ALTARUM
HEALTHCARE VALUE HUB

Welcome to:

NON-FINANCIAL PROVIDER INCENTIVES: LOOKING BEYOND PROVIDER PAYMENT REFORM

Support provided by
Robert Wood Johnson Foundation

www.HealthcareValueHub.org
@HealthValueHub

Welcome and Introduction

Lynn Quincy

Director, Healthcare Value Hub

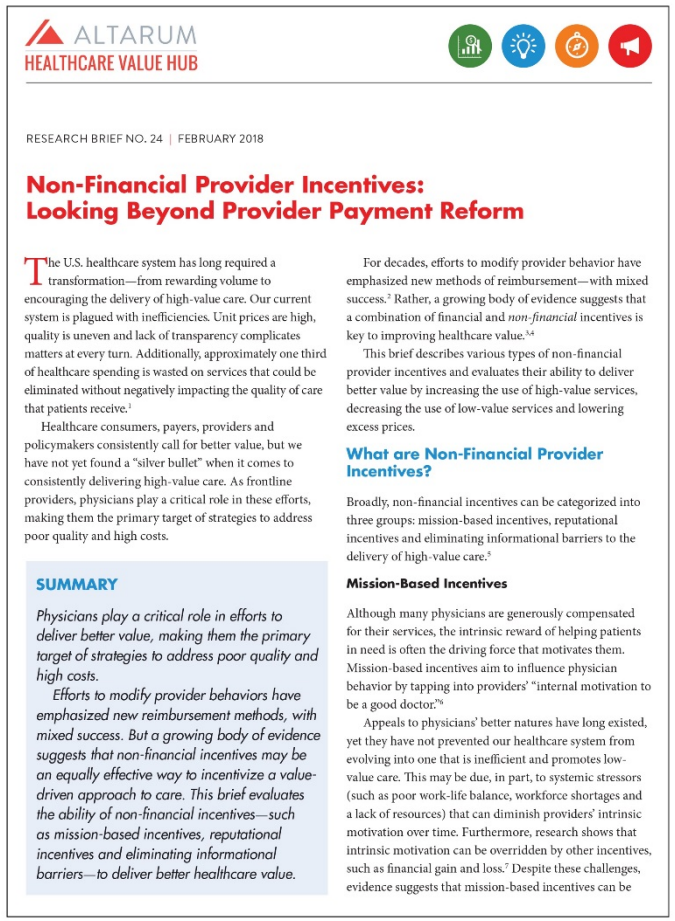
Housekeeping

- **Thank you for joining us today!**
- **All lines are muted until Q&A**
- **Webinar is being recorded**

Agenda

- **Welcome & Introduction**
  - **Lynn Quincy,** Altarum, Healthcare Value Hub
  - **Amanda Hunt,** Altarum, Healthcare Value Hub
- **Behavioral Insights to Improve Healthcare Quality**
  - **Daniella Meeker** & **Jason Doctor,** University of Southern California
- **Q & A**

Why Non-Financial Provider Incentives?



ALTARUM
HEALTHCARE VALUE HUB

RESEARCH BRIEF NO. 24 | FEBRUARY 2018

Non-Financial Provider Incentives: Looking Beyond Provider Payment Reform

The U.S. healthcare system has long required a transformation—from rewarding volume to encouraging the delivery of high-value care. Our current system is plagued with inefficiencies. Unit prices are high, quality is uneven and lack of transparency complicates matters at every turn. Additionally, approximately one third of healthcare spending is wasted on services that could be eliminated without negatively impacting the quality of care that patients receive.[1]

Healthcare consumers, payers, providers and policymakers consistently call for better value, but we have not yet found a "silver bullet" when it comes to consistently delivering high-value care. As frontline providers, physicians play a critical role in these efforts, making them the primary target of strategies to address poor quality and high costs.

SUMMARY

Physicians play a critical role in efforts to deliver better value, making them the primary target of strategies to address poor quality and high costs.

Efforts to modify provider behaviors have emphasized new reimbursement methods, with mixed success. But a growing body of evidence suggests that non-financial incentives may be an equally effective way to incentivize a value-driven approach to care. This brief evaluates the ability of non-financial incentives—such as mission-based incentives, reputational incentives and eliminating informational barriers—to deliver better healthcare value.

For decades, efforts to modify provider behavior have emphasized new methods of reimbursement—with mixed success.[2] Rather, a growing body of evidence suggests that a combination of financial and *non-financial* incentives is key to improving healthcare value.[3,4]

This brief describes various types of non-financial provider incentives and evaluates their ability to deliver better value by increasing the use of high-value services, decreasing the use of low-value services and lowering excess prices.

What are Non-Financial Provider Incentives?

Broadly, non-financial incentives can be categorized into three groups: mission-based incentives, reputational incentives and eliminating informational barriers to the delivery of high-value care.[5]

Mission-Based Incentives

Although many physicians are generously compensated for their services, the intrinsic reward of helping patients in need is often the driving force that motivates them. Mission-based incentives aim to influence physician behavior by tapping into providers' "internal motivation to be a good doctor."[6]

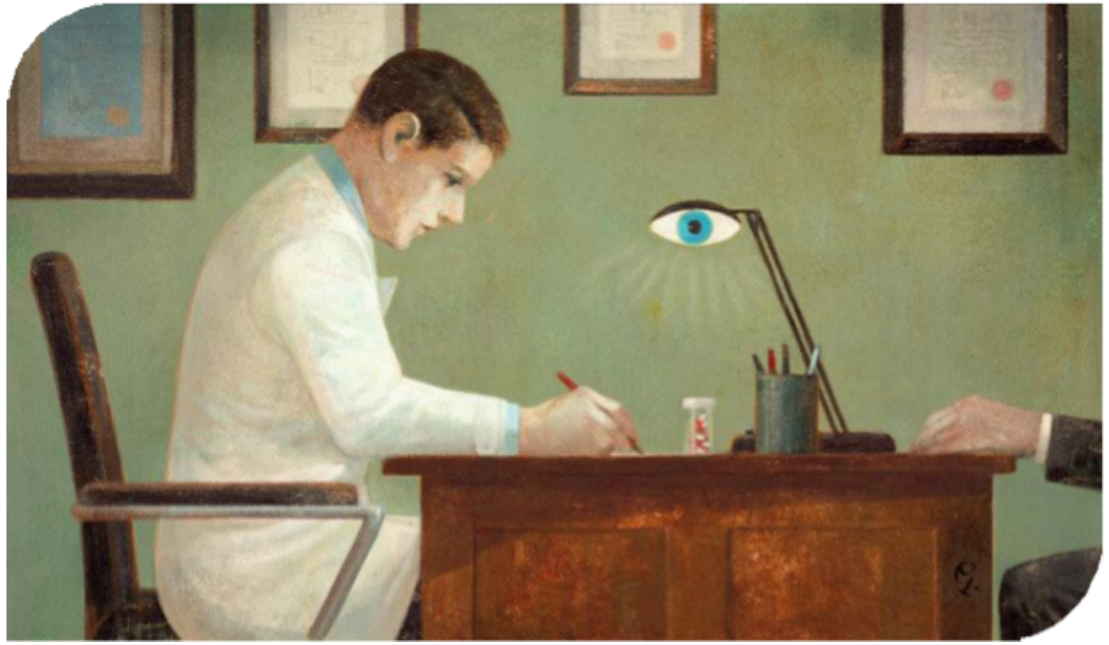
Appeals to physicians' better natures have long existed, yet they have not prevented our healthcare system from evolving into one that is inefficient and promotes low-value care. This may be due, in part, to systemic stressors (such as poor work-life balance, workforce shortages and a lack of resources) that can diminish providers' intrinsic motivation over time. Furthermore, research shows that intrinsic motivation can be overridden by other incentives, such as financial gain and loss.[7] Despite these challenges, evidence suggests that mission-based incentives can be

- Financial incentives ALONE have had mixed success.
- Non-financial provider incentives can be powerful – particularly when used in combination.
- Greatest behavioral change will likely result from an informed combination of financial and non-financial incentives.

Hub Resources: www.HealthcareValueHub.org/Non-Financial-Incentives

What is a Non-Financial Provider Incentive?

Non-Financial Provider Incentives: A Taxonomy	
Mission-based incentives:	*Tapping Professional Ethos*
	Establishing Shared Purpose
Reputational incentives	*Internal Peer Comparisons*
	Public Reporting
Eliminate informational barriers	*Comparative-effectiveness and cost-effectiveness research where gaps exist*
	"Just-in-time" information: clinical decision support and computerized order entry



