Can behavioral insights (BI) rise to meet public policy challenges?

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BEHAVIOR CHANGE
FOR GOOD

Two types of tools for addressing policy challenges

- **Economic Insights (EI)** change tangible costs/benefits (leverage incentives, bans, or the provision of pertinent new information)

- **Behavioral Insights (BI)** change psychological but not economic consequences (address impatience, forgetfulness, the need for belonging, etc.)
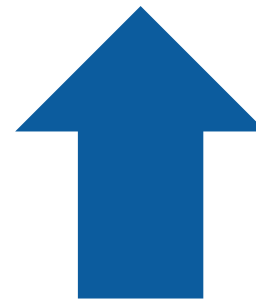
For example...
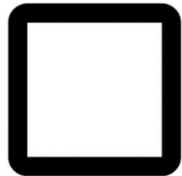
☐ Check here to enroll in the company's 401(k) plan

☐ Check here to opt out of the company's 401(k) plan

76% increase in enrollment

Madrian and Shea (2001)

For example...

[Company Name] IS HOLDING A FREE FLU SHOT CLINIC.

Flu shots will be available on site at the [location of relevant free flu shot clinic] at the following times:

|	
Monday, October 26th	7:00 am – 3:30 pm
Wednesday, October 28th	7:00 am – 3:30 pm
Friday, October 30th	7:00 am – 3:30 pm
Tuesday, November 3rd	7:00 am – 3:30 pm
Thursday, November 5th	7:00 am – 3:30 pm

[Company Name] IS HOLDING A FREE FLU SHOT CLINIC.

Many people find it helpful to make a plan for getting their shot. You can write yours here:
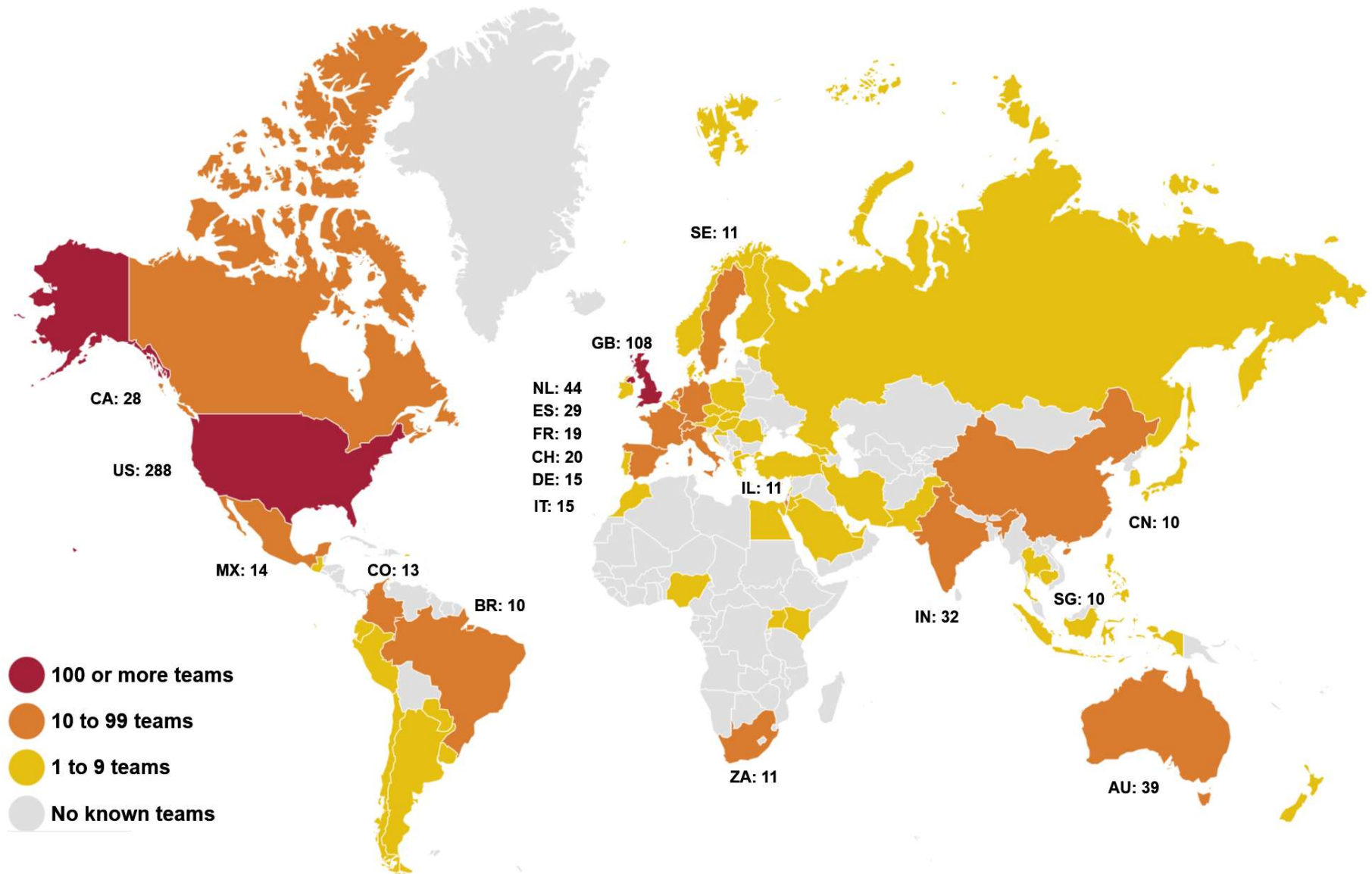
(day of the week)	(month)	(day)	at	(time)

