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# Internet Use Enhances Retention While Depression Exacerbates Drop-Out from a Sexual Health App Intervention Study for MSM

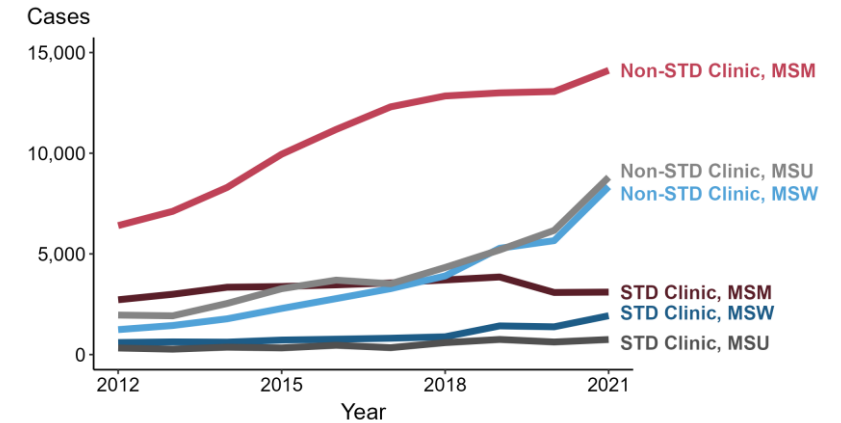
Noah Mancuso (he/him)

September 25-27, 2023 | RAI Amsterdam Convention Center

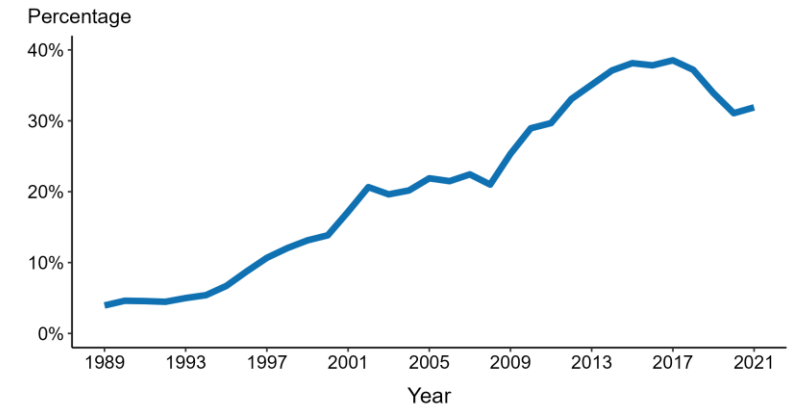
# Background

- Rates of sexually transmitted infections have been on the rise among MSM
- Uptake of prevention services has been sub-optimal
- Mobile health (mHealth) interventions show promise

Syphilis cases among men at select STD clinics<sup>1</sup>



Gonorrhea rates among MSM at select STD clinics<sup>1</sup>



1. Data available at <https://www.cdc.gov/std/statistics/2021/figures.htm>

# Mobile Messaging for MSM (M-Cubed)



- mHealth intervention using tailored text and video messages
- Free screening and commodity ordering
- RCT showed the app doubled the rates of HIV testing and PrEP use<sup>2</sup>