Behavioral insights to improve healthcare quality

Daniella Meeker, PhD

&

Jason N. Doctor, PhD

University of Southern California

February 16th, 2018

Overview

History of non-financial incentives

Peer comparison

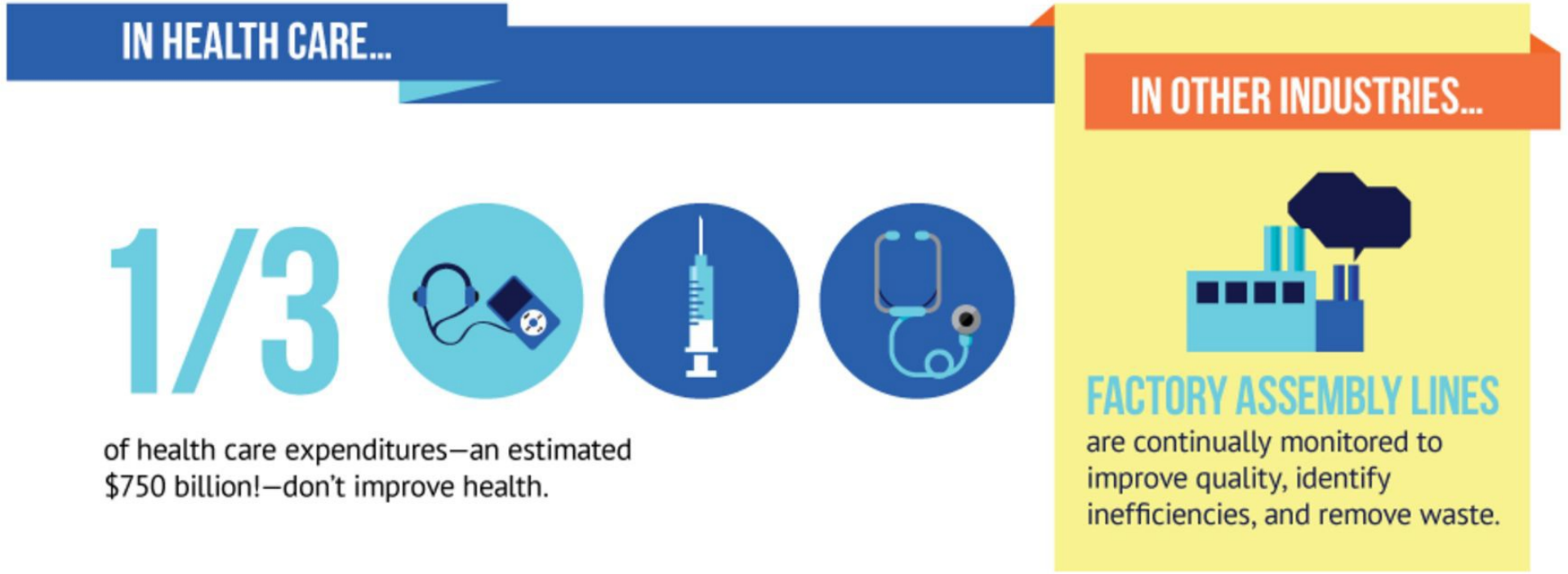
Justification

Public commitment

Next steps in our research

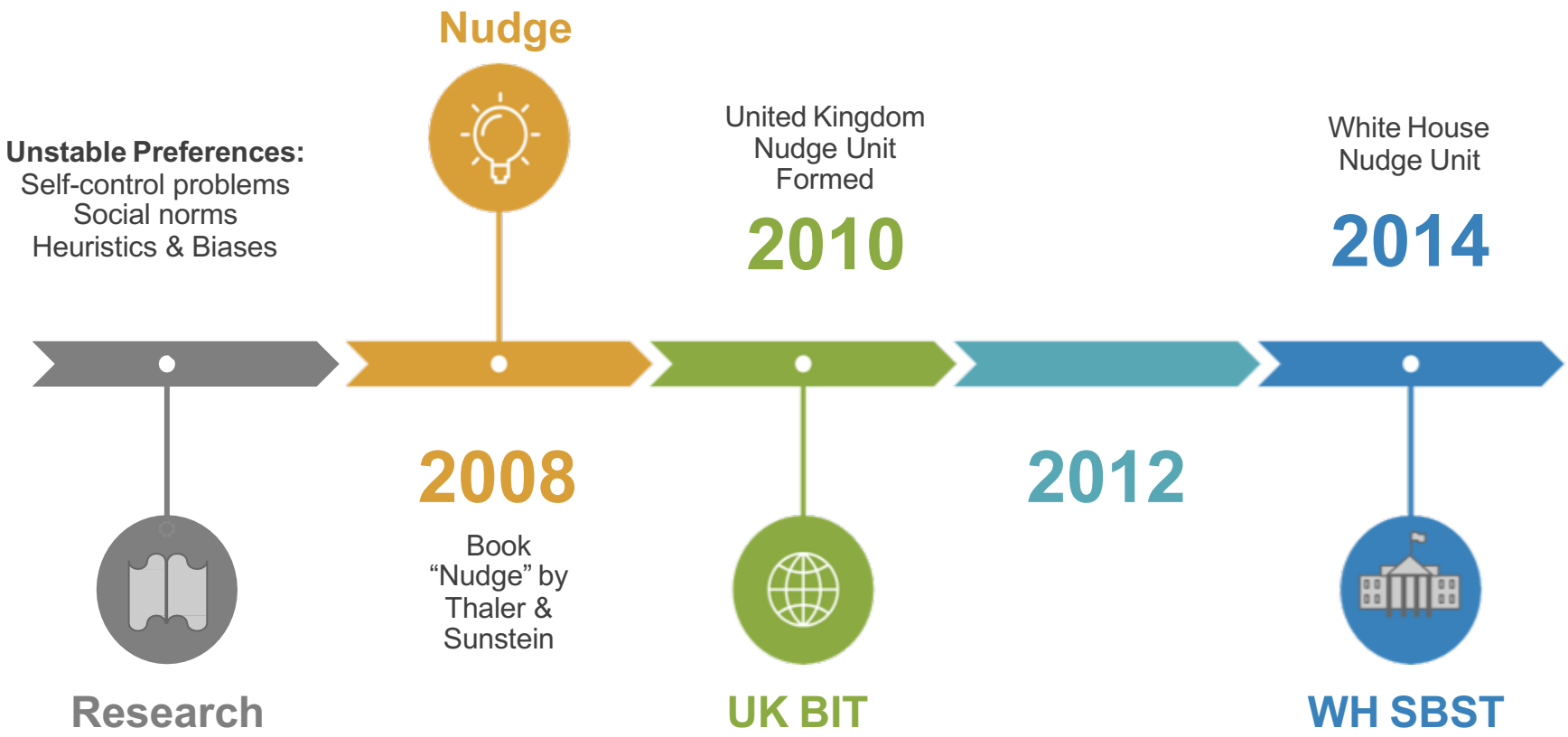
How our work fits

Non-Financial Provider Incentives	
Mission-based incentives:	Tapping into providers' professional ethos
	Establishing shared purpose
Reputational incentives:	Internal peer comparisons
	Public reporting
Eliminate informational barriers:	Comparative-effectiveness and cost-effectiveness research where gaps exist
	“Just-in-time” information: clinical decision support and computerized order entry



What policies can improve the quality of decisions that are produced in healthcare?

History of non-financial incentives



Behavioral Insights

Peer Comparison

We look to others for how we should act.

Justifications

We want others to approve of our behavior.

Public Commitments

Commitments bind our future self to desires our present self wants to fulfill.

Decision Fatigue

Decision making gets worse with repeated decisions.

Choice Partitioning

We spread our choices over salient consumption options.

Availability

The more easily we can call some scenario to mind, the more probable we will find it to be.

12.6%

of outpatient visits result in an antibiotic prescription

50%

of these are in appropriate

34,000,000

inappropriate outpatient prescriptions per year

JAMA The Journal of the American Medical Association

ORIGINAL CONTRIBUTION

Effect of Behavioral Interventions on Inappropriate Antibiotic Prescribing Among Primary Care Practices

A Randomized Clinical Trial

Daniella Meeker, PhD; Jeffrey A. Linder, MD, MPH; Craig R. Fox, PhD; Mark W. Friedberg, MD, MPP; Stephen D. Persell, MD, MPH; Noah J. Goldstein, PhD; Tara K. Knight, PhD; Joel W. Hay, PhD; Jason N. Doctor, PhD

Methods: Enrollment

- ***Invited:*** 355 clinicians

- ***Enrolled:*** 248 (70%)
  - Consent
  - Education
  - Practice-specific orientation to intervention
  - Honorarium

Methods: Primary Outcome

- ***Antibiotic prescribing for non-antibiotic-appropriate diagnoses***
  - Non-specific upper respiratory infections
  - Acute bronchitis
  - Influenza

- ***Excluded:*** chronic lung disease, concomitant infection, immunosuppression

- ***Data Sources:*** EHR and billing data

Results: Clinicians (N = 248)

	Control	Suggested Alternatives	Accountable Justification	Peer Comparison
Age, mean	47	49	48	48
			%	
Female	48	68	61	61
Clinician Type				
Physician	81	79	81	80
PA or NP	19	21	19	20

Results: Visits (N = 16,959)

	Control	Suggested Alternatives	Accountable Justification	Peer Comparison
Age, mean	49	47	48	46
			%	
Female	65	70	66	68
White	88	86	88	87
Latino	35	32	30	36
Private insurance	60	59	58	58

1.

Peer Comparison

We look to others for how we should act.

Intervention 3: Peer Comparison

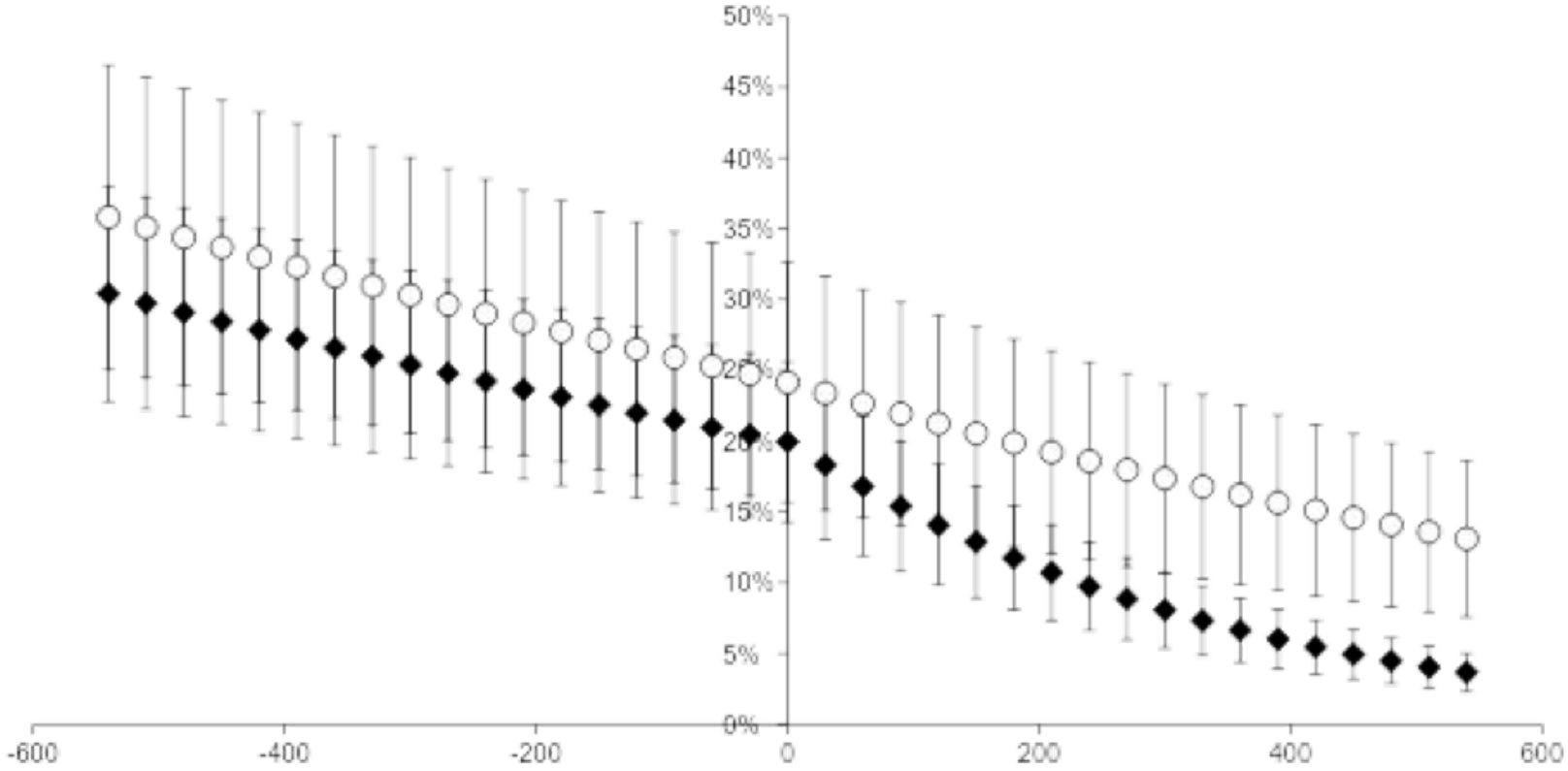
"You are a Top Performer"

You are in the top 10% of clinicians. You wrote 0 prescriptions out of 21 acute respiratory infection cases that did not warrant antibiotics.