Flu shots will be available on site at the [location of relevant free flu shot clinic] at the following times:

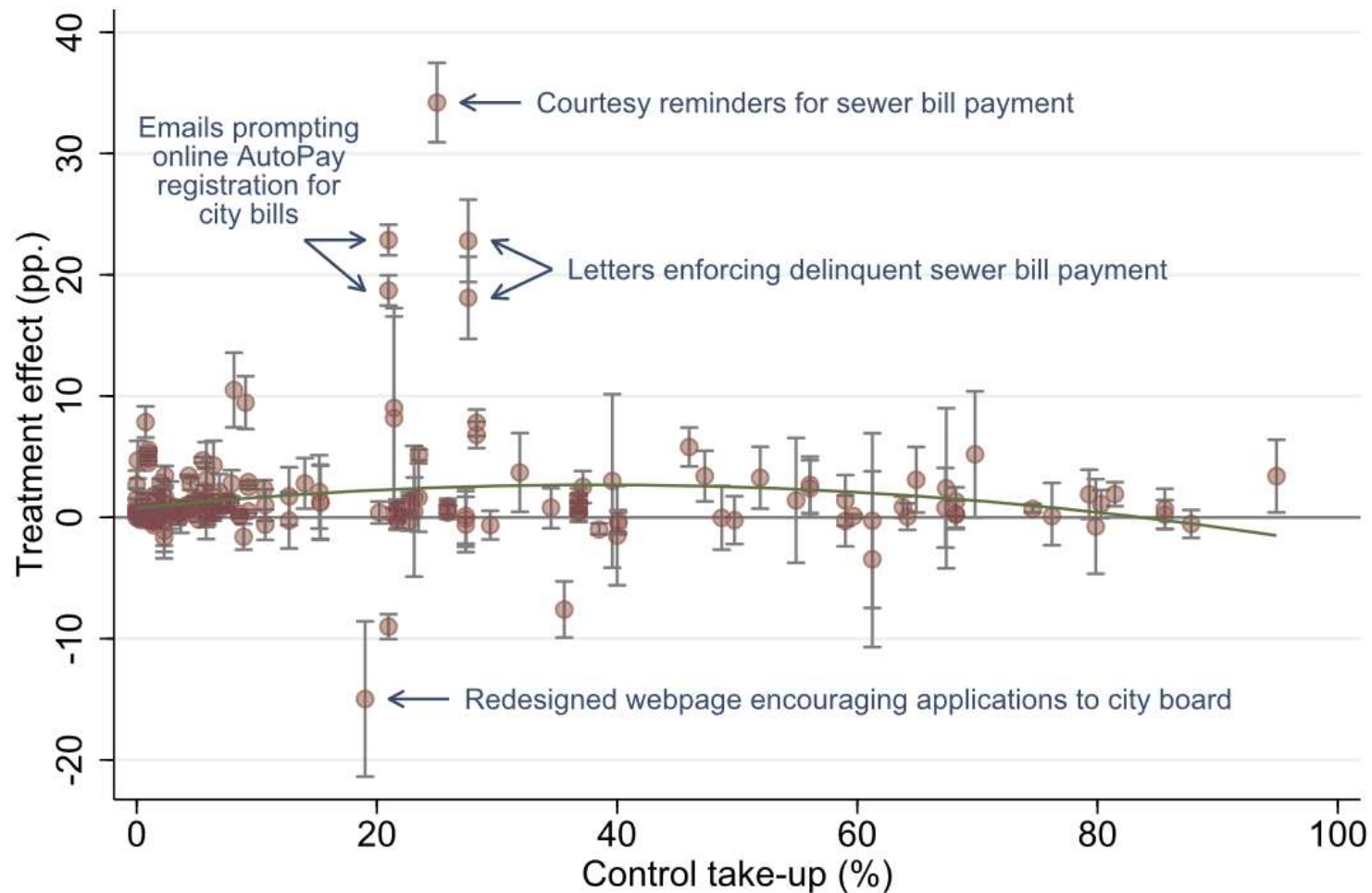|	
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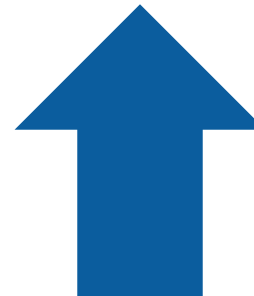
12% increase in vaccinations

