

Pragmatic Trials of Behavioral Economic Interventions to Increase Colorectal Cancer Screening

Shivan Mehta, MD, MBA, MSHP

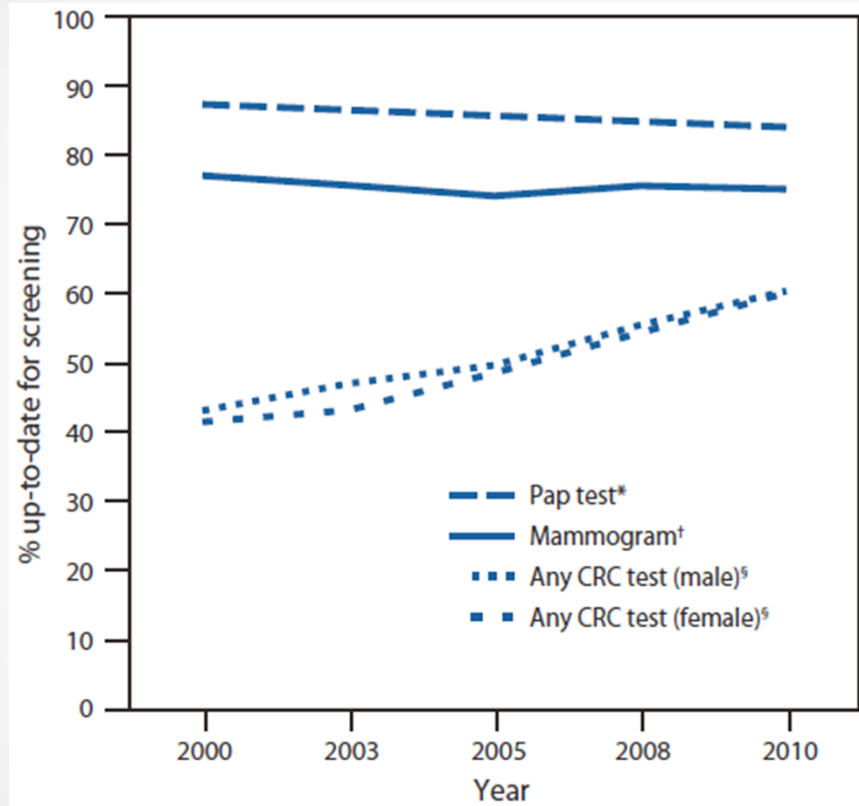
Assistant Professor of Medicine, University of Pennsylvania

Associate Chief Innovation Officer, Penn Medicine

Agenda

- Colorectal cancer (CRC) screening
- Application of behavioral economics to CRC screening
- Pragmatic trials of CRC screening interventions
 - Partnership with clinical operations
 - Waiver of informed consent
 - Leveraging existing clinical workflows and data sources

