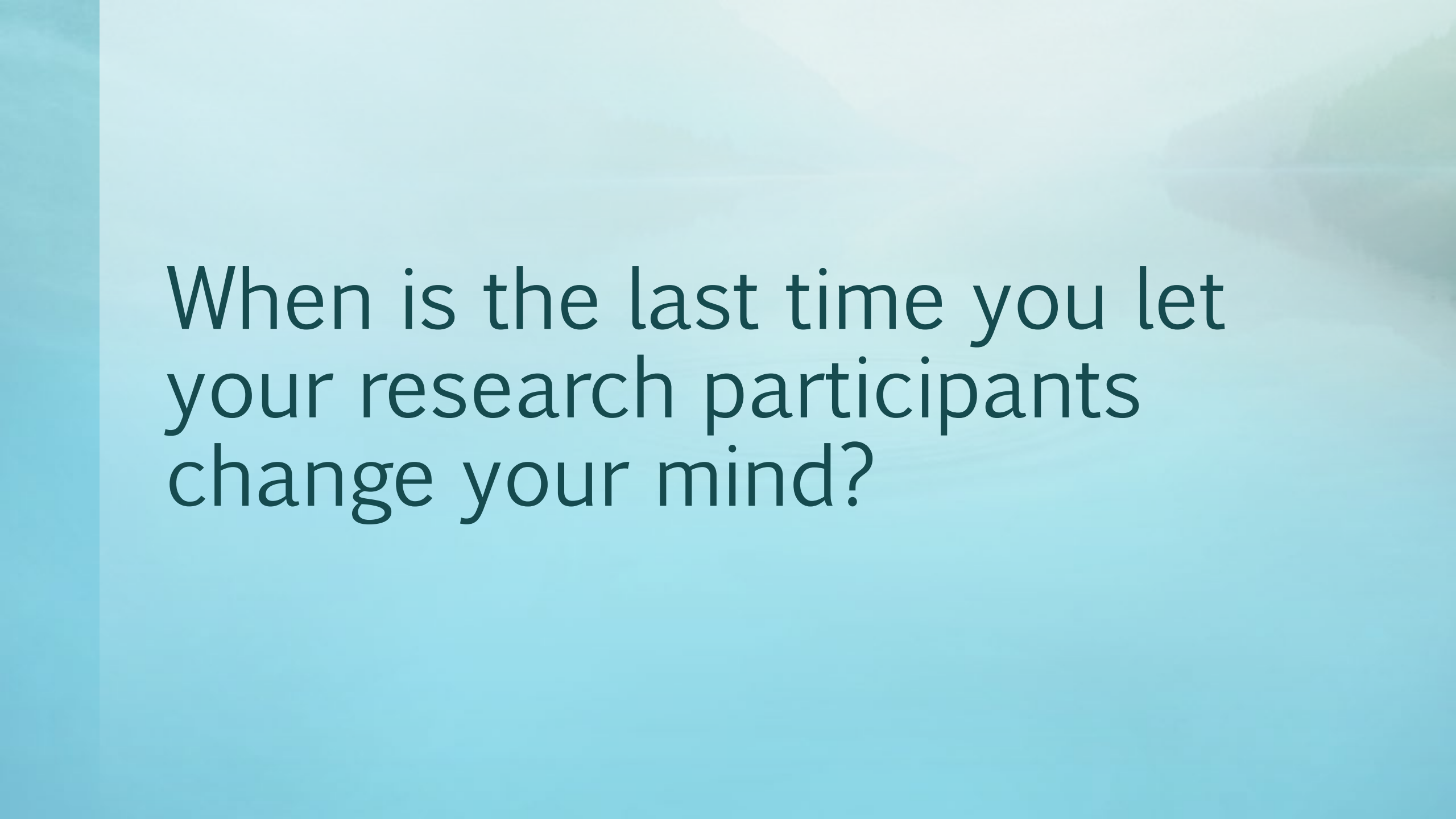# An Iterative, Patient-Centered Approach to Tobacco Cessation Program Development
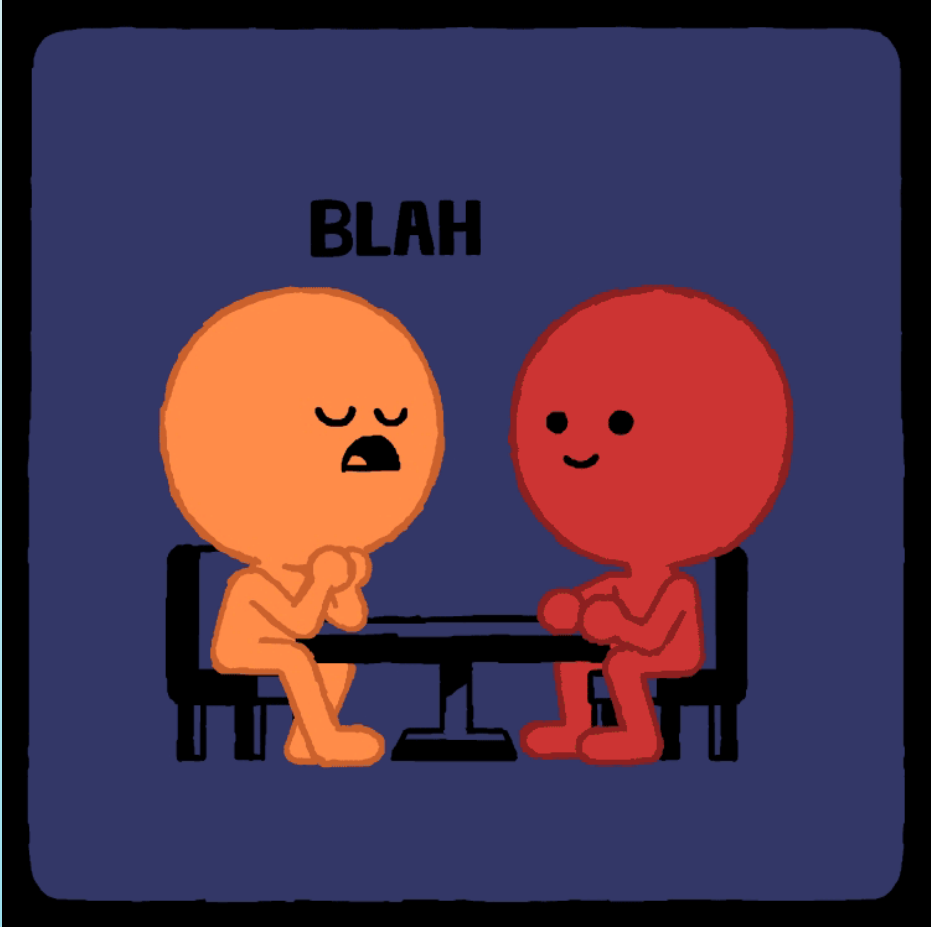
Sarah M. Wilson, PhD
Investigator, VA HSR&D ADAPT COIN
(Center of Innovation to Accelerate Discovery & Practice Transformation)
Assistant Professor, Duke University School of Medicine