Milkman, Beshears, Choi and Madrian (2011)

Hundreds of BI units are operating globally, many in govts 🐘🐘🐘 *(Thaler and Sunstein, 2008)*

CA: 28

US: 288

MX: 14

CO: 13

BR: 10

SE: 11

GB: 108

NL: 44
ES: 29
FR: 19
CH: 20
DE: 15
IT: 15

IL: 11

CN: 10

SG: 10

IN: 32

ZA: 11

AU: 39

- 🔴 100 or more teams
- 🟠 10 to 99 teams
- 🟡 1 to 9 teams
- ⚪ No known teams

The average effects of govt BI units' interventions aren't huge (1.39 pp, or 8%)

FIGURE 3.—This figure plots the treatment effect relative to control group take-up for each nudge with the quadratic fit. Some of the outliers are labeled for context. Error bars show 95% confidence intervals.

But leveraging BI to promote policy goals is *very* cost effective...

Retirement Savings (Increase in Contributions for the Year per $1 Spent)

Active-Decision Nudge (Carroll et al., 2009)	$100
Danish Tax Incentives (Chetty et al., 2014)	$2.77
Retirement Savings Information (Duflo & Saez, 2003)	$14.58
Matching Contributions: 20% (Duflo et al., 2006)	$5.59
Matching Contributions: 50% (Duflo et al., 2006)	$2.97
U.S. Tax Incentives (Duflo et al., 2007)	$1.24

College Enrollment (Increase in Students Enrolled per $1,000 Spent)

Form-Streamlining Nudge (Bettinger et al., 2012)	1.53
Monthly Stipends (Dynarski, 2003)	0.0351
Monetary Subsidies (Long, 2004a)	0.0051
Tax Credits (Long, 2004b; Bulman & Hoxby, 2015)	Negligible

Benartzi et al. (2017)

■ Nudge   □ Traditional Intervention (financial incentives, educational programs, or some combination of the two)

But leveraging BI to promote policy goals is *very* cost effective...

Retirement Savings

Active-Decision N
(Carroll et al., 200

Danish Tax Incent
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(Duflo & Saez, 20

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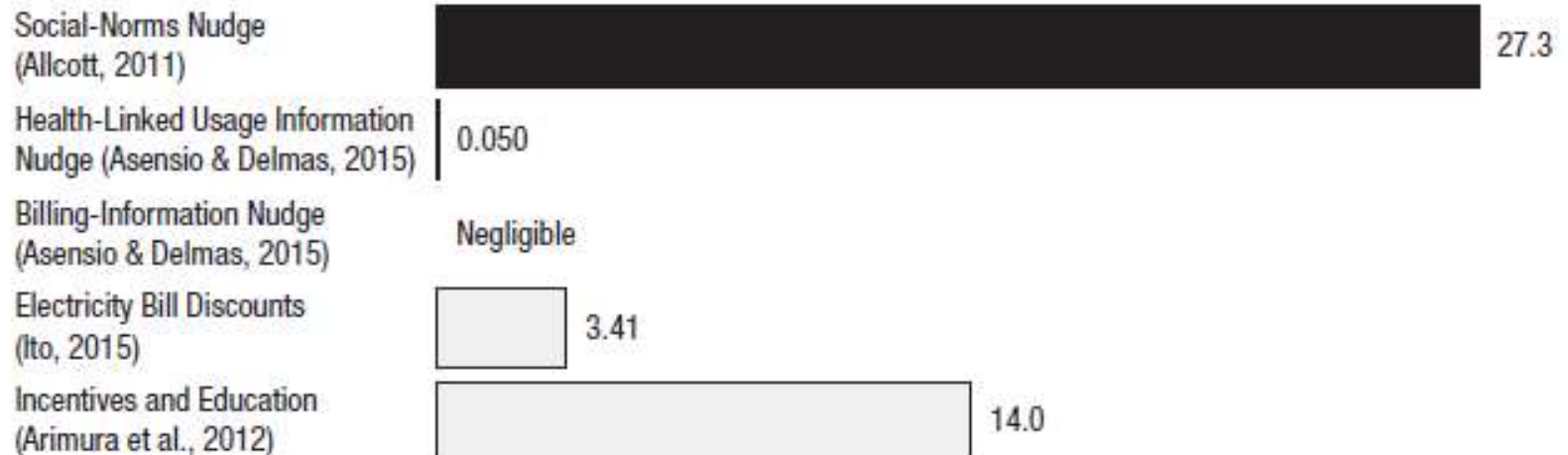
College Enrollment

