

# DIGITAL THERAPEUTICS IN THE TREATMENT OF OPIOID AND STIMULANT USE DISORDERS

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**Center for Technology and Behavioral Health**

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# Digital Therapeutics

Provide Anytime/Anywhere Science-Based Care

Digital technologies (web, mobile, cloud, analytics) have transformed our society.

**Digital Therapeutics** refer to clinical-grade software to prevent, treat, or manage a disease/disorder.

They package an entire model of evidence-based care into a seamless, digital delivery platform.



# Promise of Digital Therapeutics

Extends the reach and impact of clinicians

Functions as a virtual therapist in one's pocket that markedly improves patient outcomes

Delivers treatment with fidelity to best practices

Virtually any population you can think of has access to mobile devices

Offers scalable, science-based behavioral healthcare anytime / anywhere

More timely and significant than ever during global pandemic crisis



# Digital Therapeutics for Substance Use Disorders

Research has demonstrated that digital therapeutics, if developed well and in collaboration with the target audience:

**1** Are highly useful and acceptable to diverse audiences

**2** Have a large impact on health behavior and health outcomes

**3** Can produce outcomes comparable to, or better than, clinicians

**4** Increase quality, reach, and personalization of care

**5** Can be cost-effective

**6** Can be responsive to individuals' health behavior trajectory over time

# The Therapeutic Education System (TES): Digital Therapeutic for Substance Use Disorders

Interactive, self-directed, web-based behavior therapy for substance use disorders (SUDs) based on the science-based, community reinforcement approach to SUD treatment



Interactive modules designed to help people:

- ◆ Understand and disrupt harmful behaviors and cognitions leading to self-defeating patterns of drug use
- ◆ Leverage personal, social, and vocational resources to help individuals change substance-use
- ◆ Sometimes employs motivational incentives

# TES Digital Therapeutic for Substance Use Disorders

**TES**  
TES menu

Press the module name below to launch that module.

- Module 1: Alcohol, Drug Use and Communication Skills
- Module 2: Analyze Your Own Behavior Chain
- Module 3: Attentive Listening
- Module 4: Challenging Automatic Thoughts
- Module 5: Giving and Receiving Compliments
- Module 6: HIV and AIDS
- Module 7: How to Express Oneself Assertively

**Seemingly Irrelevant Decisions (SIDs)**

**Social and Recreational Activities**

**Behavior Chains**

Triggers — Behavior — Consequences

In addition, looking at what happens as a result of a specific behavior can help you identify *Consequences* of the behavior, both positive and negative. This may serve to increase or decrease the behavior in the future.

What Have You Decided to Do or Not Do This Weekend?