Funding Acknowledgement

When is the last time you let your research participants change your mind?

What is your experience with patient-centered or community-engaged research?

I have (check all that apply):

a) **Disseminated** my research to patients/Veterans/community

b) **Used feedback** from patients/Veterans/community members to guide my work

c) **Garnered support** from patients/Veterans/community members for my work

d) **Co-led** research projects with patients/Veterans/community members

CSCCE, 2020

Getting Started: Understand What Matters to You and Why Speak Freely about What You Don't Know
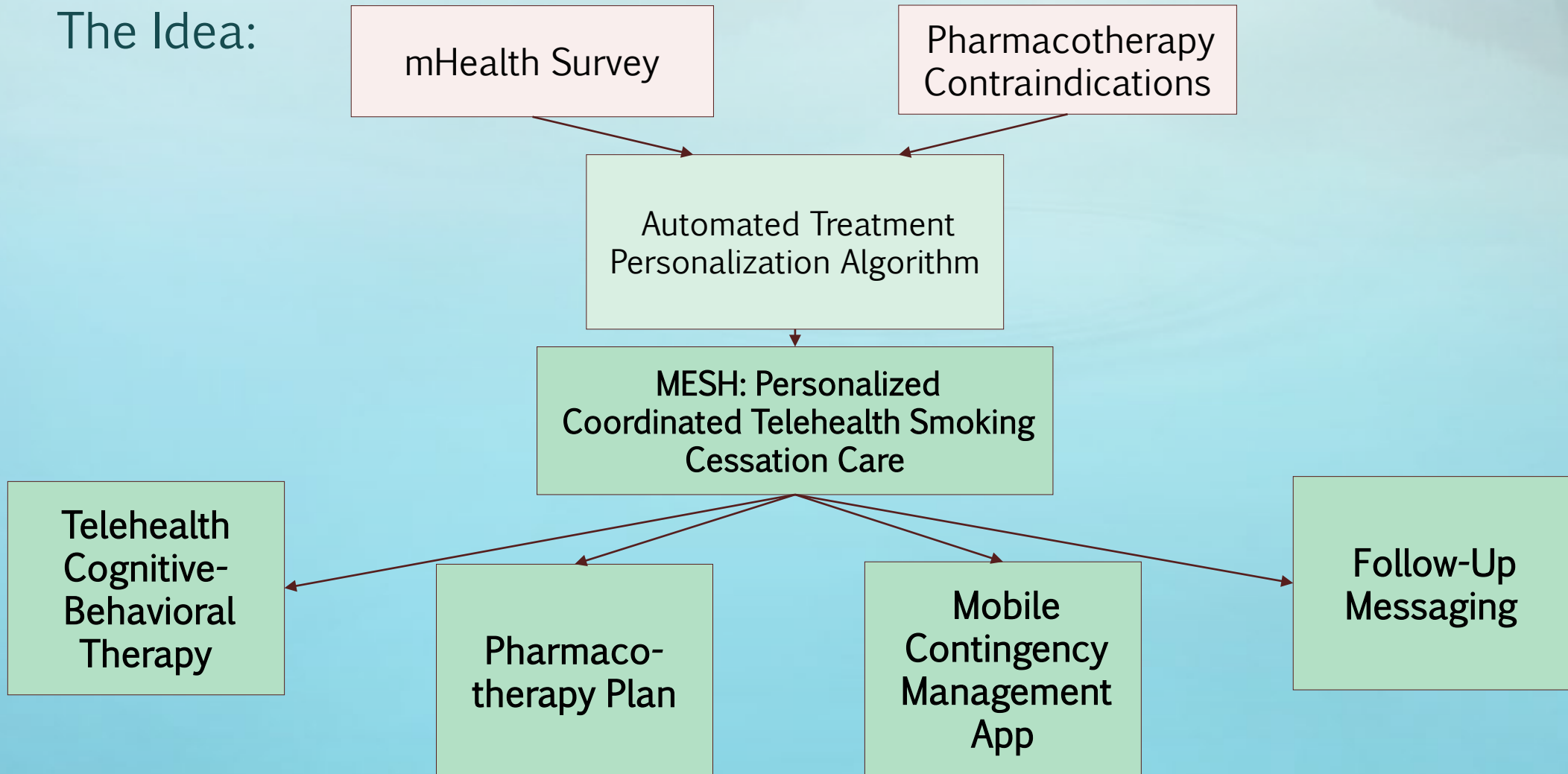