"You are not a Top Performer"

Your inappropriate antibiotic prescribing rate is 15%. Top performers' rate is 0%. You wrote 3 prescriptions out of 20 acute respiratory infection cases that did not warrant antibiotics.

Main Results: Peer Comparison



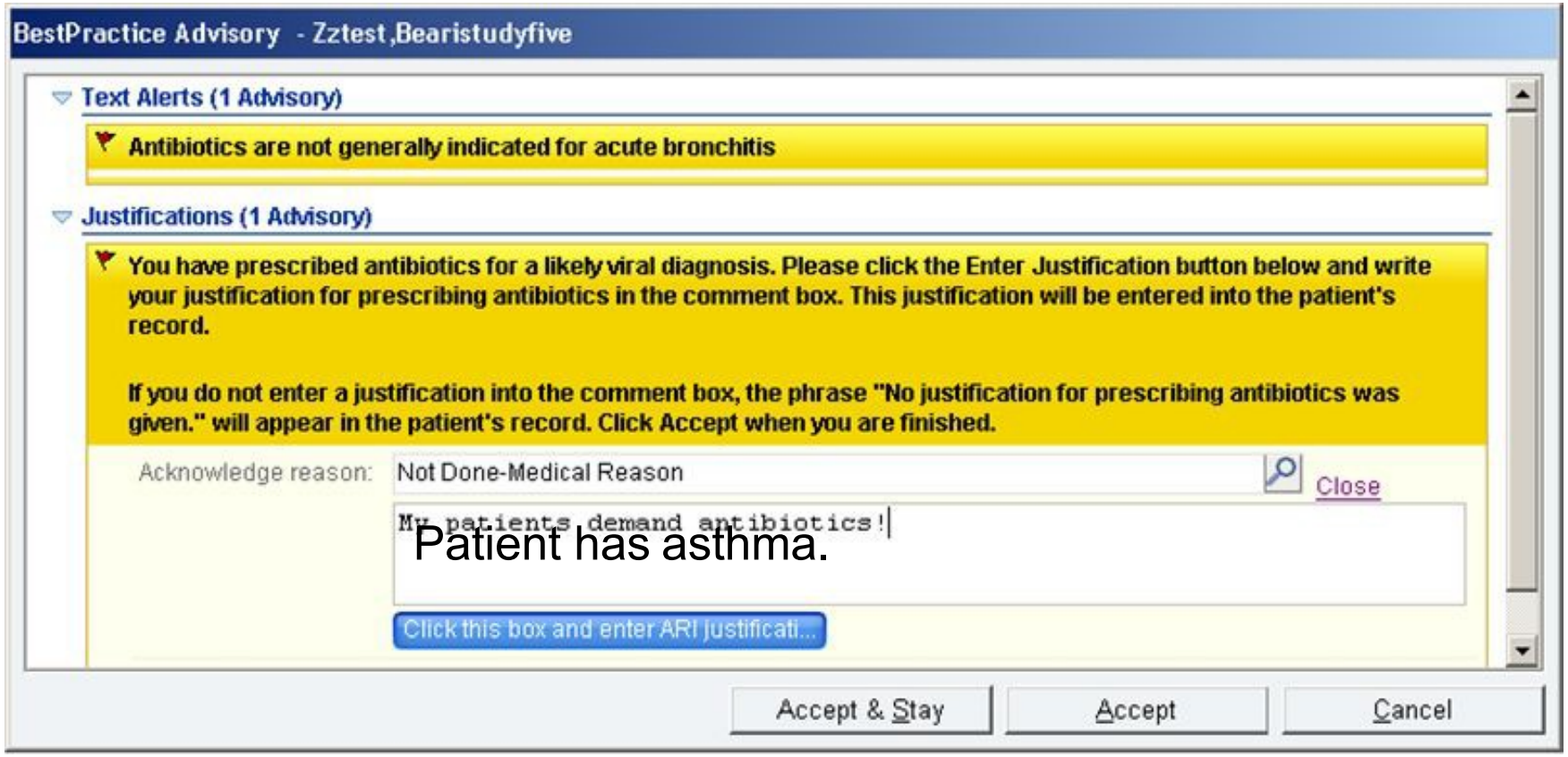
p = <.001

2.

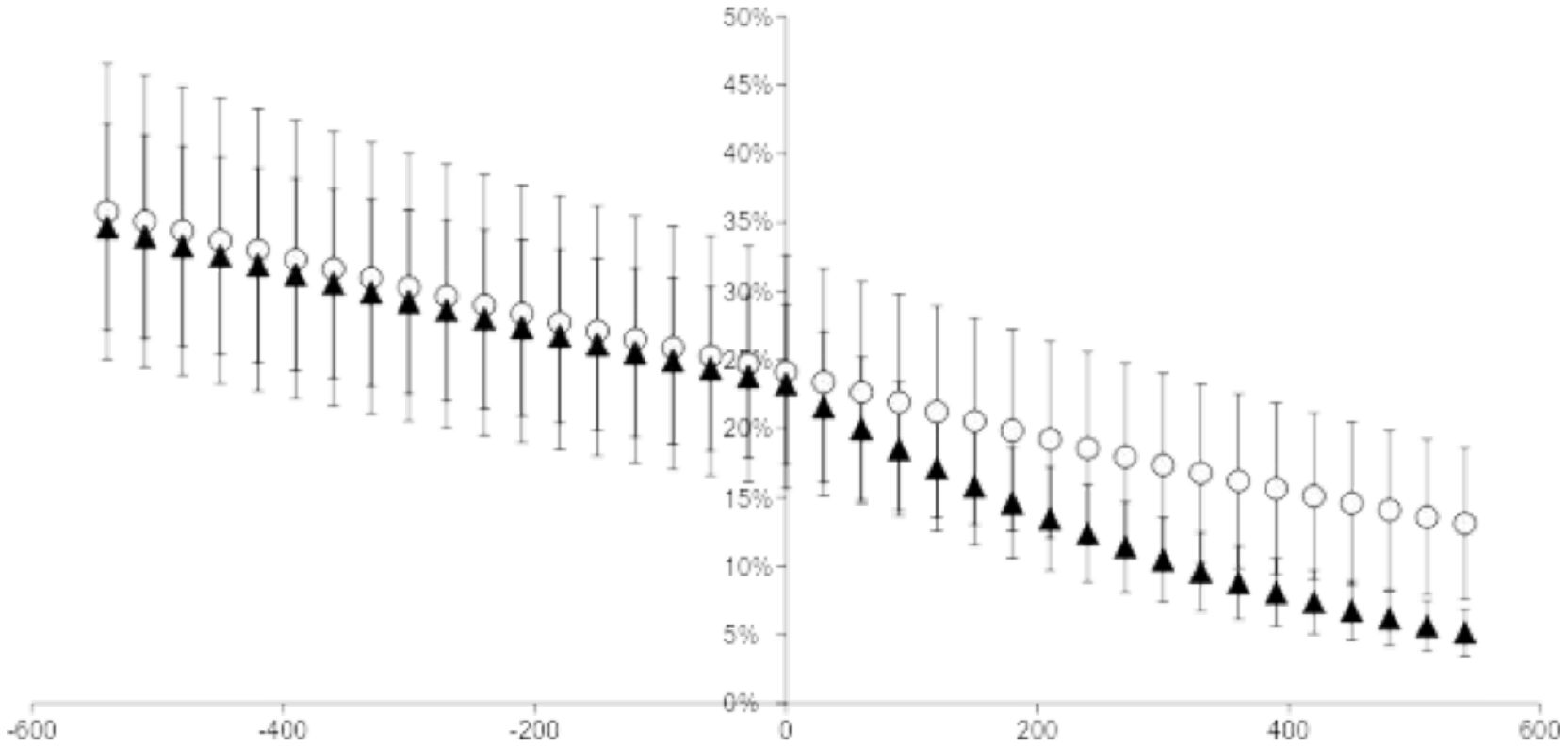
Justifications

We want others to approve of our behavior.