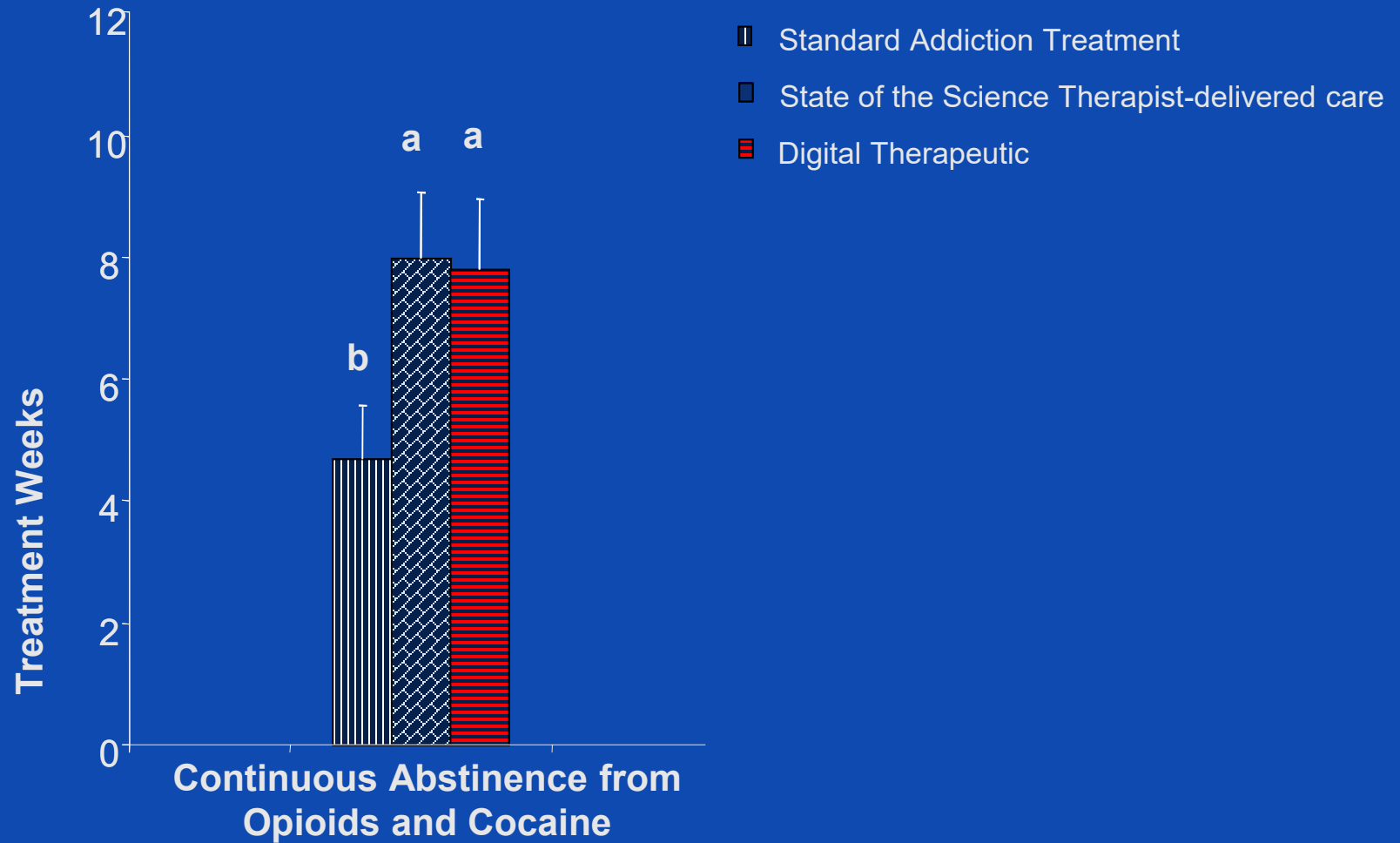
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- 1.