Veterans living with HIV:

- face disproportionate health risks overall
  (McCree et al., 2016)

- are more likely to smoke daily
  (Wilson et al., 2017)

- are less likely to respond to standard tobacco cessation interventions
  (Ledgerwood & Yskes, 2016)

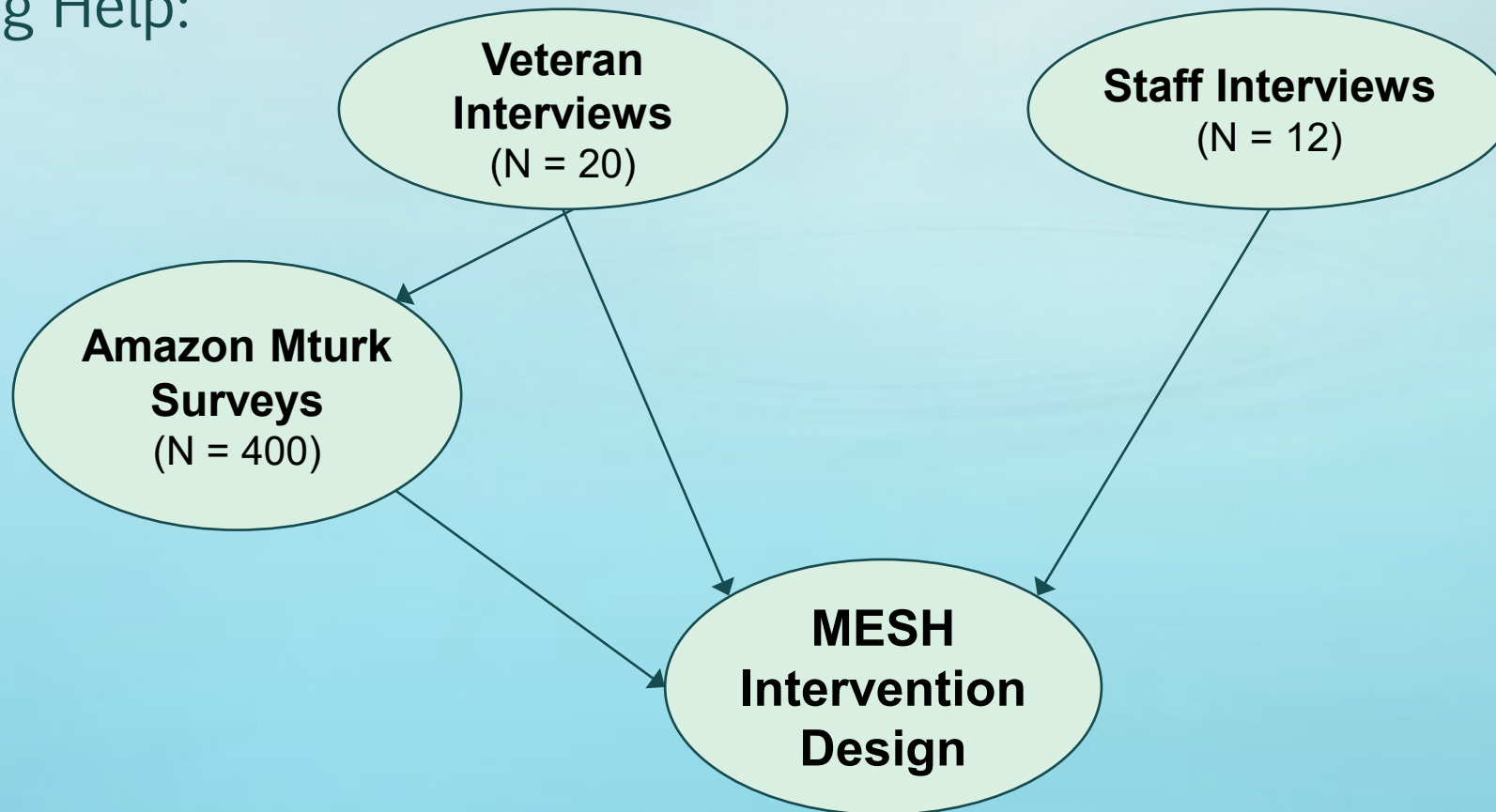- deserve an intervention that is tailored, integrated, and effective

