

# Nudging Vaccination: Two Megastudies

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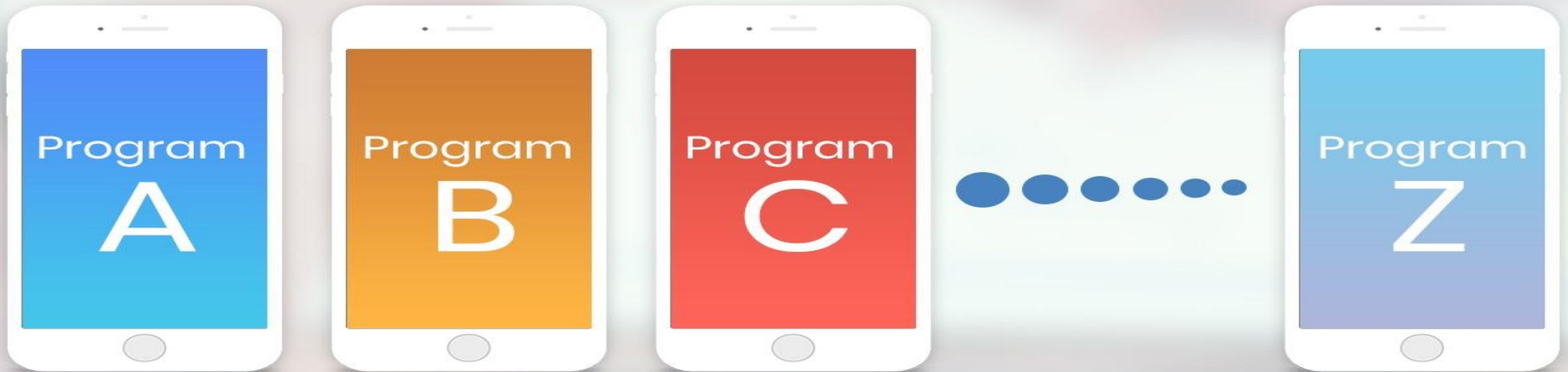


**VACCINATION ACCEPTANCE  
RESEARCH NETWORK**

 **SABIN VACCINE INSTITUTE**



## 2 Megastudies to Test What Messages Promote Vaccination



# A Megastudy with Penn Medicine & Geisinger

(Including 47,306 patients with healthy check ups)

## Experimental Design

We tested 19 different text-messaging strategies

## A Sample of What We Tested

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

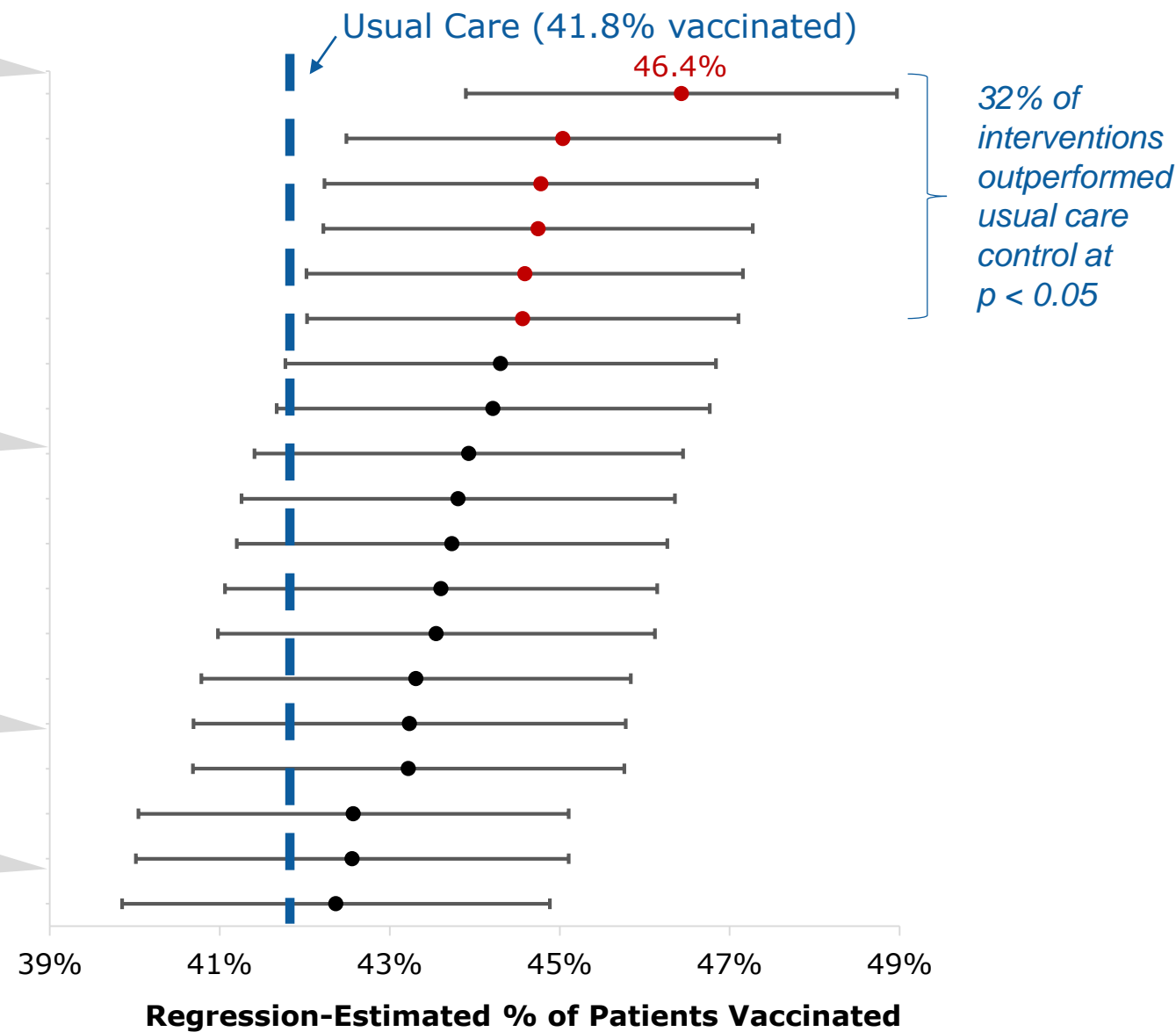
# Did we increase vaccination rates?