Intervention 2: Accountable Justification



Main Results: Justification



$p < .001$

Persistence

- Evaluated prescribing for 12 months after interventions were turned off
- Difference of differences comparing 18-month treatment period to 12-month follow-up period

Persistence of Effects

Letters

RESEARCH LETTER

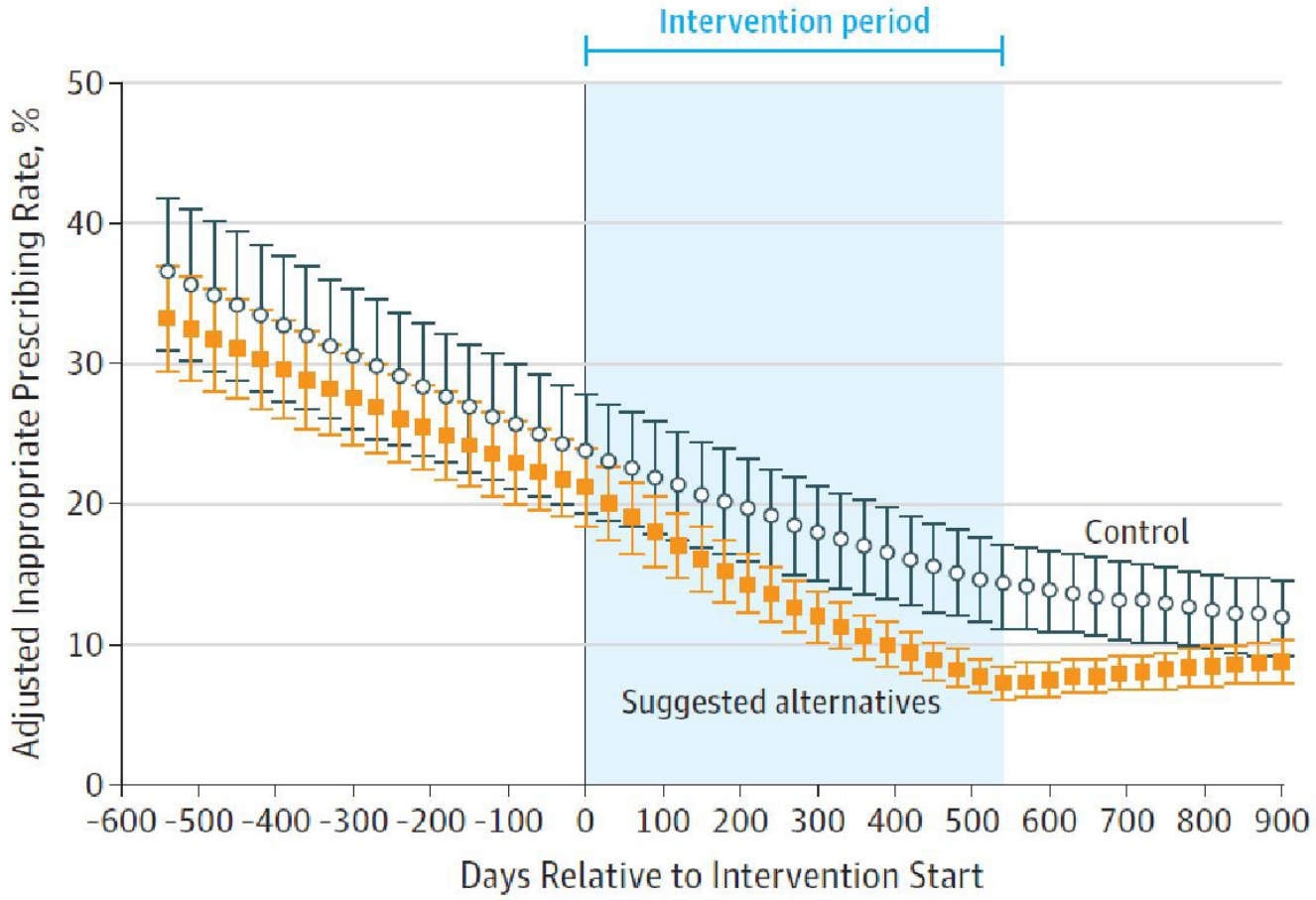
Effects of Behavioral Interventions on Inappropriate Antibiotic Prescribing in Primary Care 12 Months After Stopping Interventions

Inappropriate antibiotic prescribing contributes to antibiotic resistance and leads to adverse events.[1] A cluster-randomized trial of 3 behavioral interventions[2] intended to reduce inappropriate prescribing found that 2 of the 3 interventions were effective.[3] This study examines the persistence of effects 12 months after stopping the interventions.

Methods | We randomized 47 primary care practices in Boston, Massachusetts, and Los Angeles, California, and

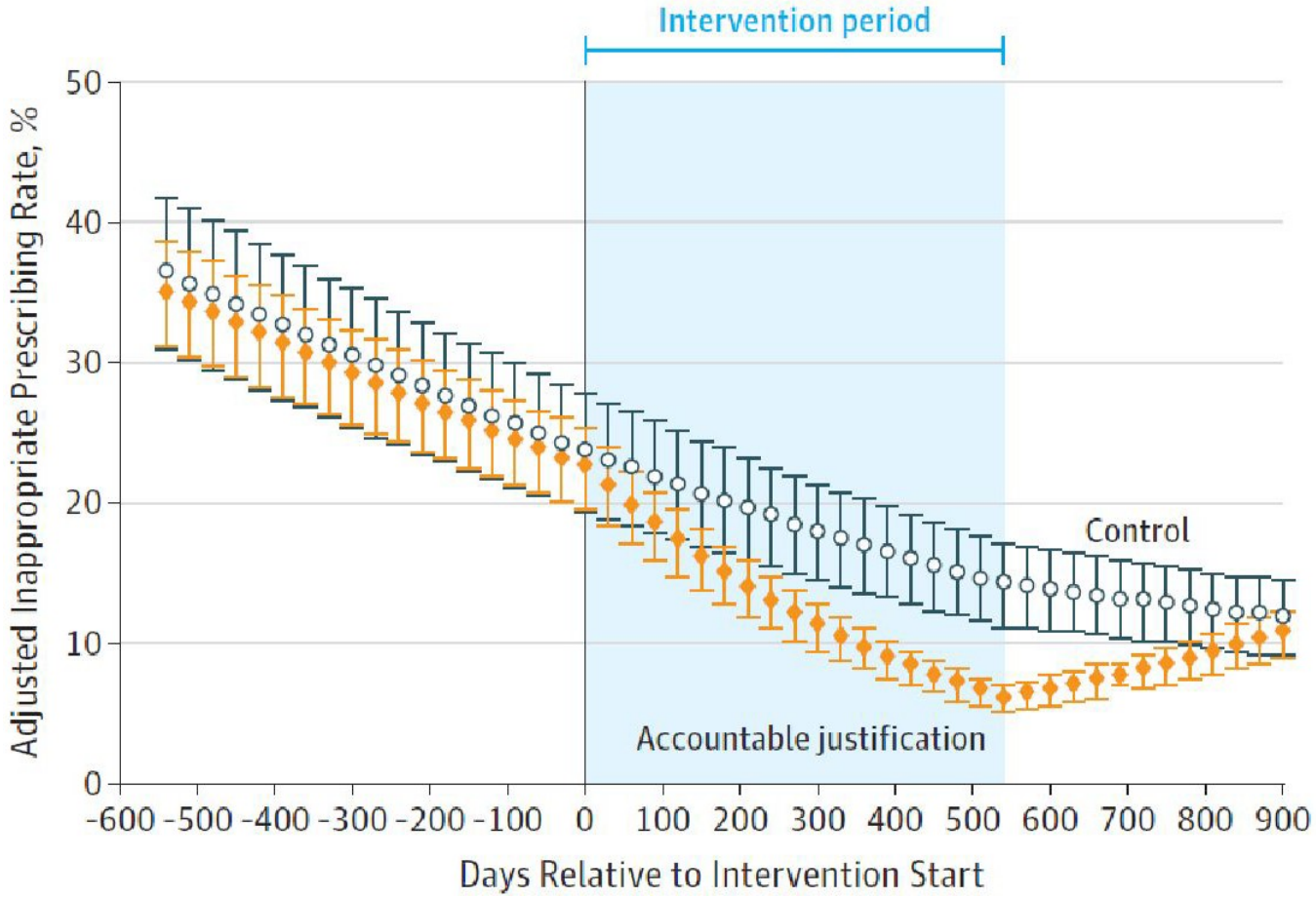
Results | There were 14 753 visits for antibiotic-inappropriate ARIs during the baseline period, 16 959 during the intervention period, and 7489 during the postintervention period. During the postintervention period, the rate of inappropriate antibiotic prescribing decreased in control clinics from 14.2% to 11.8% (absolute difference, −2.4%); increased from 7.4% to 8.8% (absolute difference, 1.4%) for suggested alternatives (difference-in-differences, 3.8% [95% CI, −10.3% to 17.9%]; $P = .55$); increased from 6.1% to 10.2% (absolute difference, 4.1%) for accountable justification (difference-in-differences, 6.5 [95% CI, 4.2% to 8.8%]; $P < .001$); and increased from 4.8% to 6.3% (absolute difference, 1.5%) for peer comparison (difference-in-differences, 3.9% [95% CI, 1.1% to 6.7%]; $P < .005$) (Figure). During the postintervention pe-