Jumping In: Start with an Idea, Then Get Help
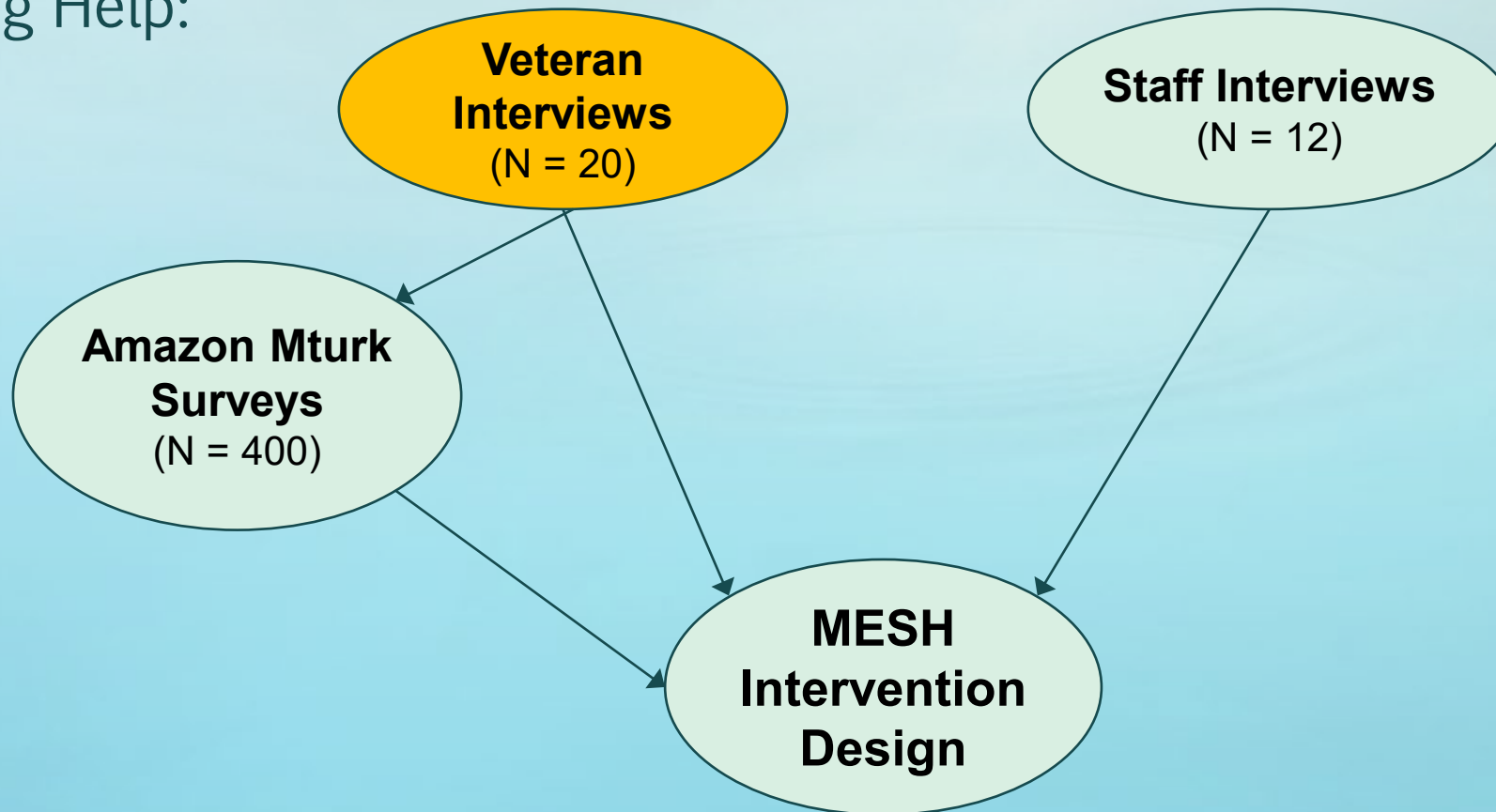
The Idea:

Jumping In: Start with an Idea, Then Get Help

Getting Help:

Jumping In: Start with an Idea, Then Get Help

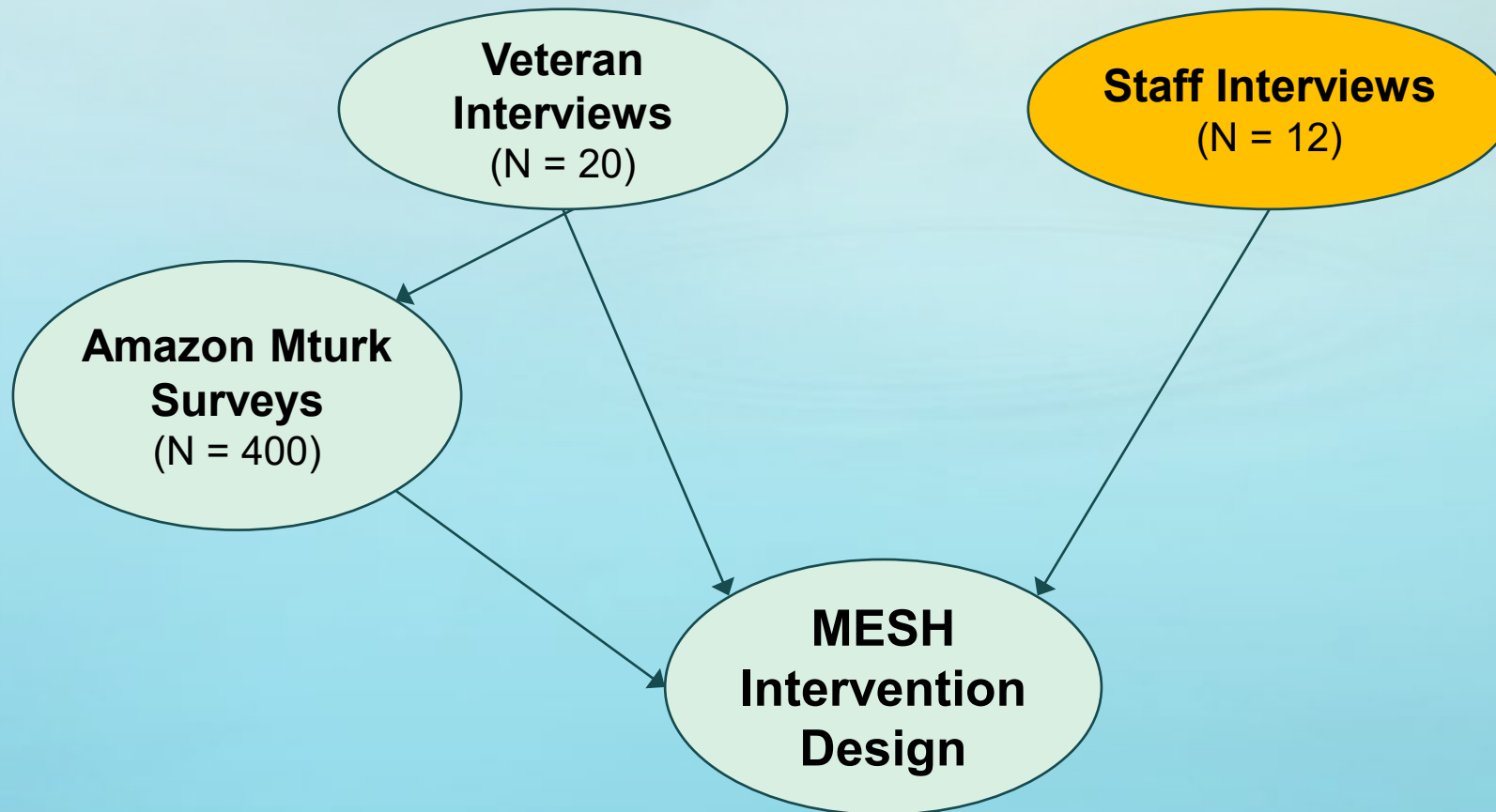Getting Help:

Veteran Interviews – Method and Sample

Variable	N = 20
Living with HIV	100%
Age	Mean = 57.5 SD = 8.5
Race/Ethnicity	Black, Not Hispanic: N = 17 White, Not Hispanic: N = 3
Gender	Men: N = 16 Women: N = 4
Smoking Status	Current Smoker: N = 18 Former Smoker: N = 2
Cigarettes/Day (Current only)	Mean = 10.4 SD = 4.9

Veteran Interviews – One Example of Impact

ONE DAY AT A TIME

SERVICE UNITY AA RECOVERY

Humility

Acceptance

CBT Treatment

Willingness
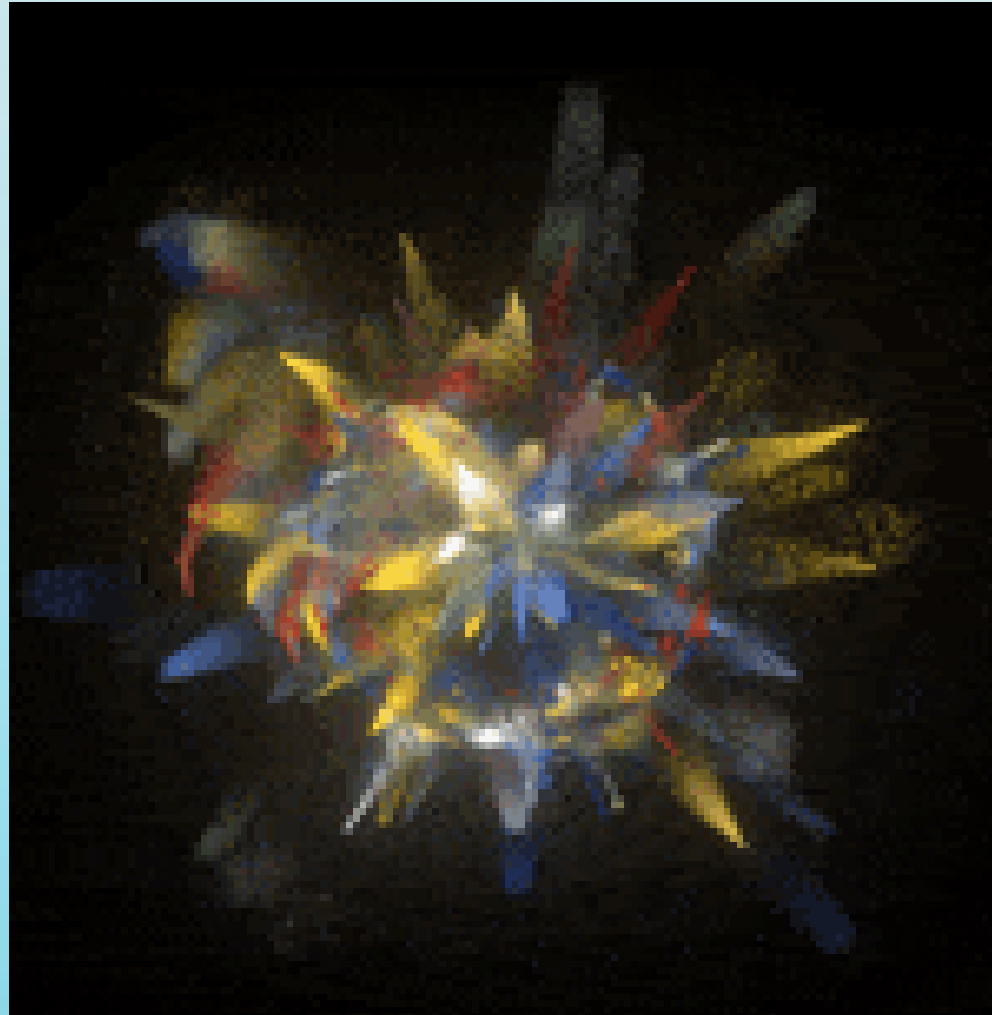
Quitting is a Process

Getting a Variety of Perspectives

Staff Interviews – Method and Sample

- 10 ID Clinic Staff Members
  - *N* = 6 Physicians/NPs/Fellows
  - *N* = 4 Nurses