- 2.
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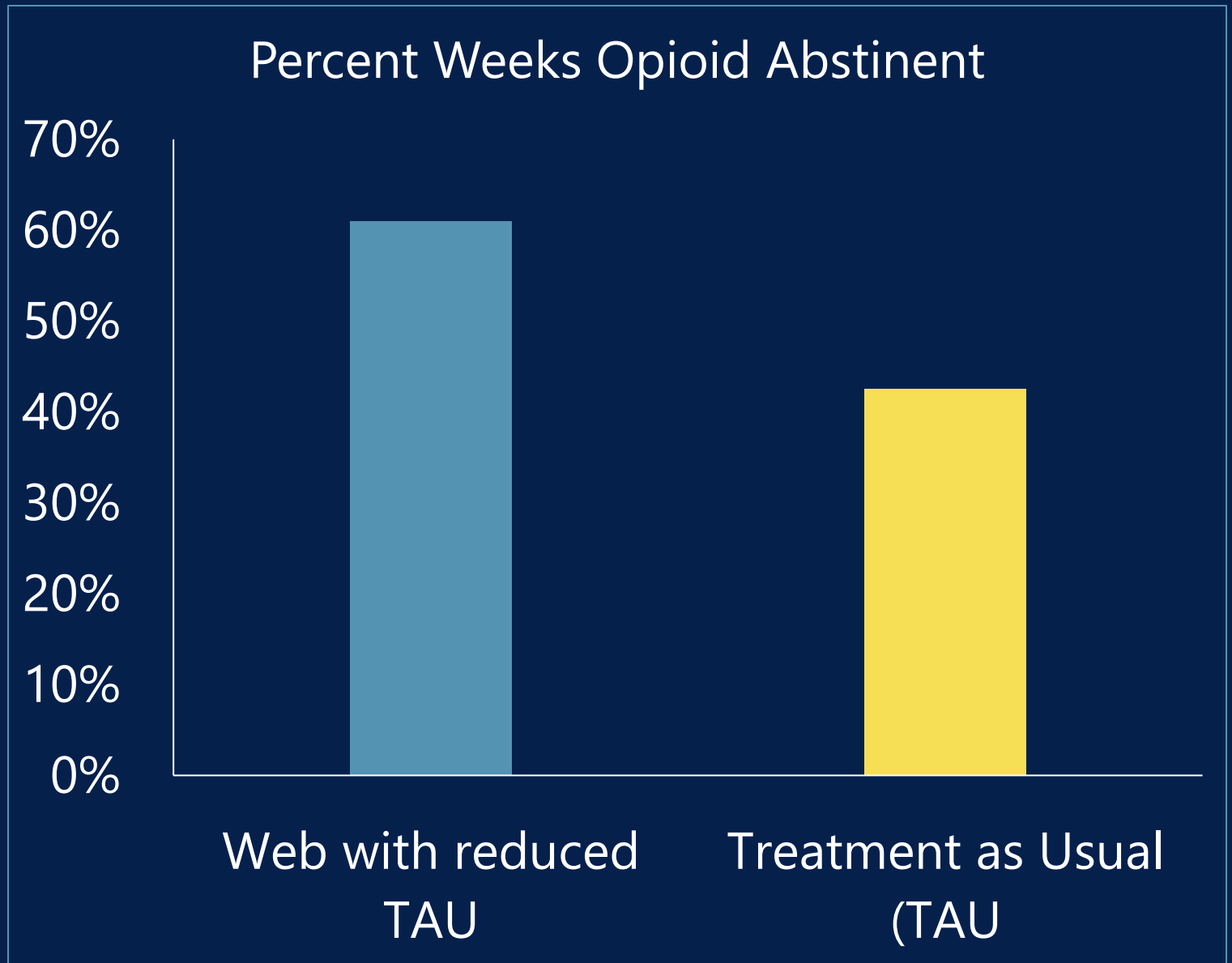