Persistence: Suggested Alternatives



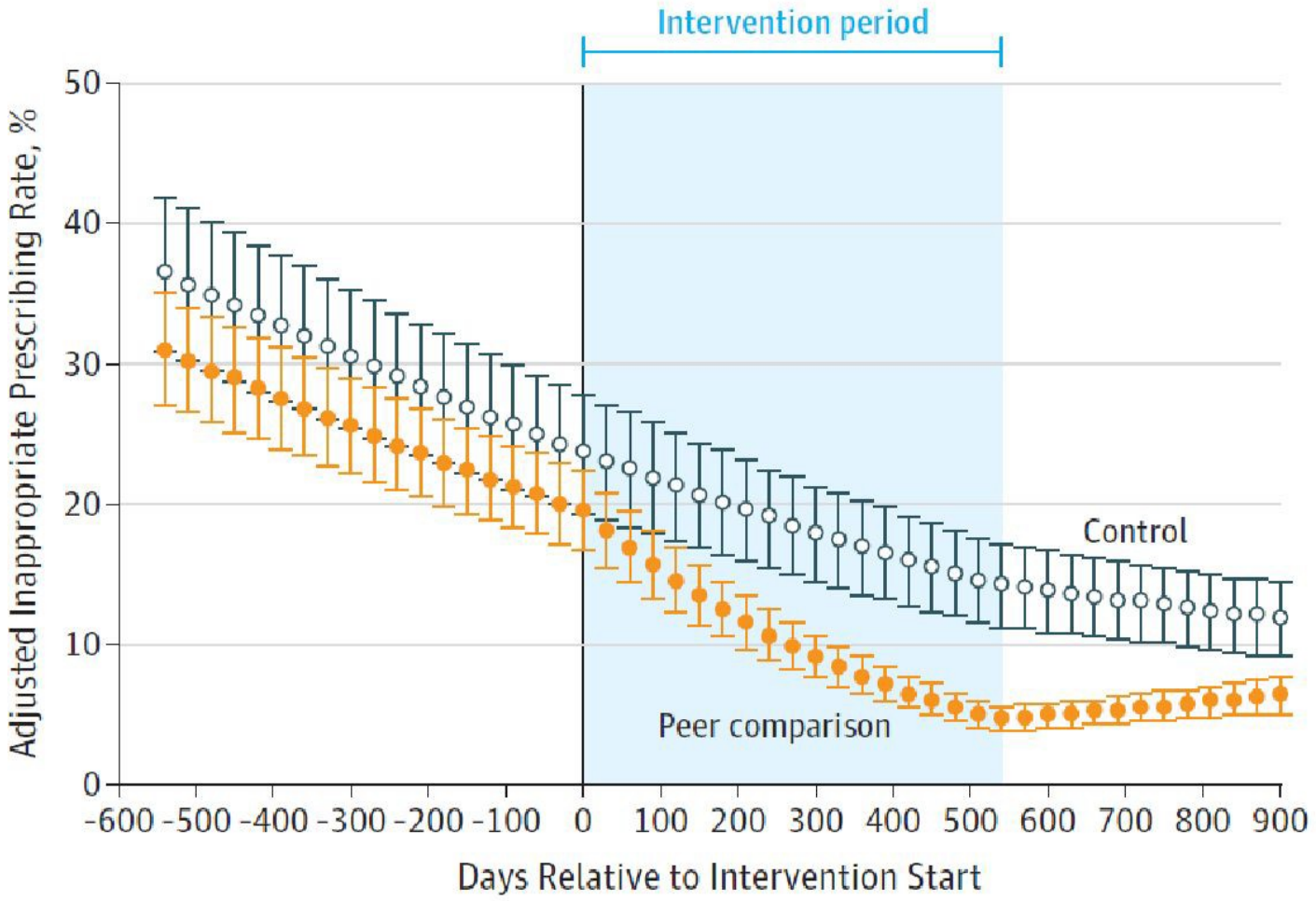
Linder. JAMA 2017

Persistence: Accountable Justification



Linder. JAMA 2017

Persistence: Peer Comparison



Linder. JAMA 2017

Summary

- Peer comparison showed greater persistence than other interventions
- Possible hypotheses
  - Justification effects may deoend on being prompted
  - Clinicians may have internalized being a “top performer” into their self-image and continued to act accordingly
- If interventions are time-limited peer comparison may be the best option

Conclusions and Implications

- ***Social motivation appears effective***
- ***Interventions show durable effects post-intervention***

3.

Public Commitment

Commitments bind the future self to desires the present self wants to fulfill.

Public Commitment

Public Commitment as a Motivator for Weight Loss

Prashanth U. Nyer
Chapman University

Stephanie Dellande
University of New Orleans

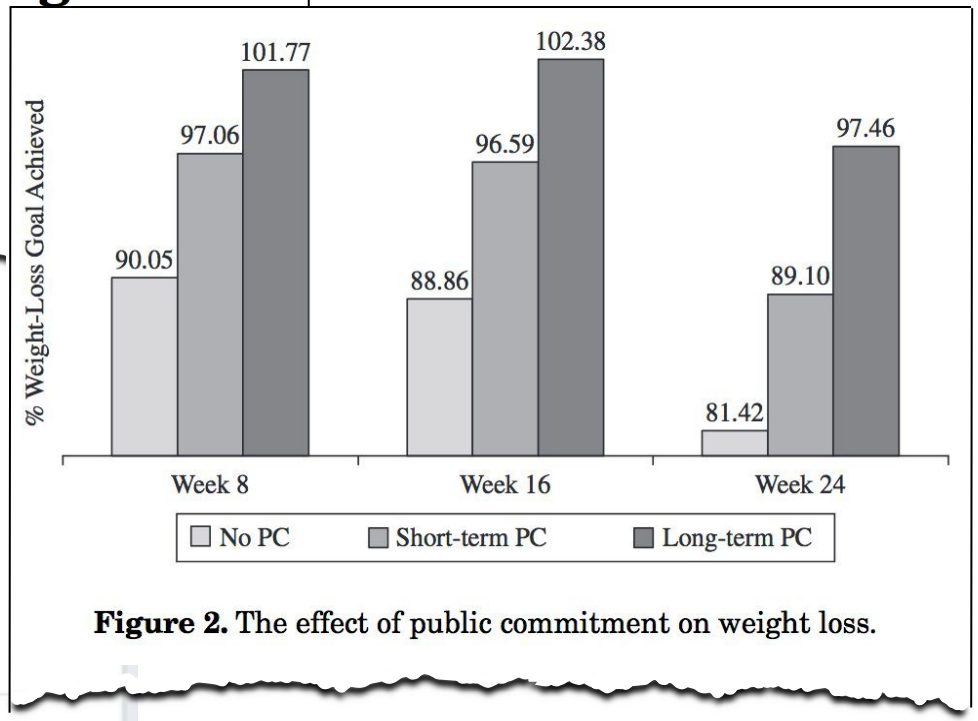


Figure 2. The effect of public commitment on weight loss.

Public Commitment

JAMA Internal Medicine

Original Investigation

Nudging Guideline-Concordant Antibiotic Prescribing

A Randomized Clinical Trial

Daniella Meeker, PhD; Tara K. Knight, PhD; Mark W. Friedberg, MD, MPP; Jeffrey A. Linder, MD, MPH; Noah J. Goldstein, PhD; Craig R. Fox, PhD; Alan Rothfeld, MD; Guillermo Diaz, MD; Jason N. Doctor, PhD

Safe Antibiotic Use:
A Letter From Your Medical Group

Dear Patient,

We want to give you some important information about antibiotics.

Antibiotics, like penicillin, fight infections due to bacteria that can cause some serious illnesses. But these medicines can cause side effects like skin rashes, diarrhea, or yeast infections. If your symptoms are from a virus and not from bacteria, you won't get better with an antibiotic, and you could still get these bad side effects.

Antibiotics also make bacteria more resistant to them. This can make future infections harder to treat. This means that antibiotics might not work when you really need them. Because of this, it is important that you only use an antibiotic when it is necessary to treat your illness.

How can you help? Carefully follow your do
you should or should not take antibiotics.

When you have a cough, sore throat, or othe
the best possible treatments. If an antibioti
doctor will explain this to you, and

Your health is very important to us. As your d
the best way possible. We are also dedicated to avoid prescribing antibiotics when they are likely to do more harm than good.

If you have any questions, please feel free to ask your doctor, nurse, or pharmacist.

Sincerely,


QueensCare

El Uso Seguro de Antibióticos:
Una Carta de su Grupo Médico

Estimado Paciente:

Queremos compartir información importante con usted sobre los antibióticos.

Los antibióticos como la penicilina ayudan a combatir infecciones debido a bacterias que pueden causar serias enfermedades. Pero estas medicinas también tienen efectos secundarios como erupciones de la piel, diarrea, o infecciones por hongos de levadura. Si sus síntomas son debidos a un virus y no por una bacteria, no se mejorará con un antibiótico, y usted aún puede obtener estos efectos secundarios no deseables.

Los antibióticos también pueden hacer la bacteria más resistente a ellas. Esto hará que infecciones en el futuro sean más difíciles de tratar. Eso significa que los antibióticos no trabajarán cuando ustedes en realidad necesitan que funcionen. Por

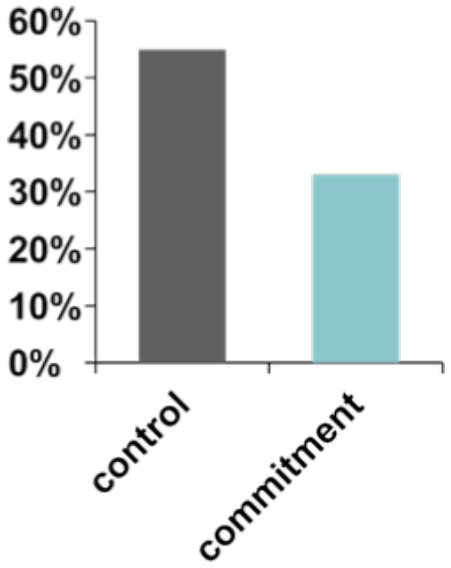
Su salud es importante para nosotros. Como sus doctores, nosotros prometemos tratar su enfermedad en la mejor manera posible. También nos comprometemos a evitar recetar antibióticos cuando sean probables de hacer más daño que bien.

Si tiene cualquier pregunta, pregúntele a su doctor, enfermera, o farmacéutico.

Atentamente,


Your health is very important to us. As your doctors, we promise to treat your illness in the best way possible. We are also dedicated to avoid prescribing antibiotics when they are likely to do more harm than good.

Results: Public commitment



Characteristic	Poster Condition		Control Condition	
	Baseline	Final Measurement	Baseline	Final Measurement
Inappropriate prescribing rate, % (95% CI)	43.5 (38.5 to 49.0)	33.7 (25.1 to 43.1)	42.8 (38.1 to 48.1)	52.7 (44.2 to 61.9)
Absolute percentage change, baseline to final measurement (95% CI)	−9.8 (0.0 to −19.3)		9.9 (0.0 to 20.2)	
Difference in differences between poster condition and control (95% CI)	−19.7 (−5.8 to −33.04)[b]			

Abbreviation: ARI, acute respiratory infection.

[a] Adjusted for demographic characteristics and insurance status.

[b] *P*=.02 for the difference.

JAMA – Internal Medicine, 174, 425-431, 2014.

CDC funded Replications: IDPH & NYSDH

Internal use only.
Do not distribute.