Limited CRC screening rates



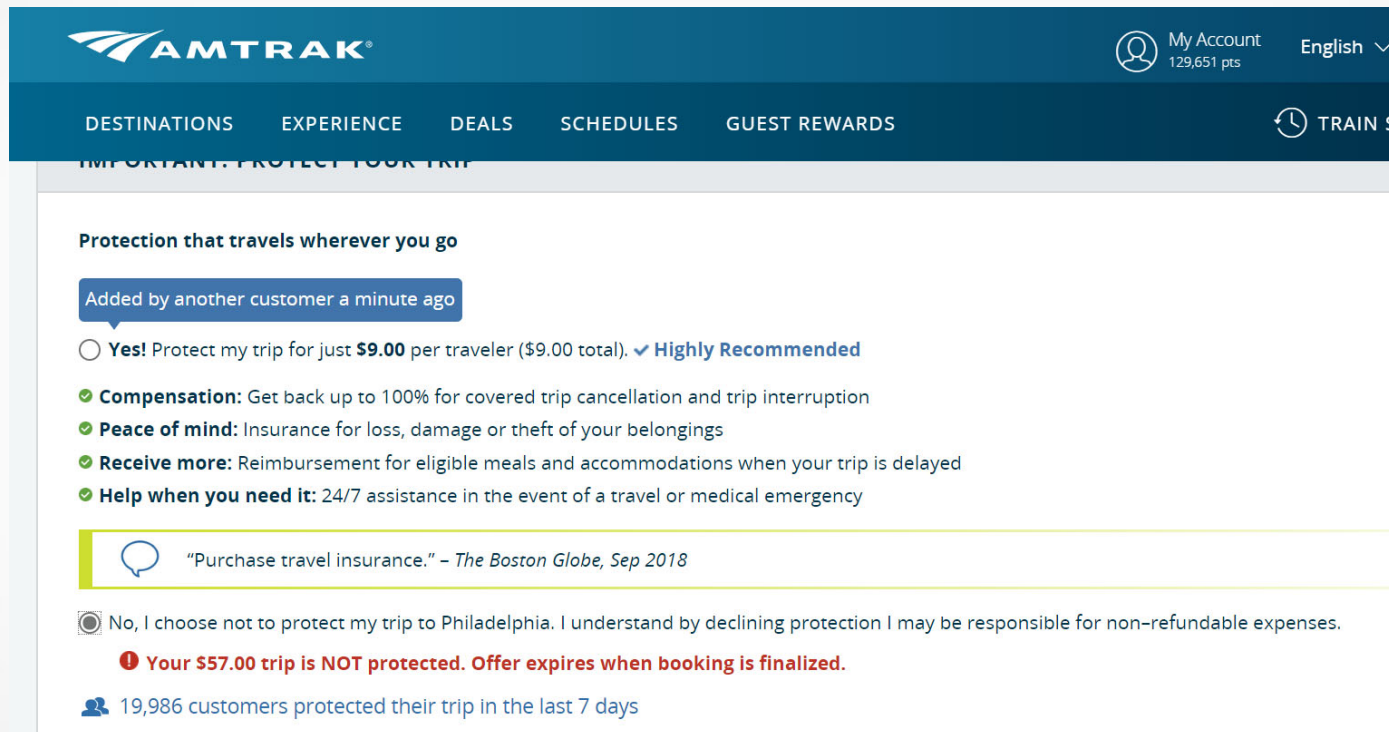
Screening can reduce mortality
from CRC by 30-70%

“Cancer Screening — United States, 2010” MMWR

Predictable biases

Bias	Description
Status quo bias	Preference to maintain defaults or status quo
Loss aversion	Weighing losses more heavily than gains
Present-time bias	Overestimate costs and benefits of decisions today as compared with future
Framing effects	Framing of messages can alter response

Behavioral economics



AMTRAK My Account 129,651 pts English


DESTINATIONS EXPERIENCE DEALS SCHEDULES GUEST REWARDS TRAIN S

Protection that travels wherever you go

Added by another customer a minute ago


Yes! Protect my trip for just **\$9.00** per traveler (\$9.00 total). **Highly Recommended**

- ✓ **Compensation:** Get back up to 100% for covered trip cancellation and trip interruption
- ✓ **Peace of mind:** Insurance for loss, damage or theft of your belongings
- ✓ **Receive more:** Reimbursement for eligible meals and accommodations when your trip is delayed
- ✓ **Help when you need it:** 24/7 assistance in the event of a travel or medical emergency

 "Purchase travel insurance." – *The Boston Globe, Sep 2018*

No, I choose not to protect my trip to Philadelphia. I understand by declining protection I may be responsible for non-refundable expenses.

⚠ Your \$57.00 trip is NOT protected. Offer expires when booking is finalized.