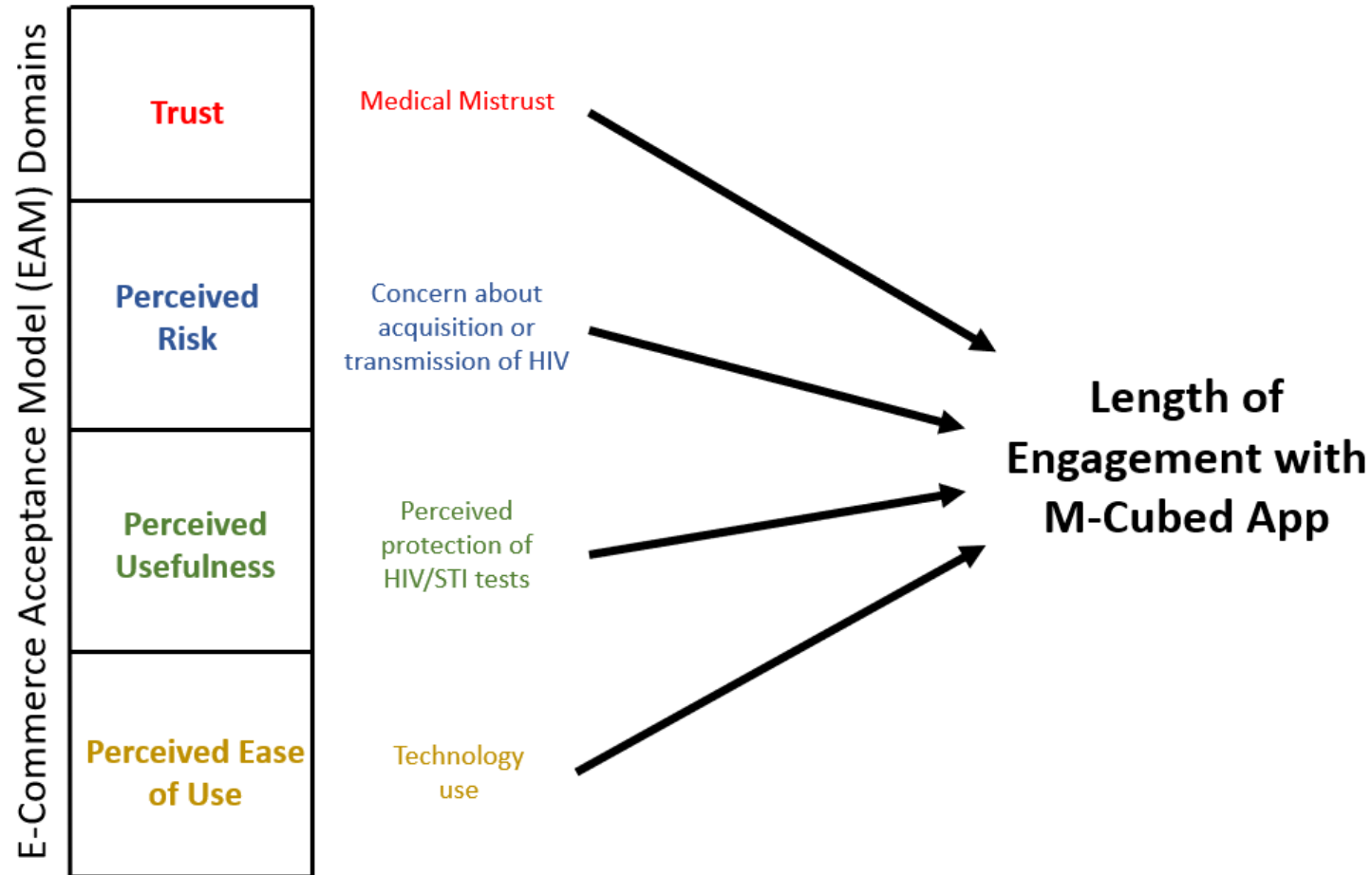
2. Sullivan PS, Stephenson R, Hirshfield S, Mehta CC, Zahn R, Bauermeister JA, et al. Behavioral Efficacy of a Sexual Health Mobile App for Men Who Have Sex With Men: Randomized Controlled Trial of Mobile Messaging for Men. J Med Internet Res. 2022 Feb 2;24(2):e34574.

# Research Question

- What factors predict how long MSM will engage with the M-Cubed app?