Form-Streamlinin
(Bettinger et al., 2

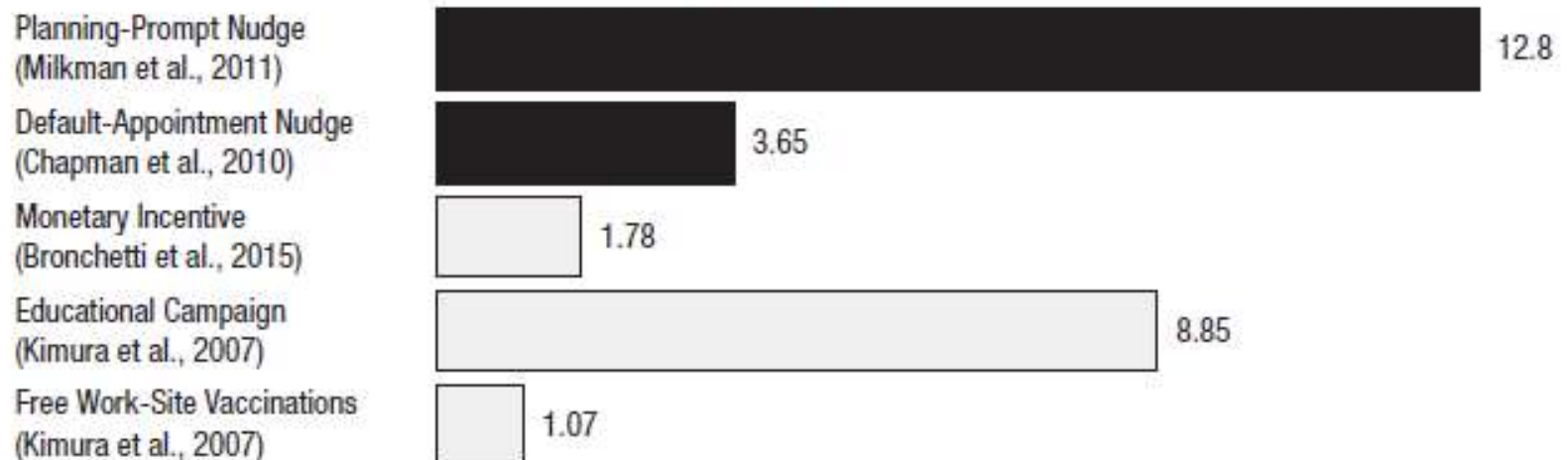Monthly Stipends
(Dynarski, 2003)

Monetary Subsidi
(Long, 2004a)

Tax Credits
(Long, 2004b;
Bulman & Hoxby, 2015)

Energy Conservation (Increase in kWh Saved per $1 Spent)

Social-Norms Nudge (Allcott, 2011) — 27.3

Health-Linked Usage Information Nudge (Asensio & Delmas, 2015) — 0.050

Billing-Information Nudge (Asensio & Delmas, 2015) — Negligible

Electricity Bill Discounts (Ito, 2015) — 3.41

Incentives and Education (Arimura et al., 2012) — 14.0

Influenza Vaccinations (Increase in Adults Vaccinated per $100 Spent)