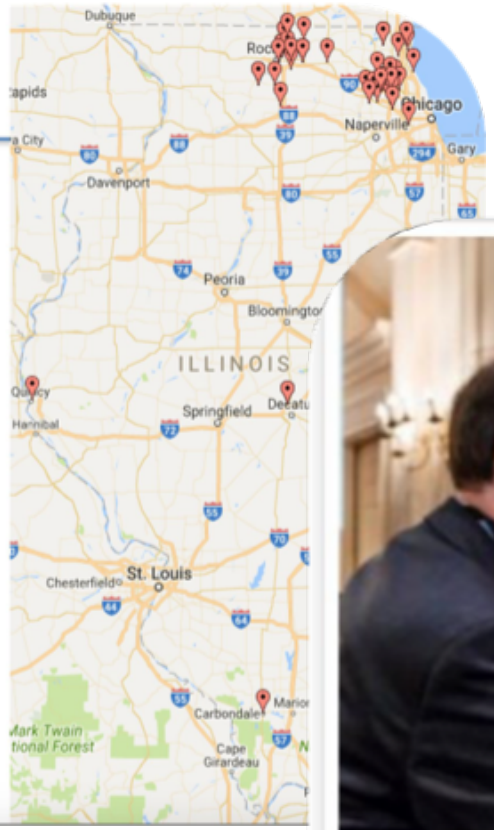
PDSB Campaign Goals

- Increase **provider and patient knowledge** & provide **resources** about antibiotic resistance and use

Phase I Participation

March 2015 → Present

- 55 practices representing > 385 providers

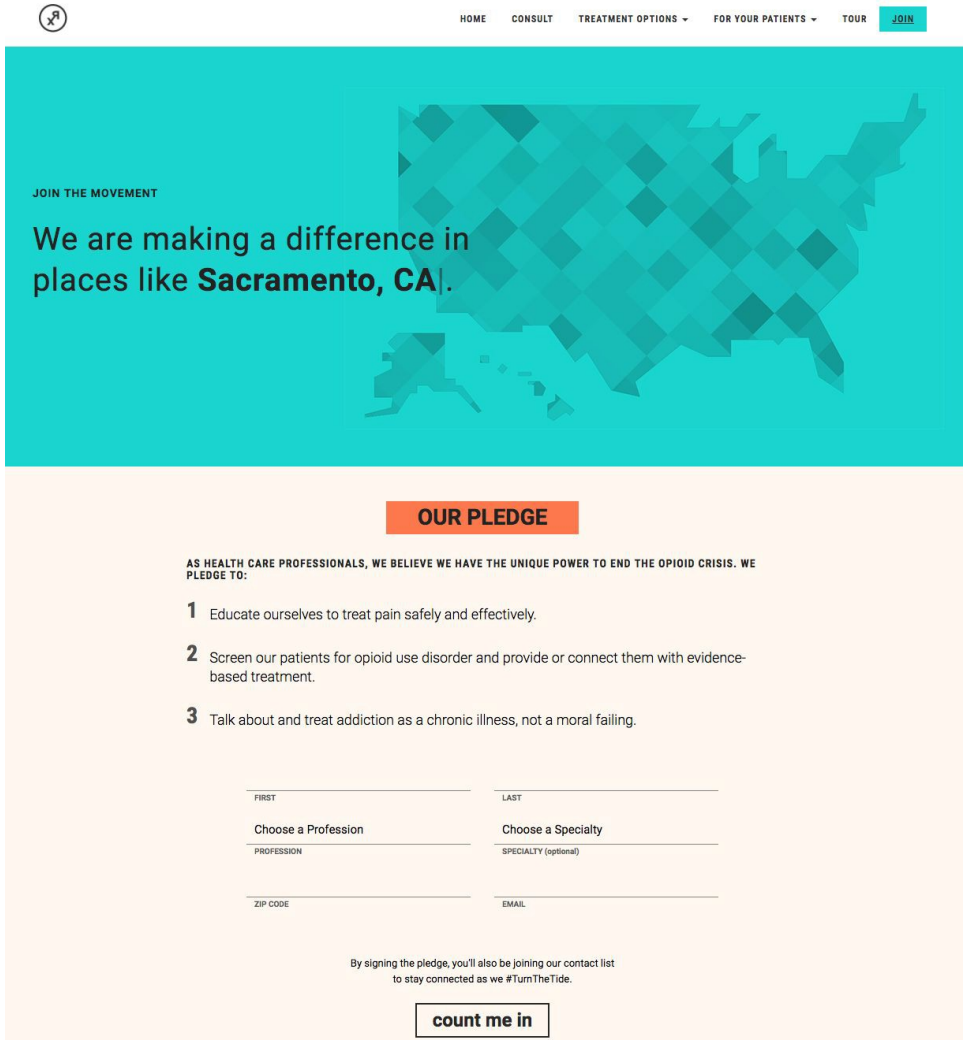


CDC Core Elements Outpatient Antibiotic Stewardship (2017)

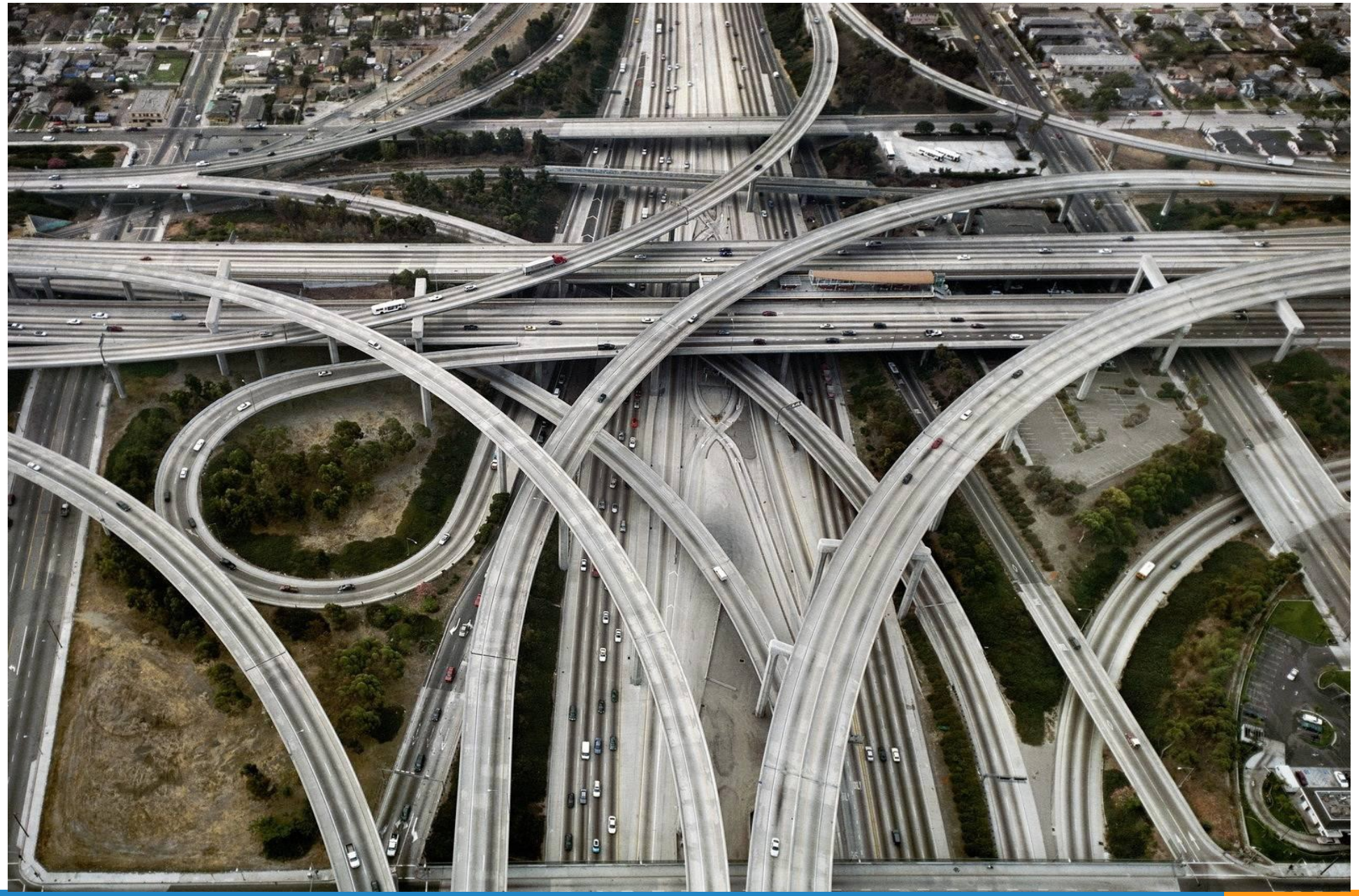
EU Draft Guidelines for Antibiotic Stewardship

The NYS Department of Health recently rolled out a "Get Smart Guarantee" poster for healthcare providers to pledge to only prescribe antibiotics when they are needed.

Turn the Tide Rx



Where are we going now?



4.

Decision Fatigue

Decision making gets worse with repeated decisions

If you have to force yourself to do something you are less willing or able to exert self-control when the next challenge comes around. —Daniel Kahneman

Decision Fatigue: Judicial Decisions Revert to Path of Least Resistance

PNAS

Extraneous factors in judicial decisions

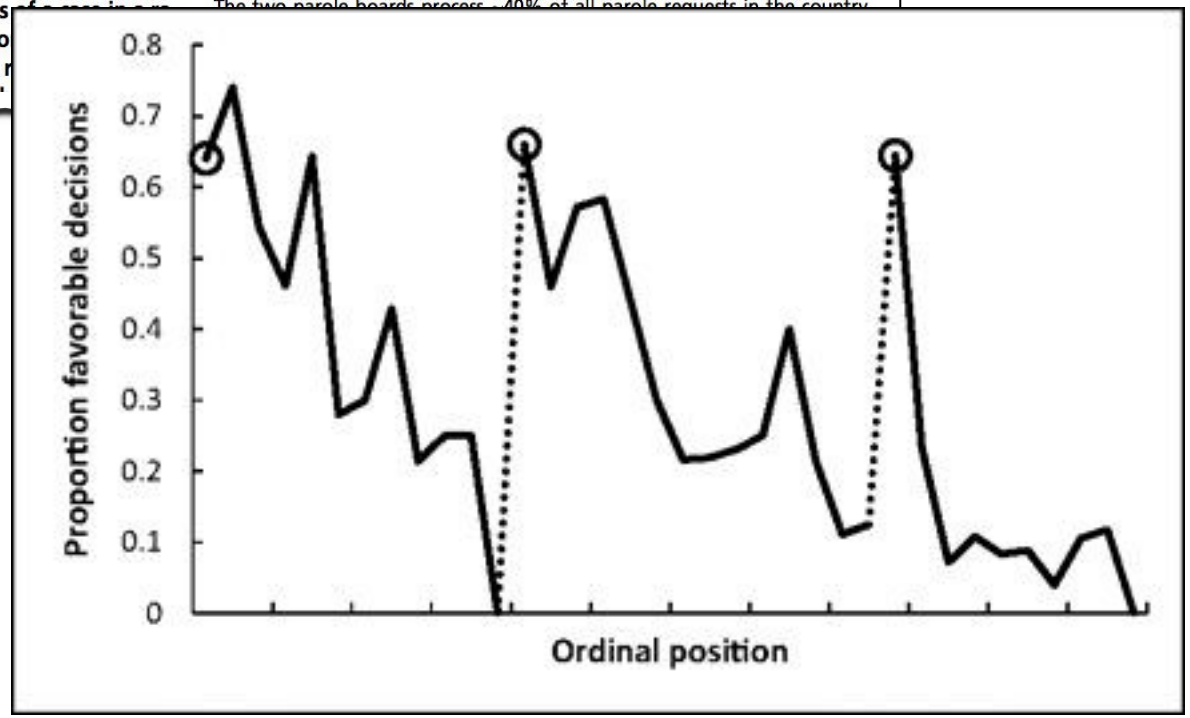
Shai Danziger[a,1], Jonathan Levav[b,1,2], and Liora Avnaim-Pesso[a]

