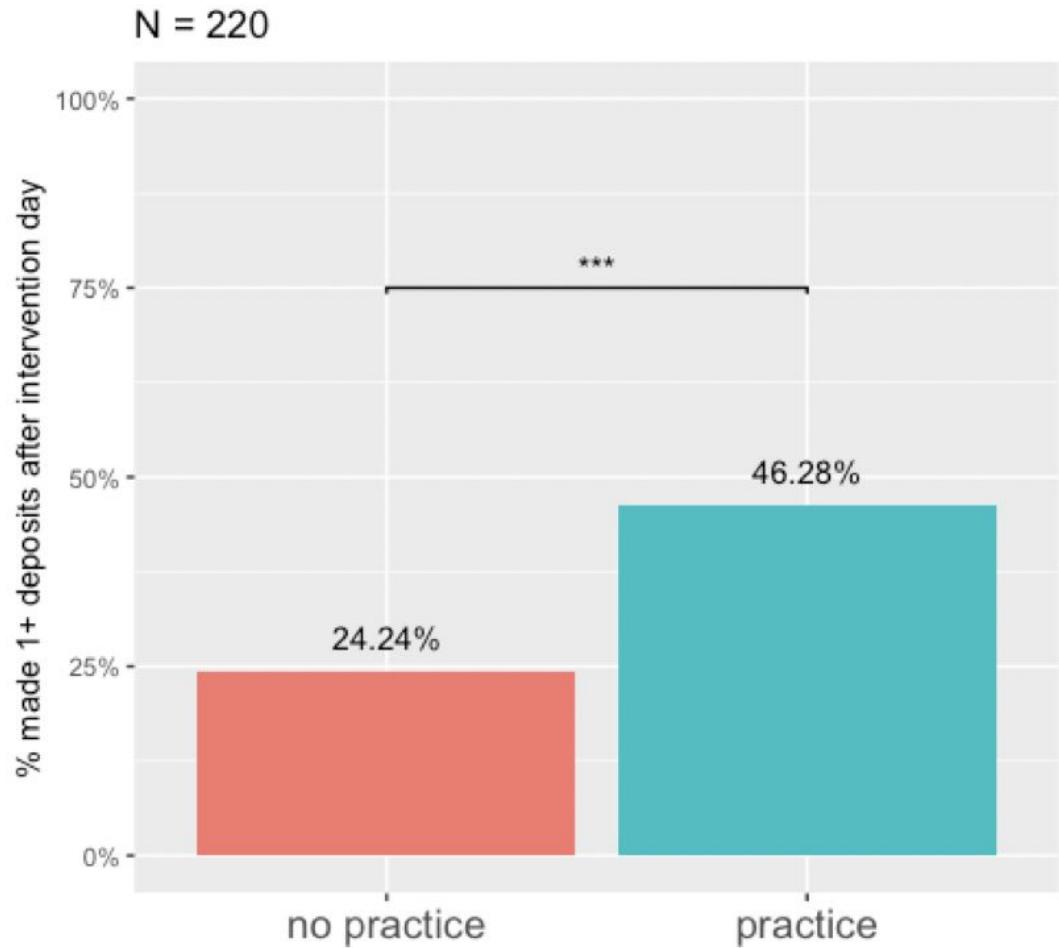
For More Information Call Toll Free 0800 721253

I will deposit at least \_\_\_\_\_/- per month by depositing in M-TIBA on the dates circled.

Typically, IF it is \_\_\_\_\_ (time of the day) after \_\_\_\_\_ (activities) at \_\_\_\_\_ (location),

THEN I will deposit in M-TIBA (using paybill no. 300066, account no. MTIBA).

# Onboarding: ***RESPONSE*** rehearsal



Note: \* p < .10 ; \*\* p < .05, \*\*\* p < .01

Can behavioral science  
save lives?

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# If we use medical procedure for behavioral cure...

1. ?
2. Diagnose (system I vs. II)
3. Test and tweak



# 1. Intention-behavior gap of applying behavioral insights!



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# Bridge your intention-behavior gap

1. Any behavioral cure?
2. Plan: Make an appointment with yourself to ask a behavioral expert about your product's behavioral problem.
3. Ask your boss to be your accountability buddy and text you compliment...