- Interview Topics (CFIR):
  - Intervention Characteristics
  - Outer Setting
  - Inner Setting

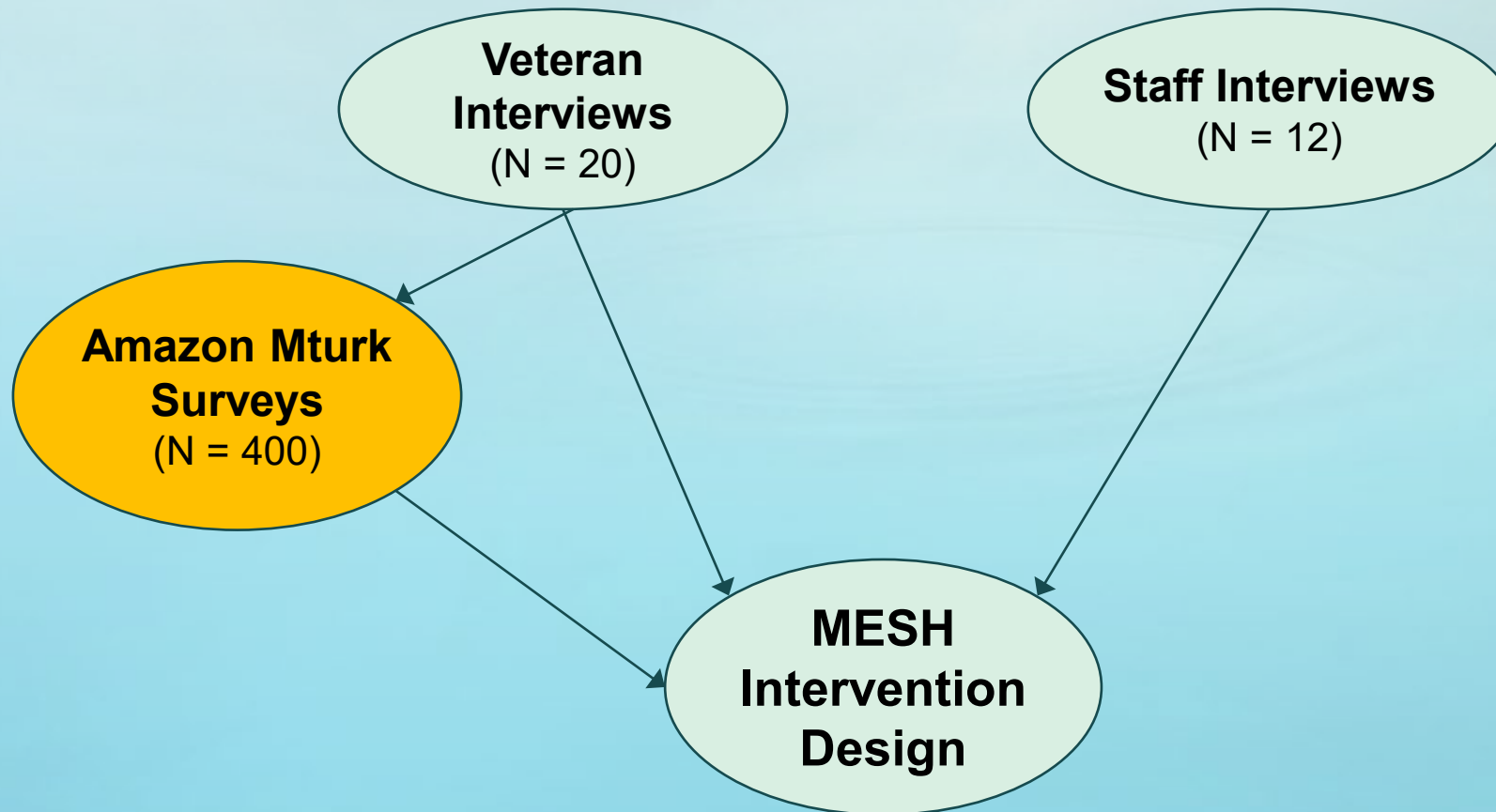# Staff Interview Findings – This is When Everything Changed

Poll

Think about your own work. Would you make considerable changes to your study intervention or design if a group of Veterans or providers had reasonable, significant concerns about its implementability?

a) Yes

b) No

c) I don't know

Getting a Variety of Perspectives

MTurk Crowdsourcing – Why Use This?

MTurk Crowdsourcing – Method and Sample

PLWH who smoke

Veterans who smoke

Recruited from MTurk

E-Survey Assessing Text Message Satisfaction
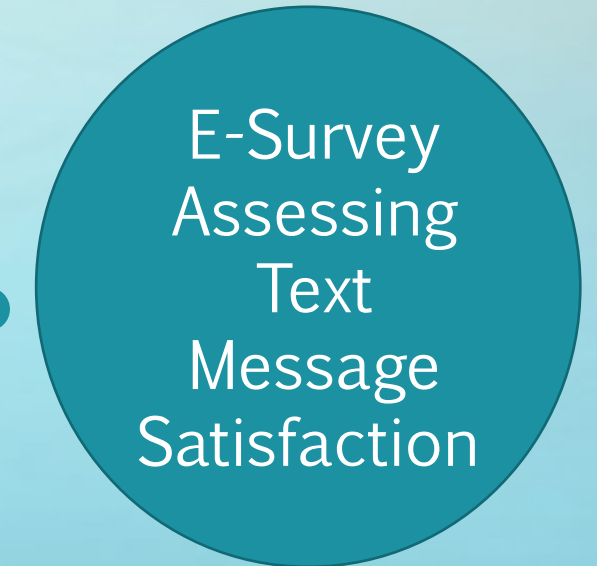
MTurk Requires **Heavy** Validity Checks

Please put these officer ranks in order from (**lowest to highest**):

I currently have the following medical conditions:

ADHD

ALS

COPD

Gonorrhea

Hepatitis C

HIV

HPV

Lynn & Morgan, 2016

Crowd-Sourced MTurk Worker Feedback

Please rate on the scale below how satisfied you are with each message:

Within just 2 weeks of quitting, your risk for heart attack is already lower!