[a]Department of Management, Ben Gurion University of the Negev, Beer Sheva 84105, Israel; and [b]Columbia Business School, Columbia University, New York, NY 10027

Edited* by Daniel Kahneman, Princeton University, Princeton, NJ, and approved February 25, 2011 (received for review December 8, 2010)

Are judicial rulings based solely on laws and facts? Legal formalism holds that judges apply legal reasons to the facts of a case in a ra tional, mechanical, and deliberative manner. In co ists argue that the rational application of legal r

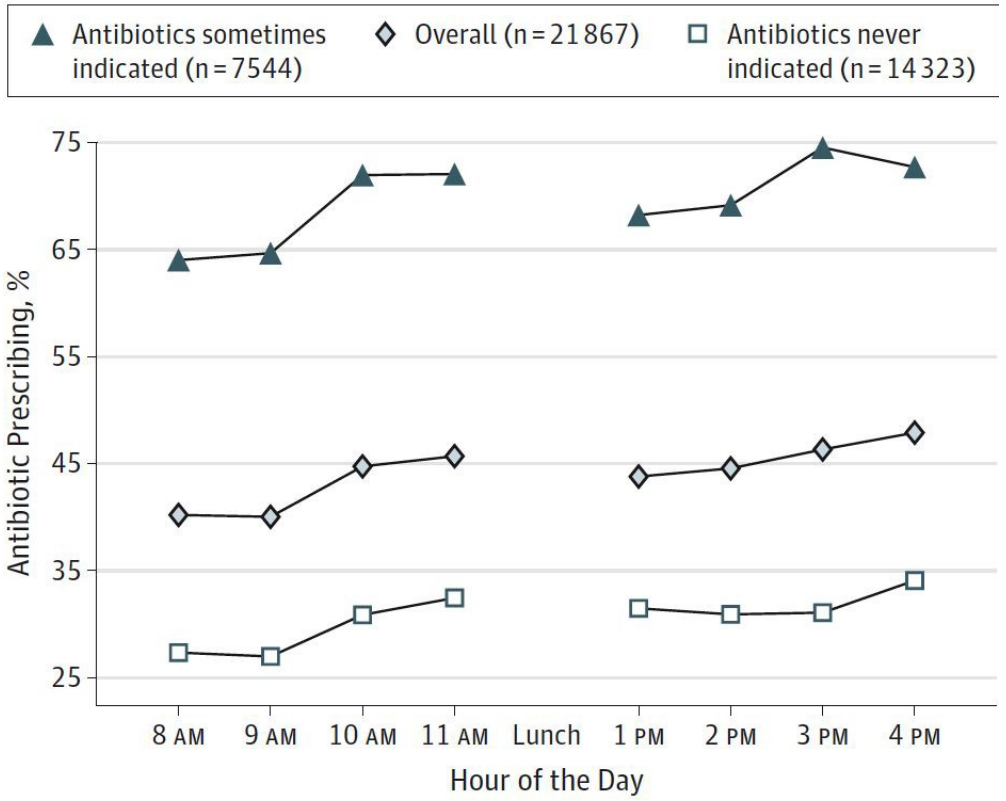
(29.3%), 50 Jewish-Israeli females (4.5%), and 9 Arab-Israeli females (0.9%). The two parole boards process ~40% of all parole requests in the country