 19,986 customers protected their trip in the last 7 days

Clinical partners

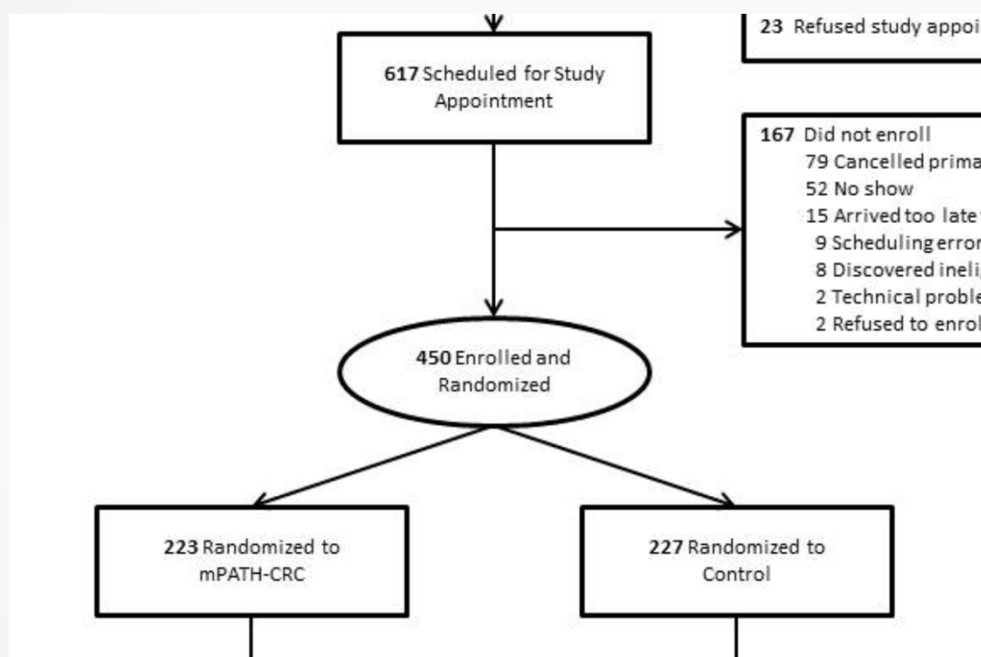


- Academic health system in Philadelphia region
- 43 primary care practices
- 63% CRC screening rate



- Community health center in Philadelphia
- 3 health clinics
- 19% CRC screening rate

Consent for screening intervention trials



27% of eligible patients were unreachable or declined to participate

Waiver of Informed Consent



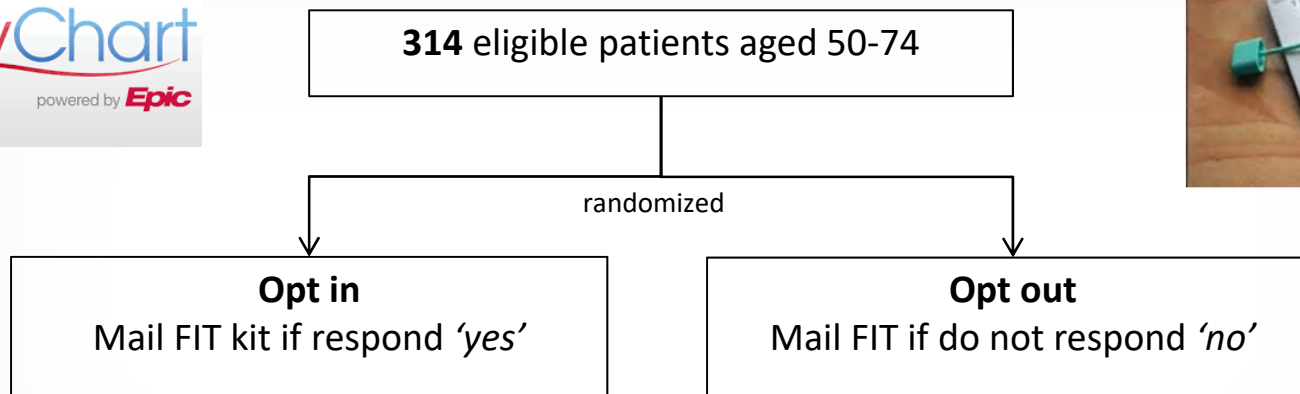
1. The research involves no more than minimal risk to subjects
2. The waiver or alteration will not adversely affect the rights and welfare of the subjects
3. **The research could not practicably be carried out without the waiver**

Misdirections in Informed Consent — Impediments to Health Care Innovation

David A. Asch, M.D., M.B.A., Tracy A. Ziolek, M.S., and Shivan J. Mehta, M.D., M.B.A., M.S.H.P.