Planning-Prompt Nudge (Milkman et al., 2011) — 12.8

Default-Appointment Nudge (Chapman et al., 2010) — 3.65

Monetary Incentive (Bronchetti et al., 2015) — 1.78

Educational Campaign (Kimura et al., 2007) — 8.85

Free Work-Site Vaccinations (Kimura et al., 2007) — 1.07

Benartzi et al. (2017)
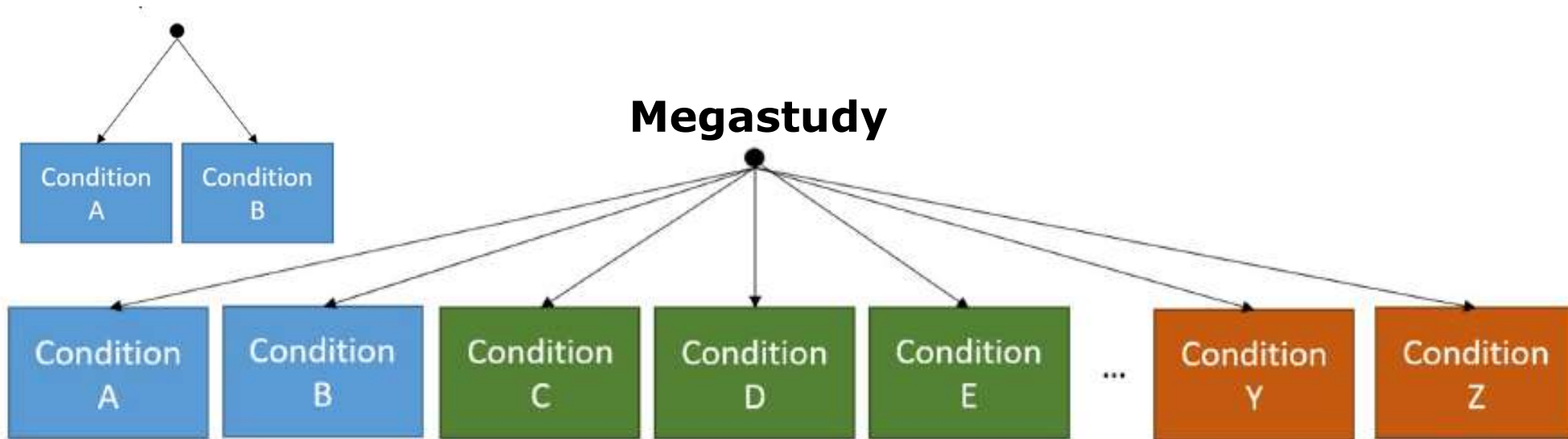
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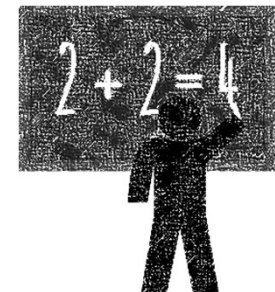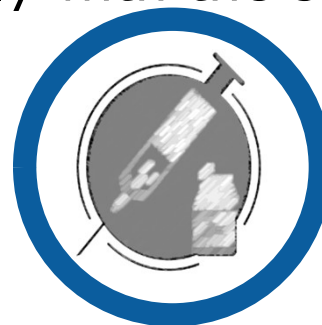
How can we efficiently assess which behavioral insights are most useful?

Traditional Field Experiment

Megastudy

A megastudy is a ***very large*** field experiment in which many smaller, sub-experiments are run synchronously with the same dependent variable

Milkman et al. (2021); Duckworth and Milkman (2022)

Two megastudies testing the best vaccination messaging in fall '20

Patients with doctor's appointments (N=47,306)

Tested 19 different text-messaging strategies

Sample of What Was Tested

- *"Here's a joke about the flu"*
- *"Get a shot to protect other people"*
- *"A shot has been reserved for you"*

Pharmacy patients (N=689,693)