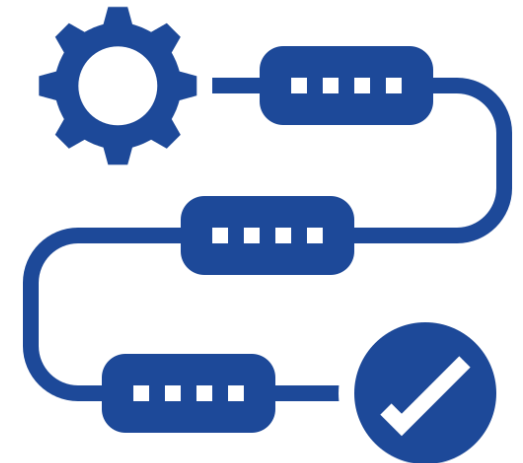


# Methods - Theoretical Framework



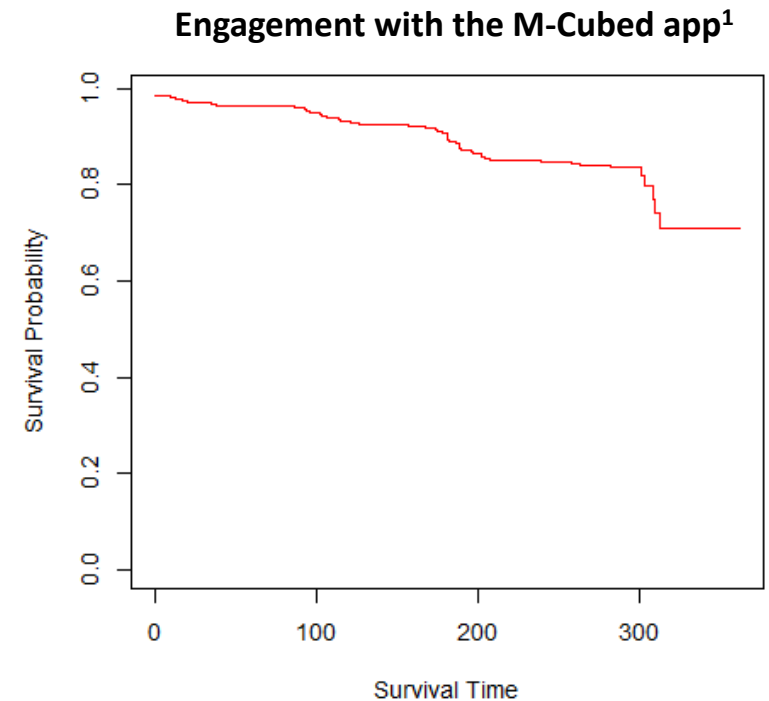
## Methods - Analysis

- M-Cubed data from 611 MSM in Atlanta, Detroit, and New York City
- Multivariable Cox regression assessed each EAM domain separately
- Final model constructed from domains with significant explanatory value



# Results

- Average age: 36 years
- Majority MSM of color
- 1 in 4 screened positive for depression
- 1 in 3 reported drug use



# EAM Domain-Specific Findings



**Internet use  
≥ 4 hrs/day**

→ 30% less likely to disengage



**Depression**

→ 30% more likely to disengage

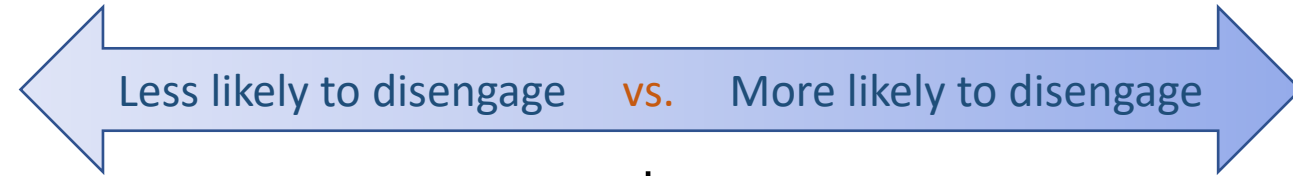


**Low trust and no  
depression**

→ 70% less likely to disengage



# Final Model Results



**Trust**  
Low vs. High

**Perceived Ease of Use**

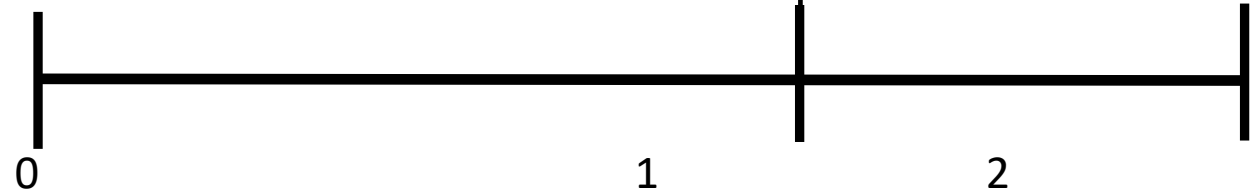
≥ 4hrs/day of internet use  
vs.  
< 4hrs/day of internet use

Not Depressed

Depressed

Not Depressed

Depressed



Adjusted Hazard Ratio (1 = null hypothesis)



# Discussion

- mHealth interventions may be able to overcome traditional barriers of medical mistrust
- Accessibility and usability of apps should be prioritized for those with low baseline technology use
- Mental health of MSM must be a core component of sexual health promotion

# Conclusions

- mHealth interventions can improve sexual health promotion among MSM
- Incorporating implementation science will help us better capitalize on mHealth potential

# Acknowledgements

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