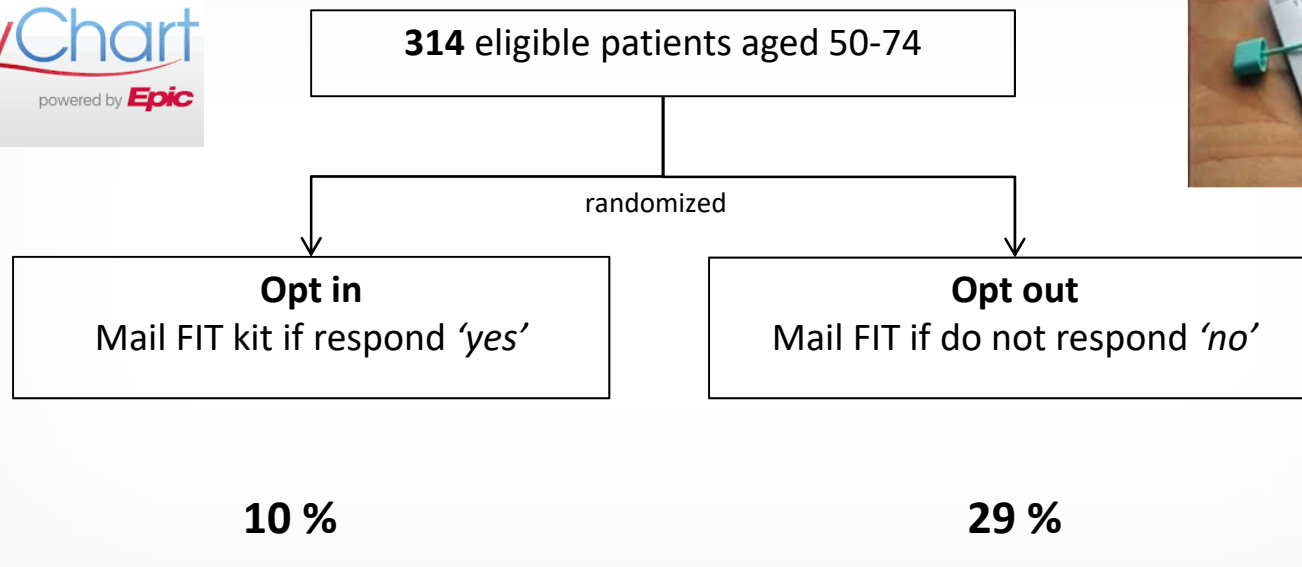
Asch DA, Mehta SJ. NEJM, 2017

Opt-in vs. Opt-out Mailed FIT



3 month
response

Opt-in vs. Opt-out Mailed FIT



Text messaging and choice architecture



Clinic

You are overdue for colon cancer screening. To discuss your screening options call us at 215-xxx-xxxx.

Opt-in

Health Annex: You are due for colon cancer screening. Please text back Yes to receive a simple home test kit

Opt-out

Health Annex: You are due for colon cancer screening. We will mail you a free home test, unless you reply 'No'

Text messaging and choice architecture



Clinic

You are overdue for colon cancer screening. To discuss your screening options call us at 215-xxx-xxxx.

3%

Opt-in

Health Annex: You are due for colon cancer screening. Please text back Yes to receive a simple home test kit

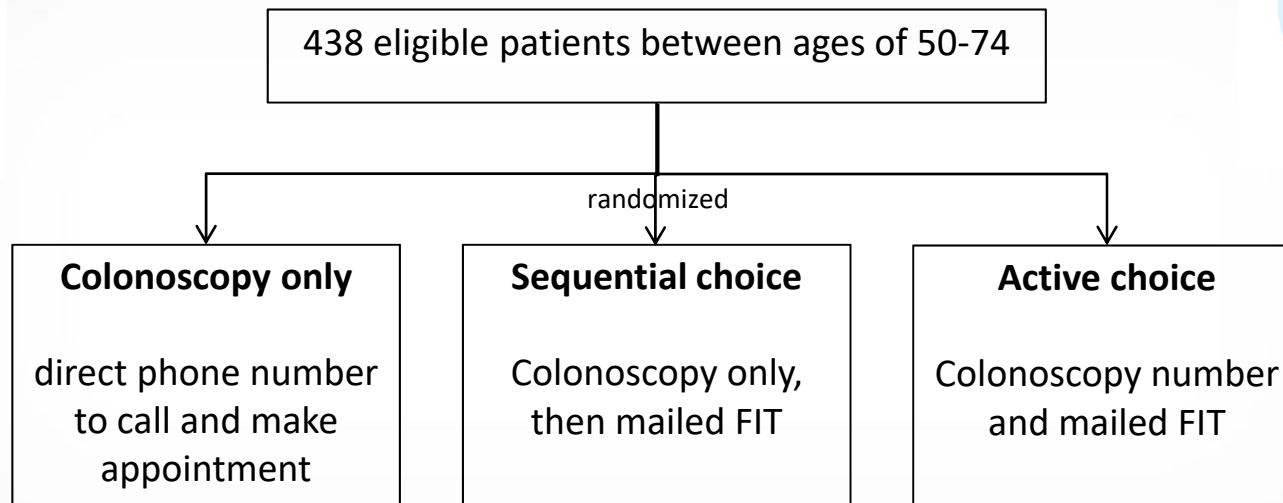
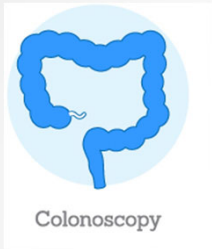
12%