Tested 22 different text messaging strategies

Sample of What Was Tested

- *"Commit to getting a flu shot"*
- *"More Americans are getting flu shots than in the past"*
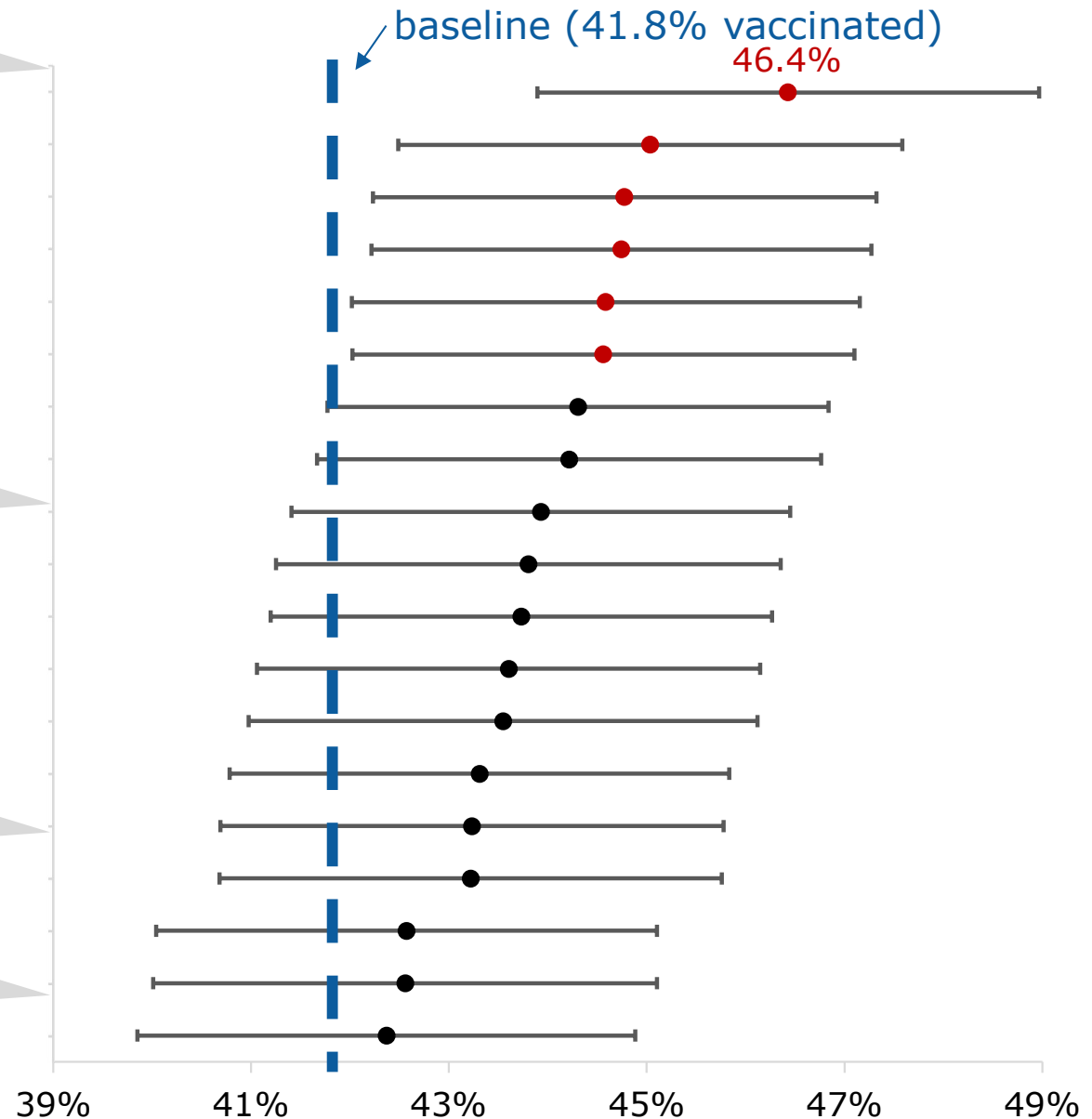- *"A shot is waiting for you"*