# Digital Therapeutic is as Effective as “Gold Standard” Clinician-Delivered Treatment in Medication- Treatment for OUD (n=135)

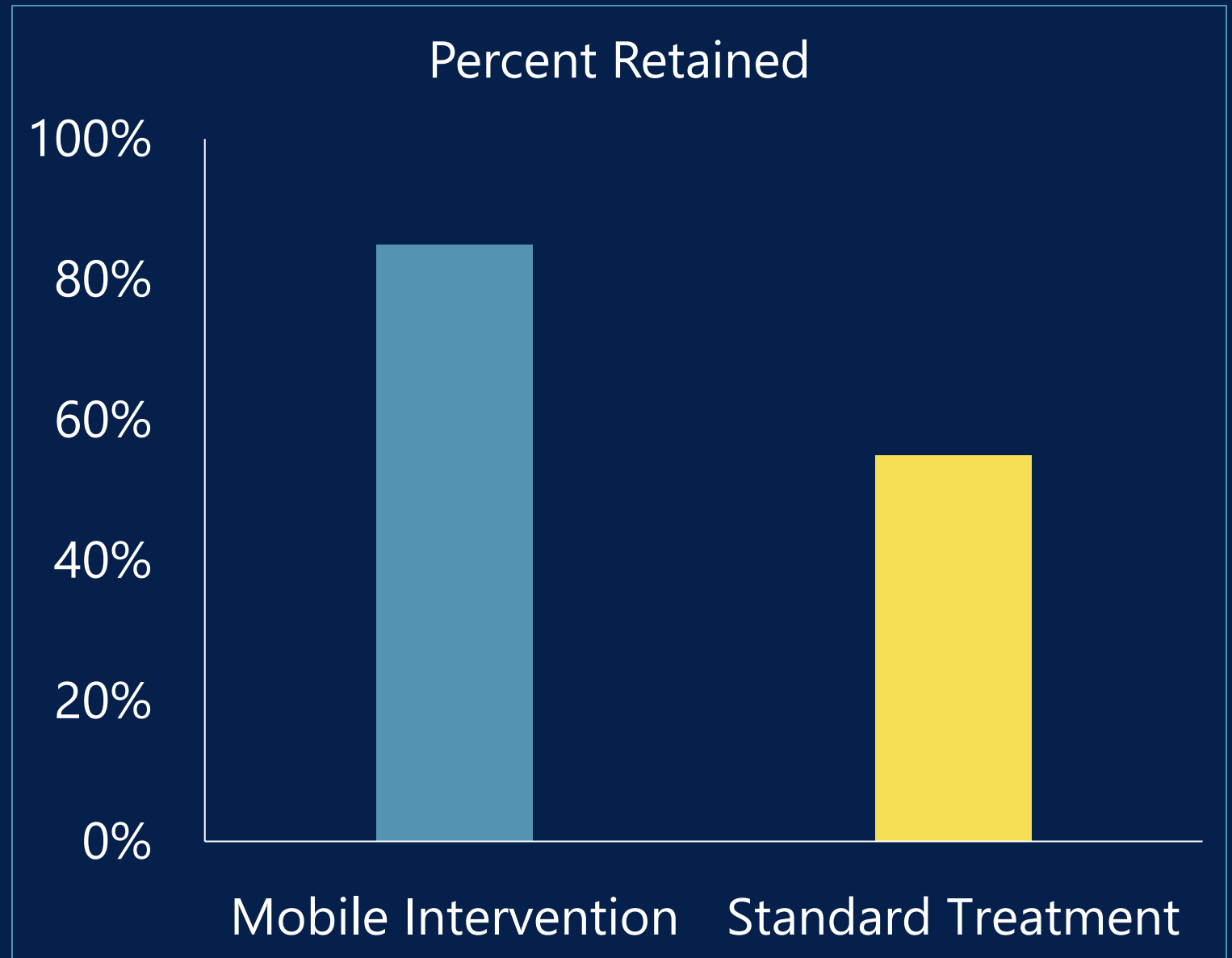
*(Bickel, Marsch et al., 2008)*



**Replacing Half of  
Clinician-  
Delivered OUD  
Treatment with  
Digital  
Therapeutic  
Produces Better  
Outcomes  
than Standard  
Medication Treatment  
(n=160)**