Opt-out

Health Annex: You are due for colon cancer screening. We will mail you a free home test, unless you reply 'No'

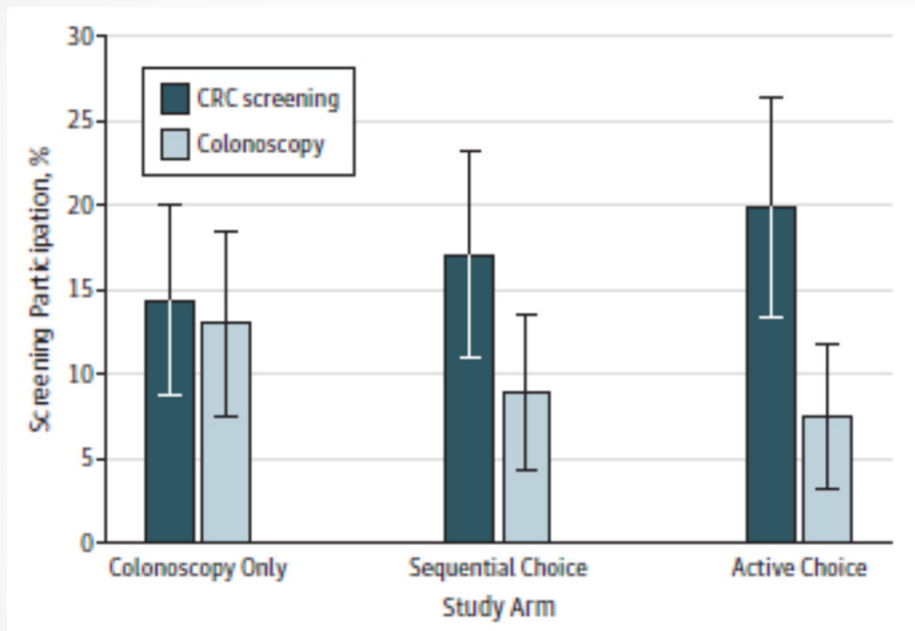
20%

Choice of Colonoscopy or FIT



Choice of Colonoscopy or FIT

4 month response



91%
colonoscopy

52%
colonoscopy

38%
colonoscopy

Concurrent mailed FIT
29.1% at 3 months and
28.9% at 6 months

Conclusion

- Behavioral economics offers suggestions for how to increase CRC screening rates, but need to evaluate effectiveness in different contexts
- Pragmatic trials can help evaluate effectiveness in naturalized settings through close partnership with clinical operations

Collaborators



- Catherine Reitz, MPH
- Vikranth Induru, MD
- Tanya Khan, MD
- Timothy McAuliffe, BA
- Jordyn Feingold, BA
- Tess Niewood, BA
- Sarah Huf, MD
- Chyke Doubeni, MD, MPH
- Kevin Volpp, MD, PhD
- David Asch, MD, MBA
- Abramson Cancer Center/ Breakthrough Bike Challenge
- National Cancer Institute (K08CA234326)
- National Institute of Aging (Penn Roybal Center, P30AG034546)
- Patient-Centered Outcomes Research Pilot/ Center for Therapeutic Effectiveness Research

CENTER FOR HEALTH CARE INNOVATION
Accelerating Ideas to Transform Health Care