Very Unsatisfied

Very Satisfied

0   1   2   3   4   5   6   7   8   9   10

Post-Cleaning Results from Crowd-Sourced MTurk Worker Feedback

Veteran Sample

- N = 173

- Each message received approx. 50 valid ratings

- Mean age: 37.0 (SD = 9.9)

- 70% current smokers

- 33% women Veterans

- 60% Straight, 99% Cisgender

- 77.5% White, 14.5% Black, 3.5% Multiracial, 2.3% API, 0.6% AI/AN

- 7.5% Hispanic/Latinx

PLWH Sample

- N = 106

- Each message received approx. 30 valid ratings

- Mean age: 32.6 (SD = 8.2)

- Mean age at HIV Dx: 26.7 (SD = 7.6)

- 81% current smokers

- 35% women

- 60% Straight, 96% Cisgender

- 82.2% White, 10.0% Black, 3.3% Multiracial, 1.1% API, 1.1% AI/AN

- 17.9% Hispanic/Latinx

Example Top-Rated Messages

Quotes	Inspirational	Inspirational
"Many of life's failures are people who did not realize how close they were to success when they gave up." --Thomas Edison	In order to succeed, we must first believe that we can.	Quitting smoking is not easy, but you are consistently making an effort and progressing. Congratulations on all your hard work! It will pay off!

Example Bottom-Rated Messages

Tip from a [Veteran/ Smoker]

Tip from a [Veteran/smoker]: When you smoke, think about how your lungs are crying!
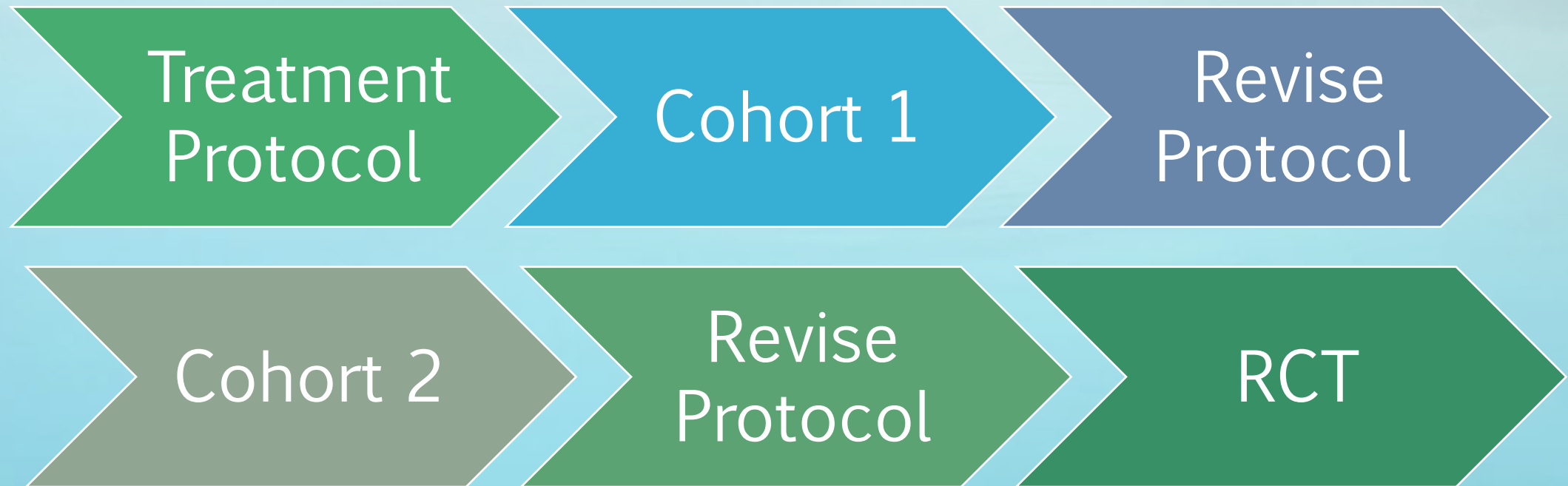
Check-Ins

Hang in there. Have you smoked? Reply: YES or NO

Check-Ins

You still on course? Text SMOKED if you need to rework your quit plan.