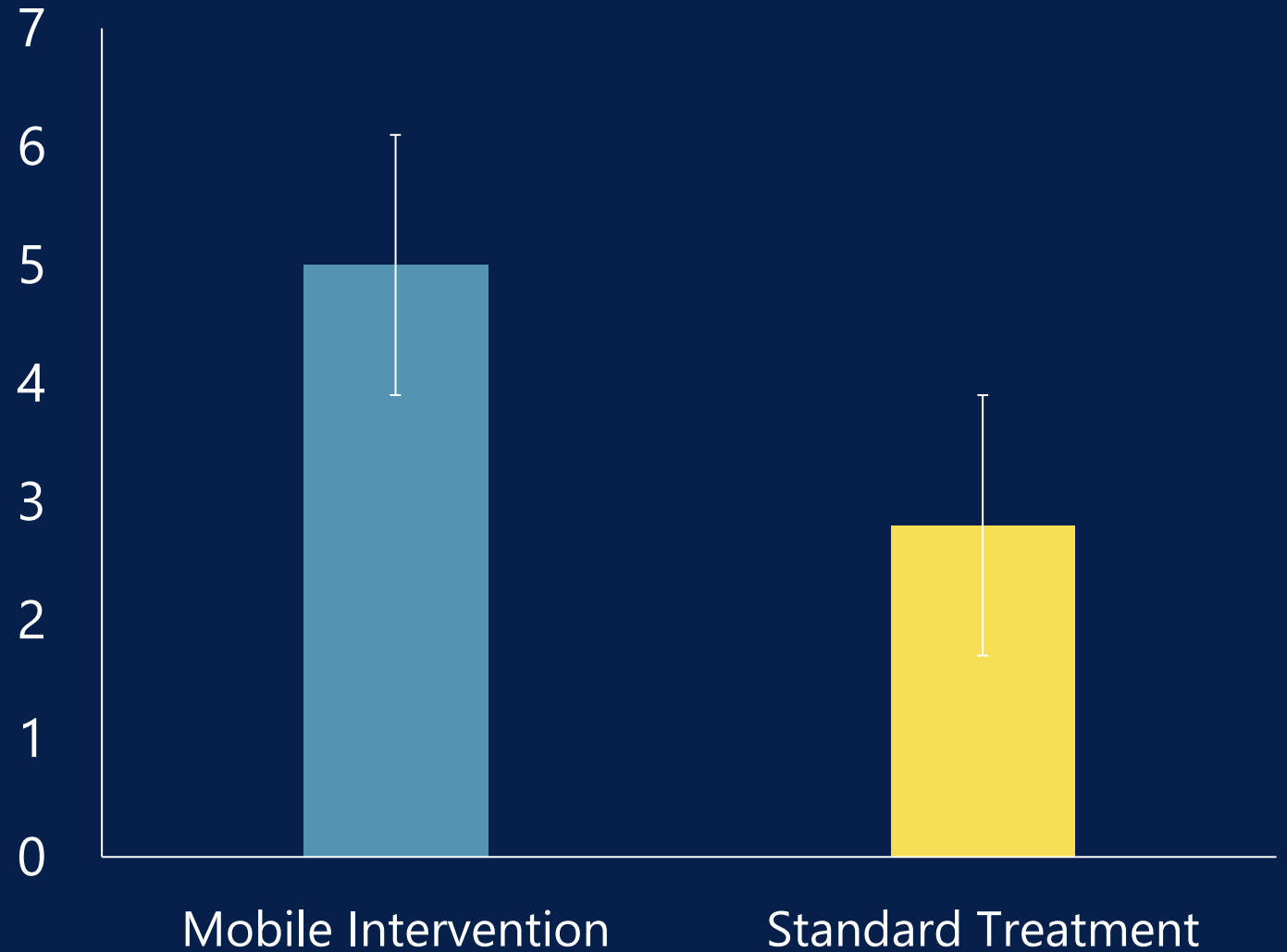


**Adding Mobile Behavioral Treatment as an Adjunct to Medication Treatment for OUD Greatly Increases Treatment Retention**