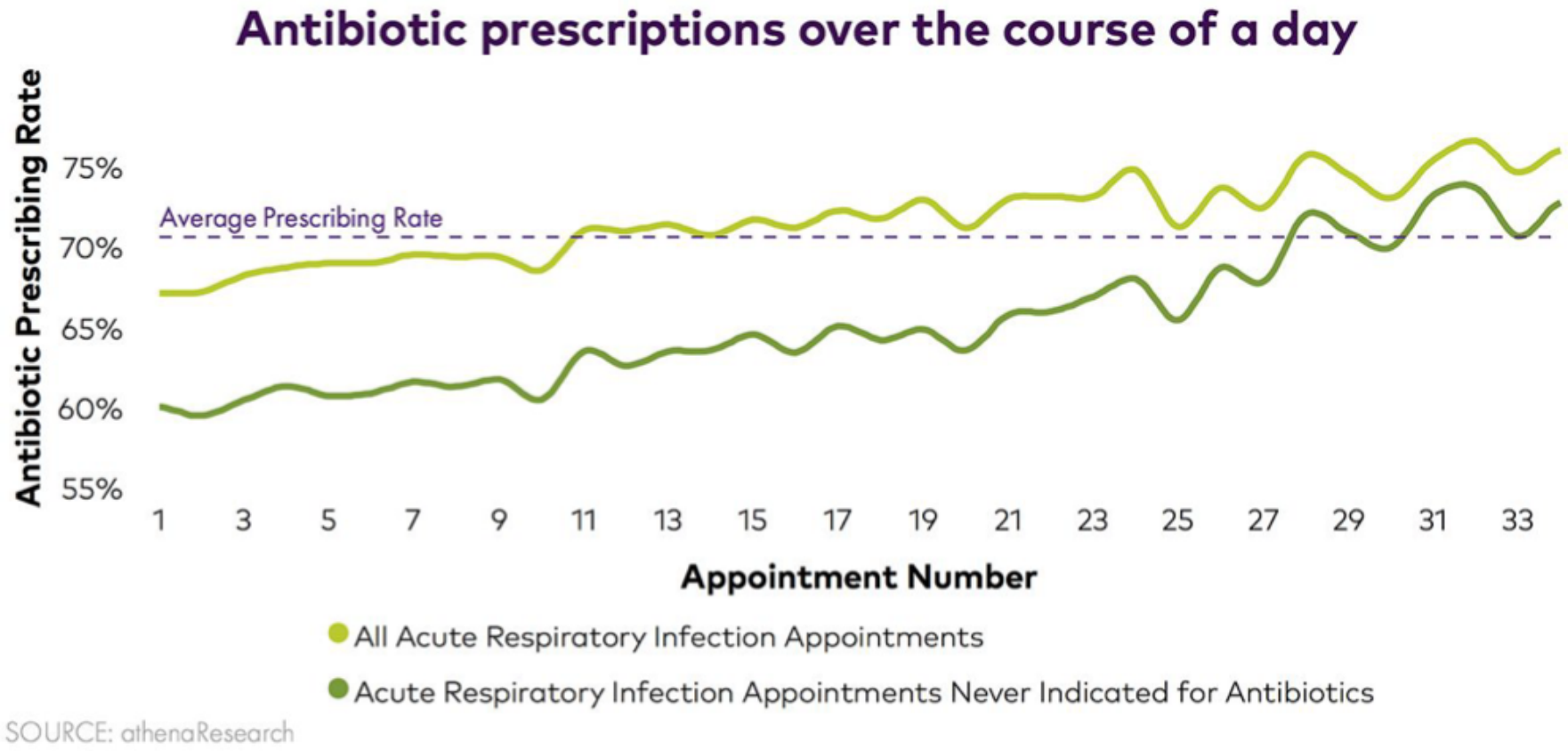
JAMA Internal Medicine

RESEARCH LETTER

Time of Day and the Decision to Prescribe Antibiotics



Replication: Athena Research



https://insight.athenahealth.com/expert-forum-decision-fatigue-antibiotics/

Emergency Care

Challenges

Interruptions

Time-Critical Decisions

Sleep Disruption

18 million errors &

360,000 adverse events annually

Data to Intelligence (d2i) Study

23 emergency departments

CA, CT, DE, MD, MI, NM, NJ, NY, OH, VA

1,154 clinicians

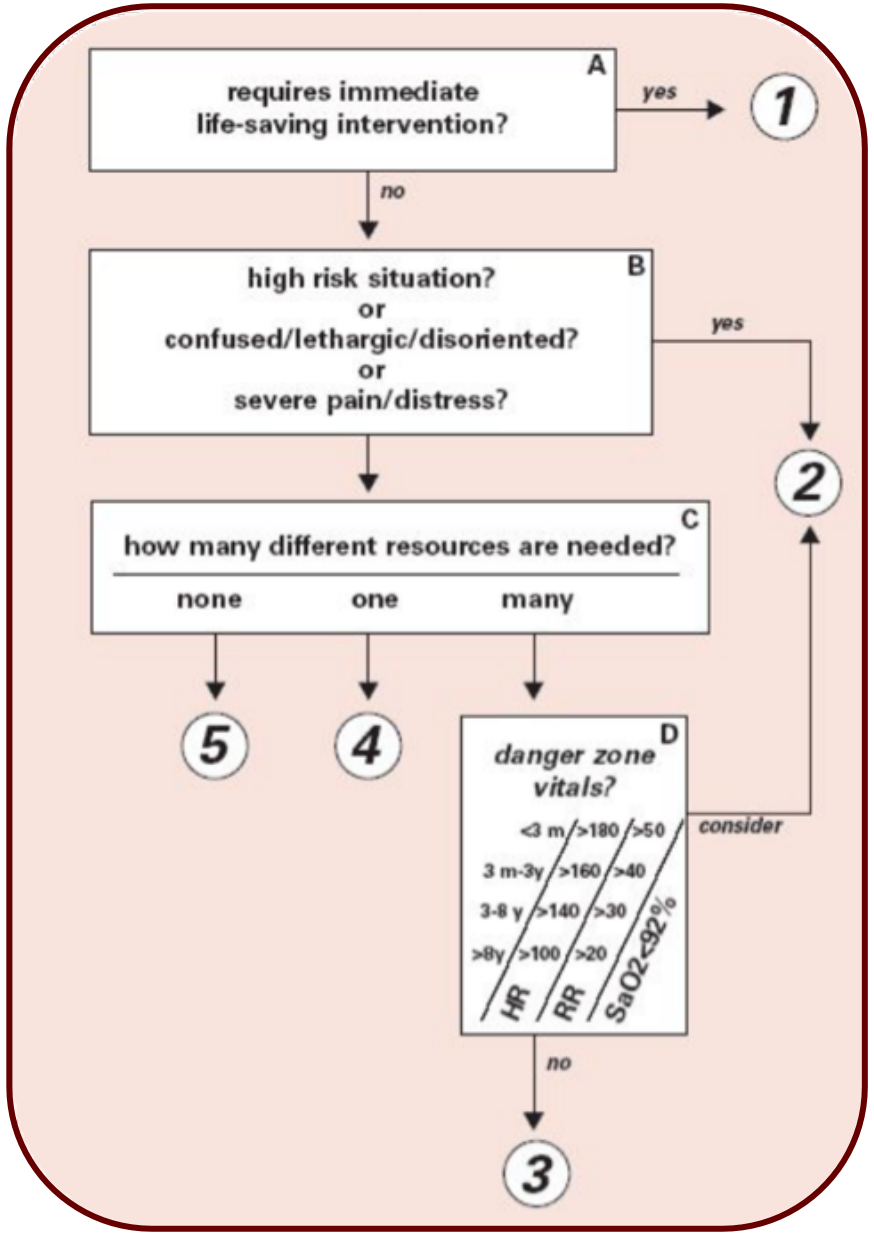
3,047,113 visits

Jan 1st, 2014 - Dec 31st, 2016

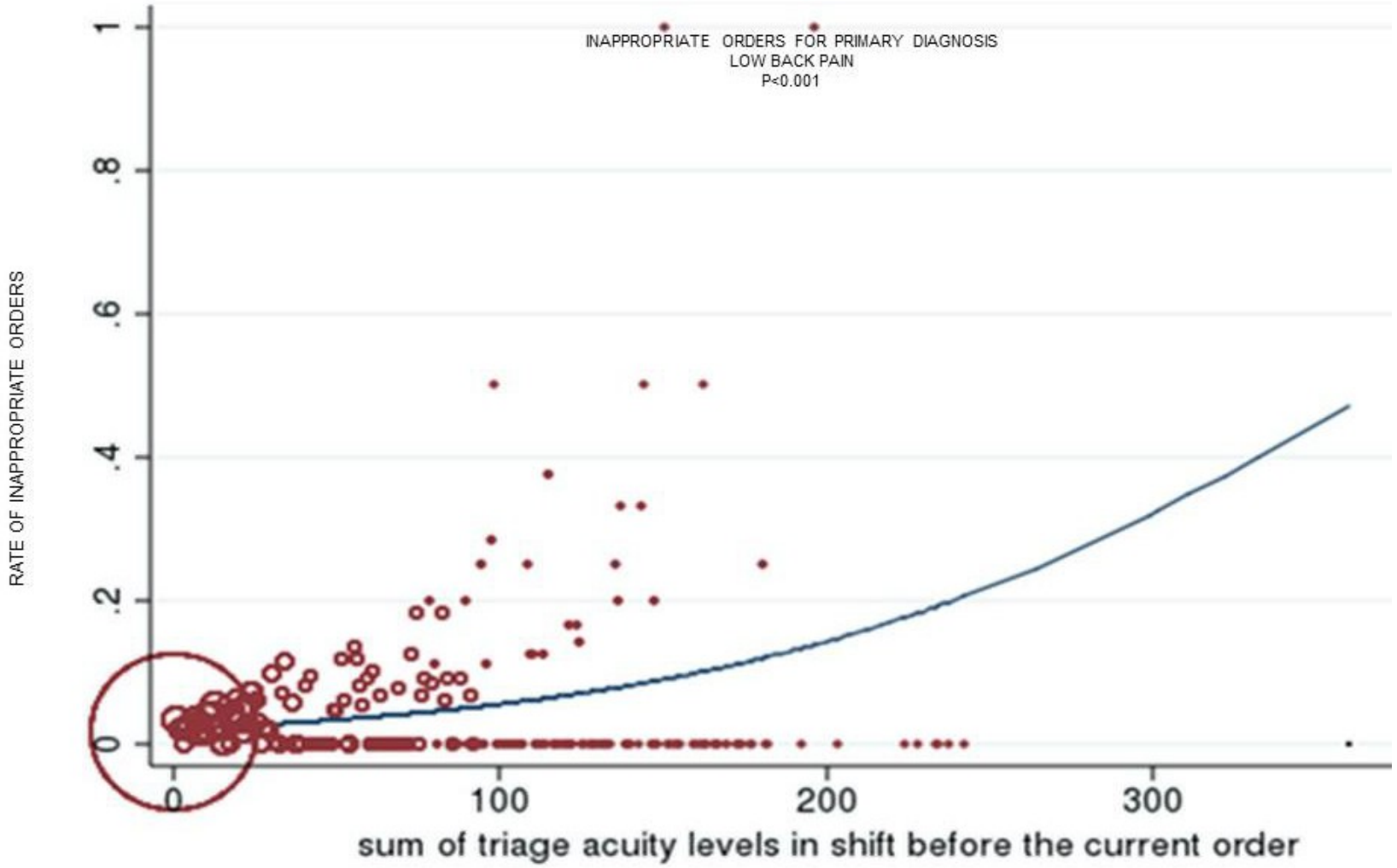
Case complexity

Low back pain imaging orders

Emergency Severity Index



Decision Fatigue in the ED



5.

Availability

The more easily we can call some scenario to mind, the more probable we will find it to be.

1 in 5

persons with chronic noncancer pain receive an opioid prescription

365,000

opioid overdose emergency department visits annually

20,101

opioid poisoning deaths annually

Opioid Prescribing Safety Study

Challenges

Physicians unaware of harms

Survivorship bias

Empathy bias

Judged risk of Rx is low

Study

Funded by CHCF

County Medical Examiner to ID poisonings

State PDMP to ID prescribers

Random assignment

404 get a letter

Low back pain imaging orders

Opioid Prescribing Safety Study

Challenges

Physicians unaware of harms

Survivorship bias

Empathy bias

Judged risk of Rx is low

Opioid Prescribing Safety Study

Study in SD County

Funded by CHCF

ME poisoning deaths

State PDMP prescribers

Random assignment to death

ME letter to increase availability

Evaluate Rx 12 mos pre- and post- letter

Opioid Prescribing Safety Study

Progress

404 Letters sent January 27th, 2017

220 poisoning deaths

170 legitimate opioid Rx

861 prescribers

725 had 1 death

136 had > 1 death

Letters sent to ~10% of all

Practicing MDs

Acknowledgements

Funded by the National Institutes of Health (RC4AG039115)

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Chelsea Bonfiglio
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Northwestern University

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Elisha Friesema

Cope Health Solutions

Alan Rothfeld, MD
Charlene Chen
Gloria Rodriguez
Auroop Roy
Hannah Valino

Thank you!

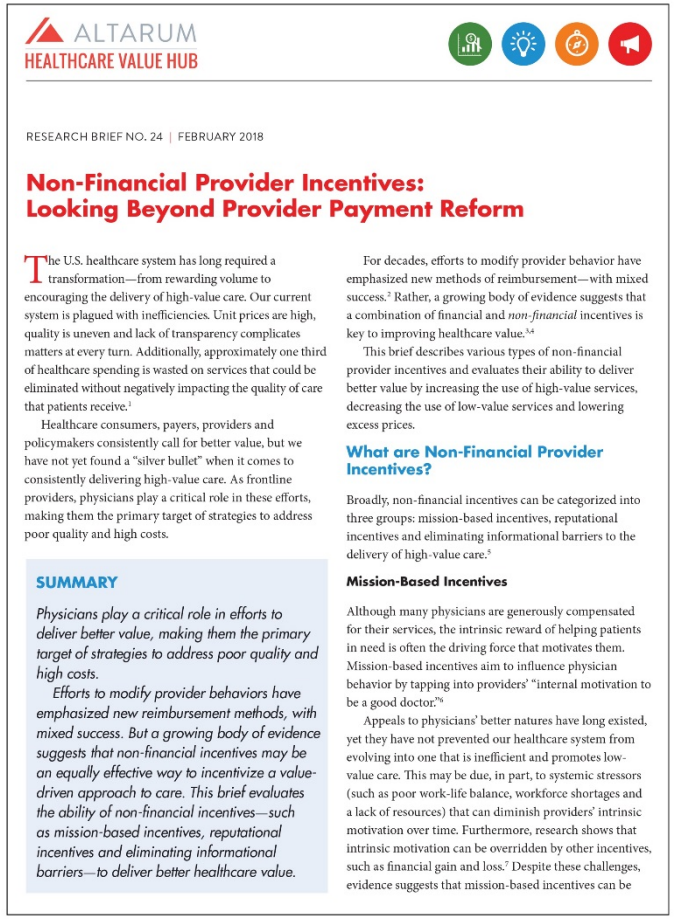
Questions?

Questions for our Speakers?

- **Use the chat box or to unmute, press *6**

- **<u>Please do not put us on hold!</u>**

Hub Resources on Non-financial Incentives:



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What are Non-Financial Provider Incentives?

Broadly, non-financial incentives can be categorized into three groups: mission-based incentives, reputational incentives and eliminating informational barriers to the delivery of high-value care.[5]

Mission-Based Incentives

Although many physicians are generously compensated for their services, the intrinsic reward of helping patients in need is often the driving force that motivates them. Mission-based incentives aim to influence physician behavior by tapping into providers' "internal motivation to be a good doctor."[6]

Appeals to physicians' better natures have long existed, yet they have not prevented our healthcare system from evolving into one that is inefficient and promotes low-value care. This may be due, in part, to systemic stressors (such as poor work-life balance, workforce shortages and a lack of resources) that can diminish providers' intrinsic motivation over time. Furthermore, research shows that intrinsic motivation can be overridden by other incentives, such as financial gain and loss.[7] Despite these challenges, evidence suggests that mission-based incentives can be

Non-Financial Provider Incentives: A Taxonomy	
Mission-based incentives:	*Tapping Professional Ethos*
	Establishing Shared Purpose
Reputational incentives	*Internal Peer Comparisons*
	Public Reporting
Eliminate informational barriers	*Comparative-effectiveness and cost-effectiveness research where gaps exist*
	"Just-in-time" information: clinical decision support and computerized order entry

Hub Resources: www.HealthcareValueHub.org/Non-Financial-Incentives

Thank you!

- **Daniella Meeker & Jason Doctor**
- **Robert Wood Johnson Foundation**

Contact Lynn Quincy at **lynn.quincy@Altarum.org** or any member of the Hub staff with your follow-up questions.

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