A flu vaccine has been reserved for you.

Dedicate your flu shot to a loved one.

Protect others by getting a flu shot.

Share a joke about the flu.



# Top Performing Intervention: Vaccine Reserved For You

## 72 Hours Before Appointment

John, this is a message from Penn Medicine about your upcoming appointment. Text & data rates apply. Reply stop to opt out at any time.

You have an appt w/ Dr. Smith on 10/01 @ 11:00am & it's flu season. A flu vaccine is available for you. Protect yourself & your family's health!

Look out for a vaccine reminder message before your appt. You can opt out of a reminder by texting back OPT OUT.

## 24 Hours Before Appointment

PENNMED: John, this is a reminder that a flu vaccine has been reserved for your appt with Dr. Smith.

Please ask your doctor for the shot to make sure you receive it.



# Takeaways

1. Two **reminder messages** encouraging people to ask for the flu shot and letting them know it was “**reserved for you**” boosted vaccination at doctors’ visits substantially (at nearly zero cost)
2. Interventions performed better when they were:
  - a. Framed as reminders to get flu shots that were already reserved for the patient
  - b. Congruent with the sort of communications patients expected to receive from their healthcare provider (i.e., not surprising, casual, or interactive)

# A Megastudy with Walmart Pharmacies

(Including 689,693 Walmart Pharmacy patients)



## Experimental Design

We tested 22 different text messaging strategies

## A Sample of What We Tested

- *"Commit to getting a flu shot"*
- *"Get a shot to protect family & friends"*
- *"A shot is waiting for you"*

Milkman et al. (2022). A 680,000-Person Megastudy of Nudges to Encourage Vaccination in Pharmacies. *Proceedings of the National Academy of Sciences*.