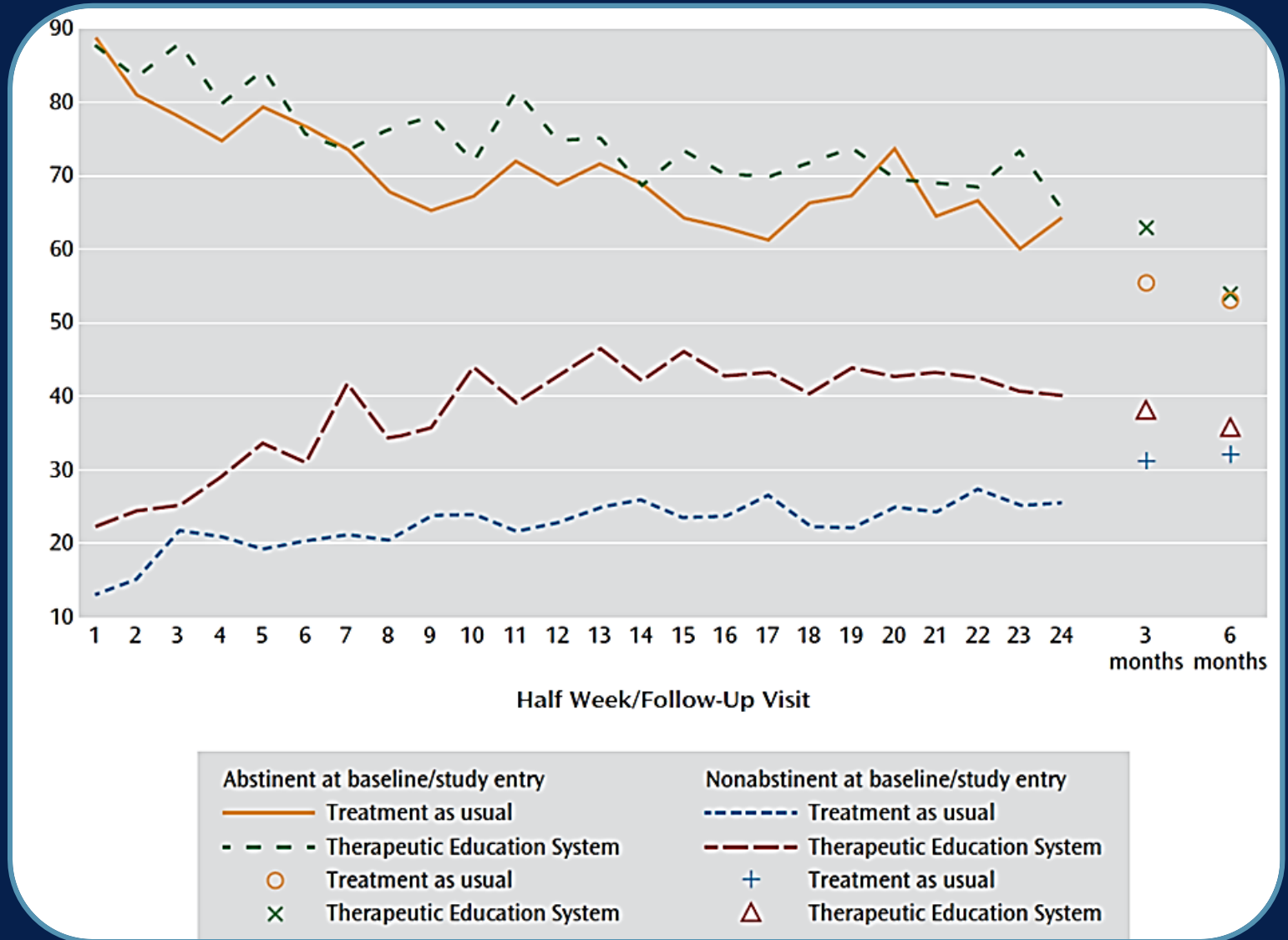
**Adding Mobile Behavioral Treatment as an Adjunct to Medication Treatment for OUD Greatly Increases Opioid Abstinence**