Milkman et al. (2021; 2022)
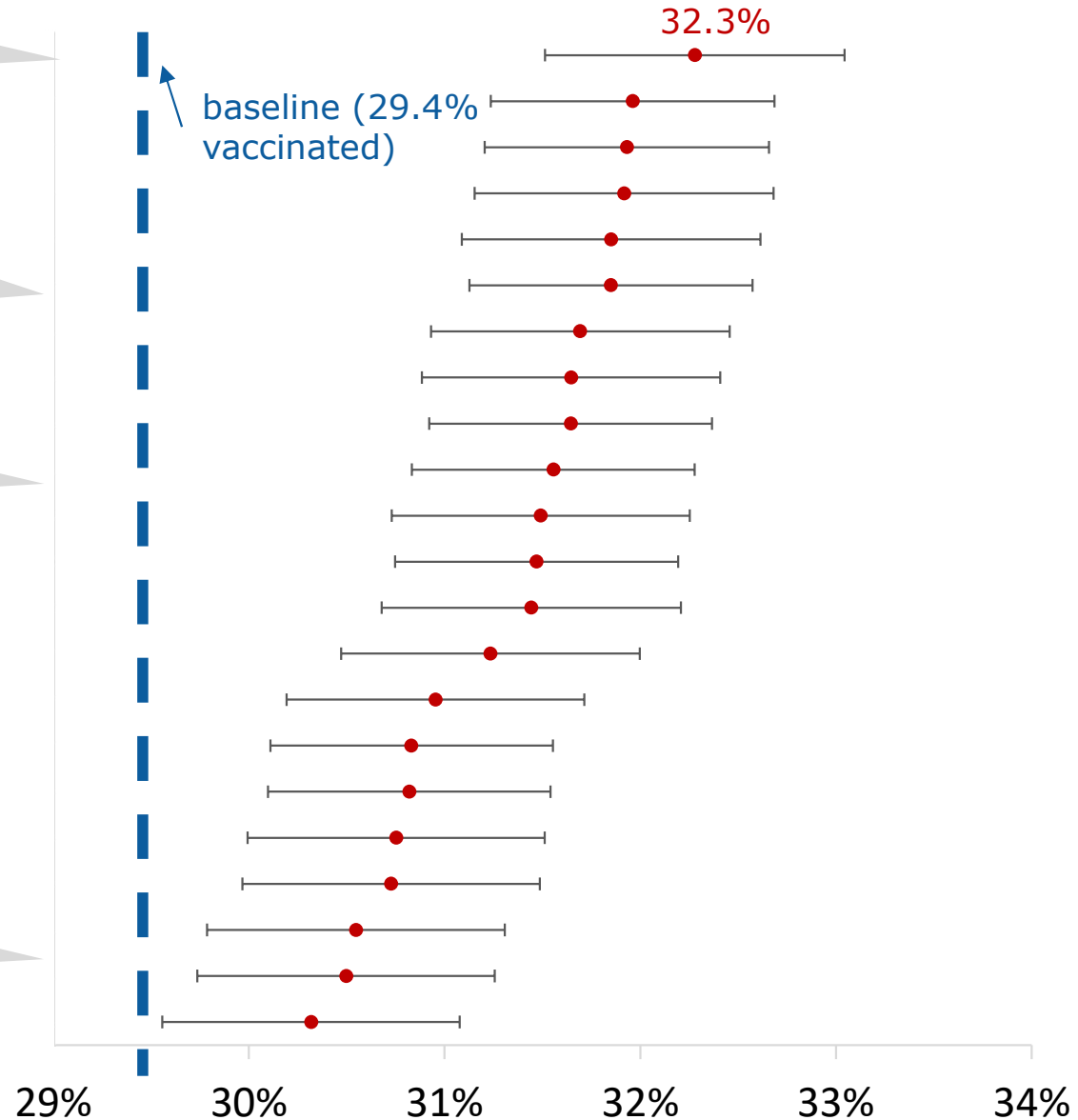
The power of ownership language extended to COVID-19 vax take-up

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Behavioural nudges increase COVID-19 vaccinations

Hengchen Dai, Silvia Saccardo, Maria A. Han, Lily Roh, Naveen Raja, Sitaram Vangala, Hardikkumar Modi, Shital Pandya, Michael Sloyan & Daniel M. Croymans ✉

Abstract

Enhancing vaccine uptake is a critical public health challenge[1]. Overcoming vaccine hesitancy[2,3] and failure to follow through on vaccination intentions[3] requires effective communication strategies[3,4]. Here we present two sequential randomized controlled trials to test the effect of behavioural interventions on the uptake of COVID-19 vaccines. We designed text-based reminders that make vaccination salient and easy, and delivered them to participants drawn from a healthcare system one day (first randomized controlled trial) ($n = 93,354$ participants; clinicaltrials number NCT04800965) and eight days (second randomized controlled trial) ($n = 67,092$ individuals; clinicaltrials number NCT04801524) after they received a notification of vaccine eligibility. The first reminder boosted appointment and vaccination rates within the healthcare system by 6.07 (84%) and 3.57 (26%) percentage points, respectively; the second reminder increased those outcomes by 1.65 and 1.06 percentage points, respectively. The first reminder had a greater effect when it was designed to make participants feel ownership of the vaccine dose. However, we found no evidence that combining the first reminder with a video-based information intervention designed to address vaccine hesitancy heightened its effect. We performed online studies ($n = 3,181$ participants) to examine vaccination intentions, which revealed patterns that diverged from those of the first randomized controlled trial; this underscores the importance of pilot-testing interventions in the field. Our findings inform the design of behavioural nudges for promoting health decisions[5], and highlight the value of making vaccination easy and inducing feelings of ownership over vaccines.

> The…[text] reminder had a greater effect when it was designed to **make participants feel ownership of the vaccine dose.**

Dai, Saccardo et al. (2021)

How do free rides and text reminders affect COVID-19 vaccination decisions?