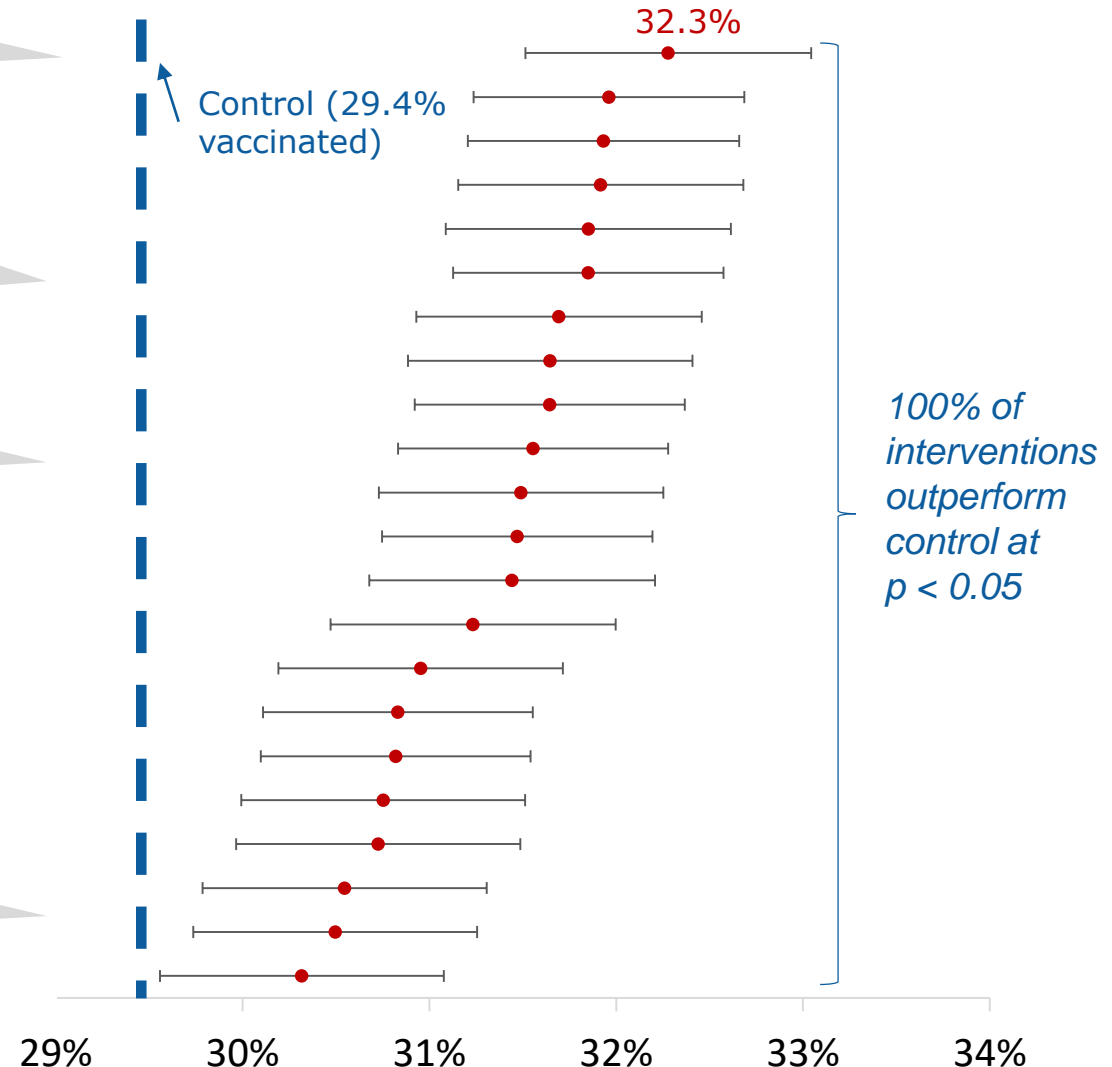
# Did we increase vaccination rates?

A flu shot is waiting for you at Walmart.

More Americans are getting flu shots than in the past.

Commit to getting a flu shot.

Do others a favor by getting the flu shot.



whiskers depict  $\pm 95\%$  CIs

Regression-Estimated % of Patients Vaccinated



# Top Performing Intervention: Flu Shot Waiting For You (2 Texts)

## Initial Text

WalmartRx - Hi Katherine! It's flu season & you can get a flu shot at Walmart. To help you remember, you'll receive another text in a few days. INFO = info, STOP = opt out. Flu vaccines prevent getting or spreading the flu.

## 3 Days Later

WalmartRx - Remember a flu shot is waiting for you at Walmart.

# Takeaways

1. Two reminder messages encouraging people to get the flu shot and letting them know it was **“waiting for you”** were our top performers, replicating a key takeaway from our first study
2. The key factors associated with the top performing messages at Walmart were:
  - a. Multiple messages (rather than a single message)
  - b. Suggesting the vaccine is already “waiting for you” at the pharmacy

# This Extends 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](#) 

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### Abstract

Enhancing vaccine uptake is a critical public health challenge<sup>1</sup>. Overcoming vaccine hesitancy<sup>2,3</sup> and failure to follow through on vaccination intentions<sup>3</sup> requires effective communication strategies<sup>3,4</sup>. 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<sup>5</sup>, 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). *Nature*.

# Thank You



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