Weeks of Opioid Abstinence



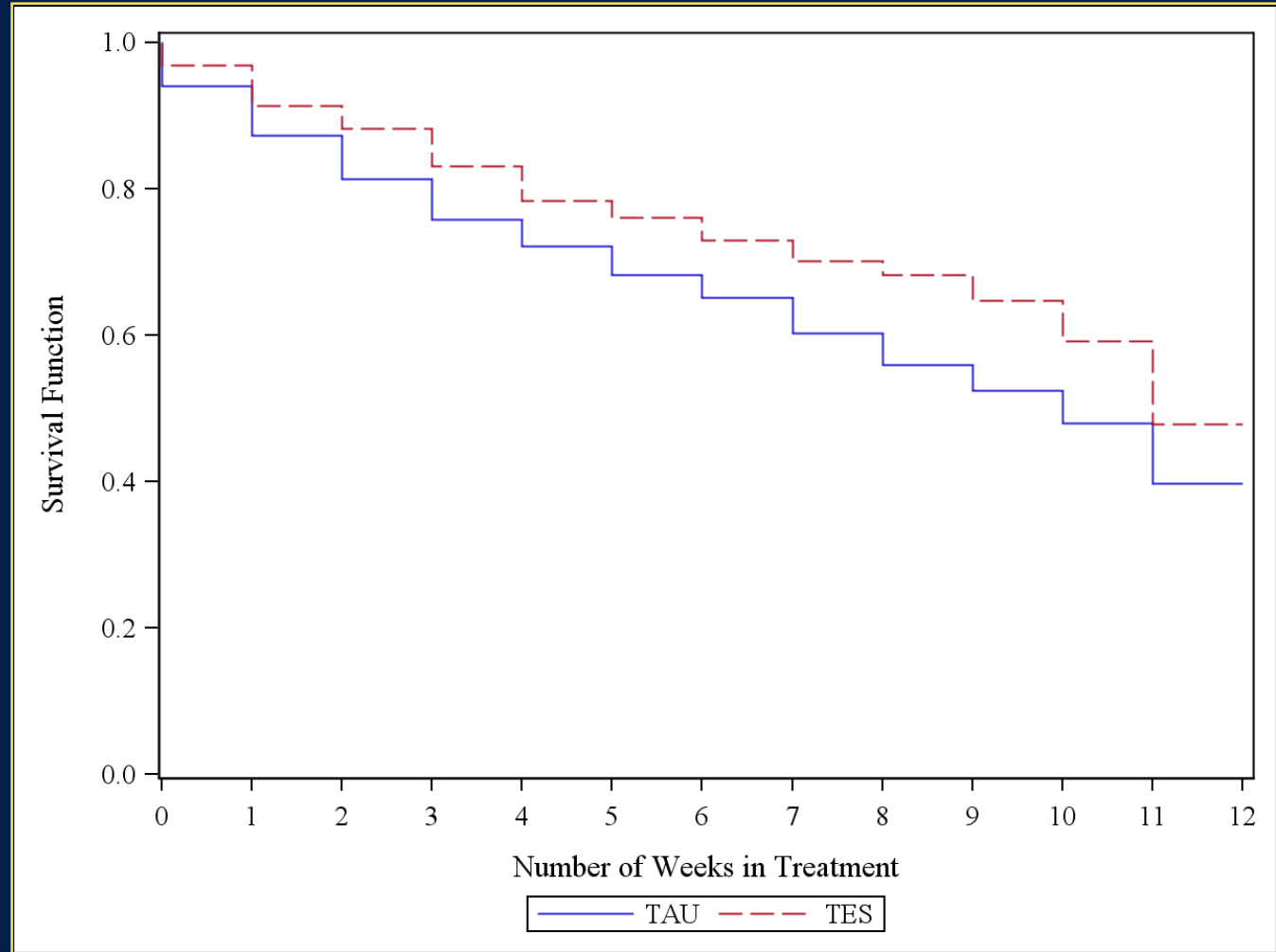
# Digital Therapeutic Improves Polydrug Abstinence

(n=507)



# Digital Therapeutic Improves Treatment Retention

(n=507)



# Some Digital Therapeutics can now be prescribed for Substance Use Disorders

- **September 2017.** U.S. Food and Drug Administration (FDA) authorized first “Prescription Digital Therapeutic” (reSET)<sup>™</sup> for treatment of substance use disorders (Pear Therapeutics)
- **December 2018.** FDA authorized “Prescription Digital Therapeutic” (reSET-O)<sup>™</sup> for opioid use disorder treatment (Pear Therapeutics)

# The Opportunity

Digital therapeutics provide effective and accessible treatment for polysubstance use.

Digital therapeutics offer tremendous promise for enhancing the reach and impact of science-based substance use treatment.

Timely and significant opportunity to scale-up and sustain access to science-based digital therapeutic tools that transcend population and context



# Program Review of Clinically-Validated Digital Therapeutics for Substance Use Disorders



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