Milkman et al. (2023). How do free rides and text reminders affect COVID-19 vaccination decisions? A 3.5-million person megastudy with pharmacy patients. *Working Paper.*
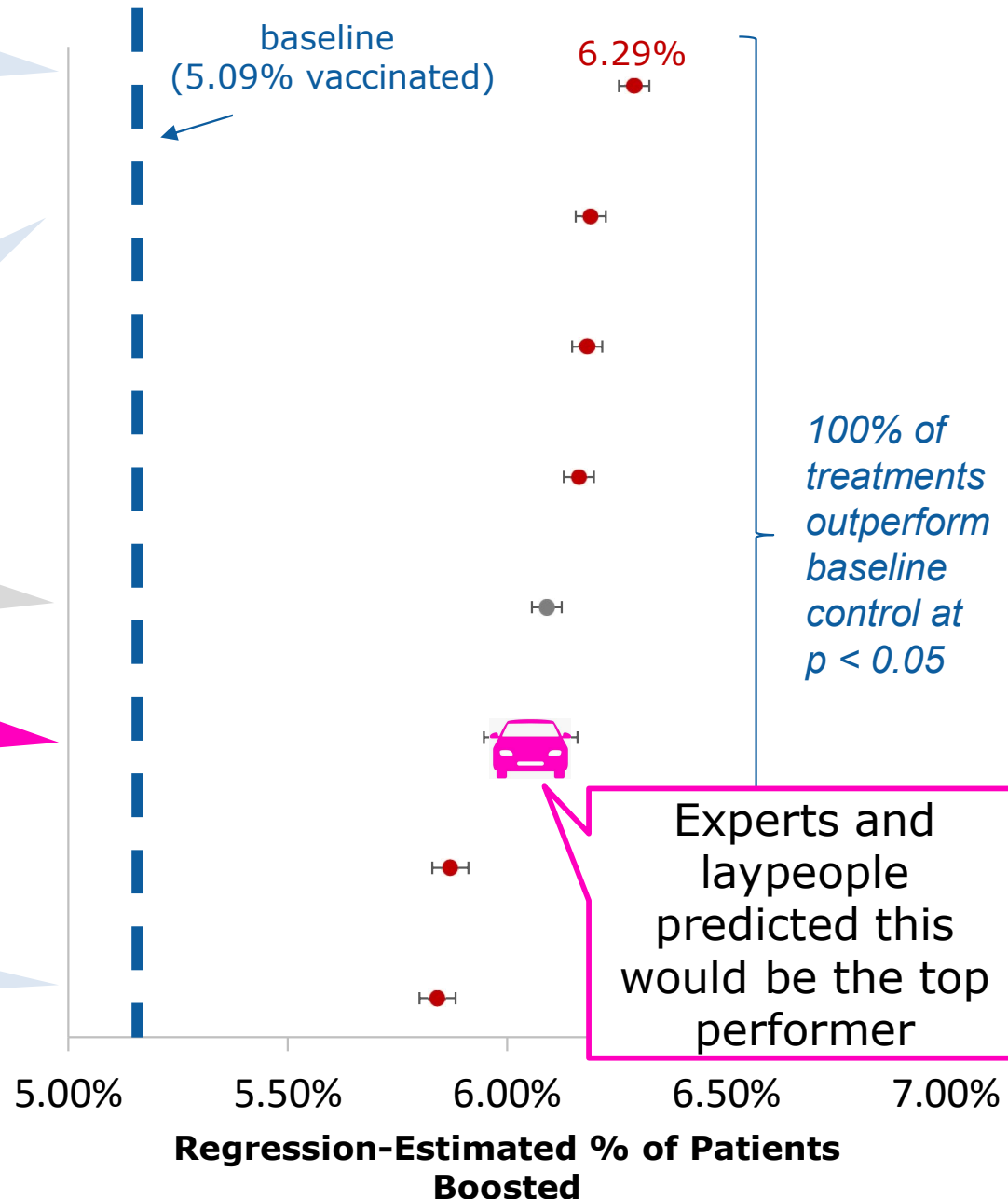
Did we increase booster rates?

Many find it helps to make a plan. Would Tuesday at 2:00 PM at 123 Main Street work?

CDC data show significant current COVID transmission in Philadelphia County. Infection rates are in the top 30% in the US.

Updated COVID boosters are recommended to help prevent infection & severe illness. Your booster is waiting for you.

A free ride to and from the pharmacy has been reserved for your booster appointment.

Here are some important facts about why boosters are recommended: www.CDC.gov

baseline
(5.09% vaccinated)

6.29%

100% of treatments outperform baseline control at $p < 0.05$

Experts and laypeople predicted this would be the top performer

Regression-Estimated % of Patients Boosted

5.00%   5.50%   6.00%   6.50%   7.00%

whiskers depict +/-95% CIs

Conclusions

✓ Behavioral insights **can** help address pressing policy challenges

✓ Behavioral insights are cost effective to use

✓ **Megastudies** are useful for identifying the best BIs (and EIs) for solving policy problems
  – More such tests in government would be valuable

Thank You

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