Final Draft of Intervention for Testing
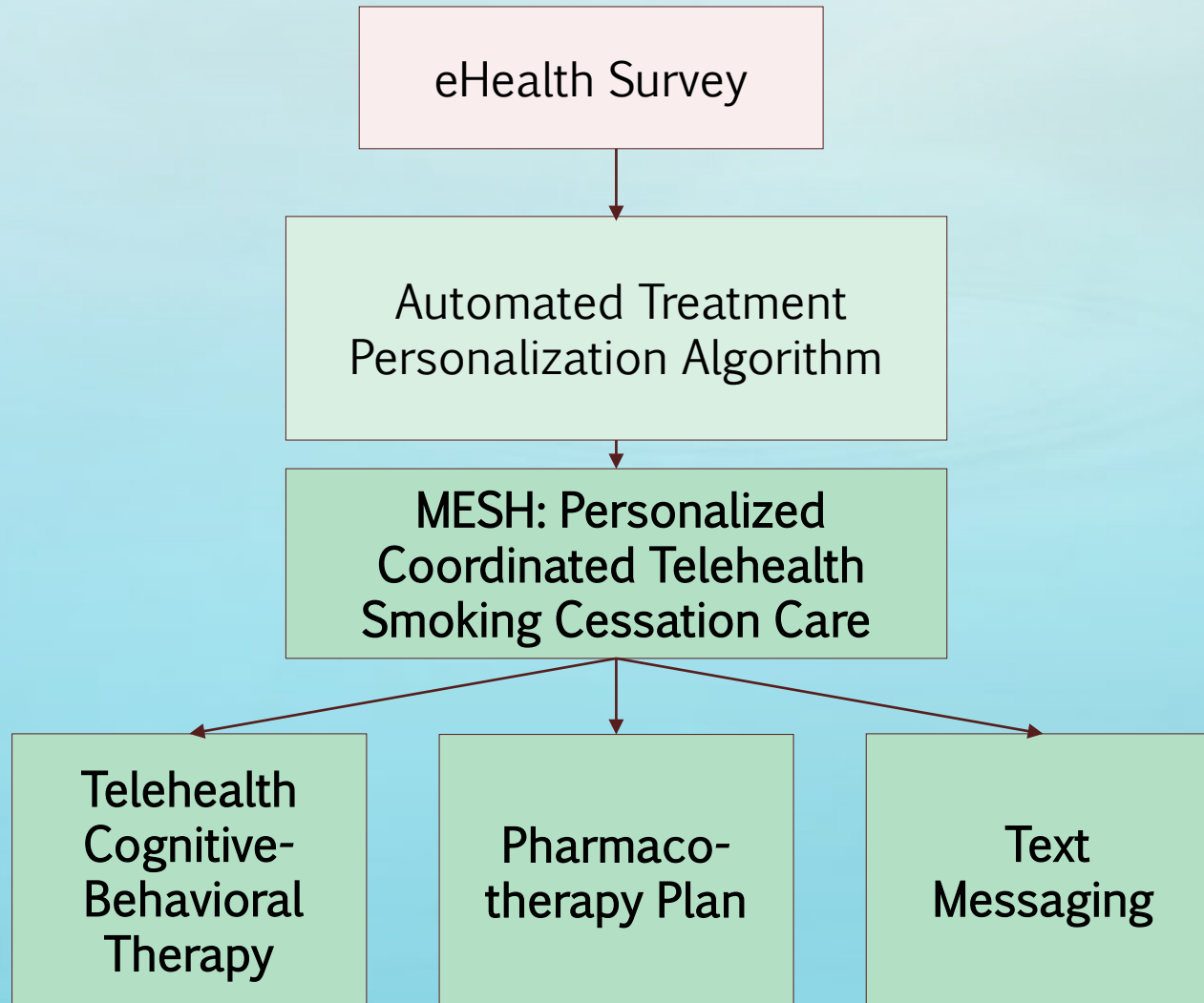## Successive Cohort Design

Epstein et al. (2007). The successive cohort design: A model for developing new behavioral therapies for drug use disorders, and application to behavioral couple treatment.
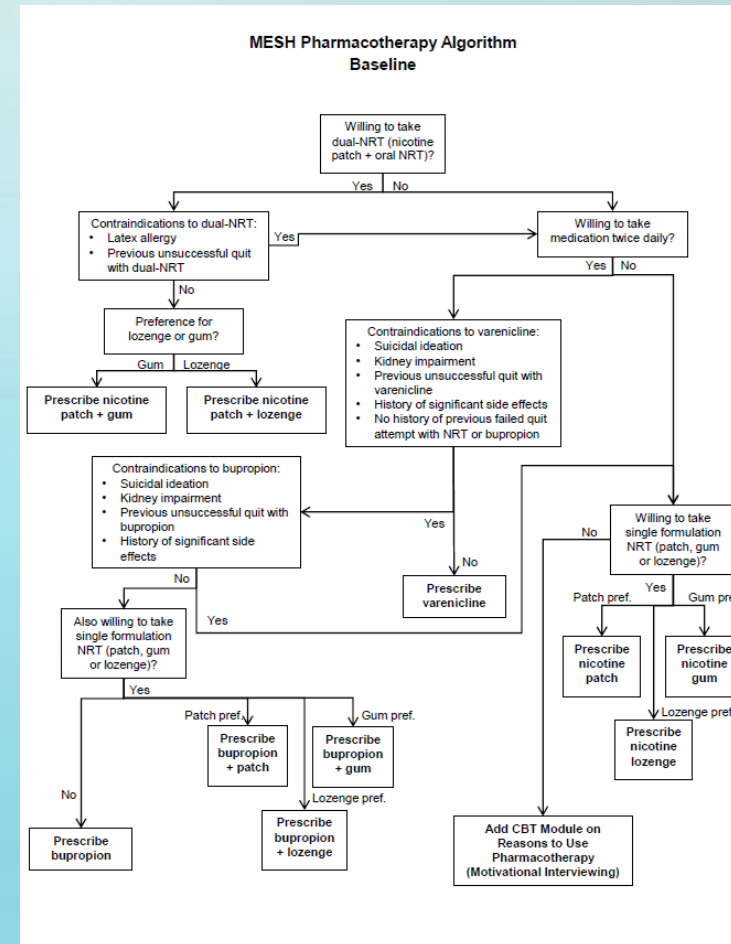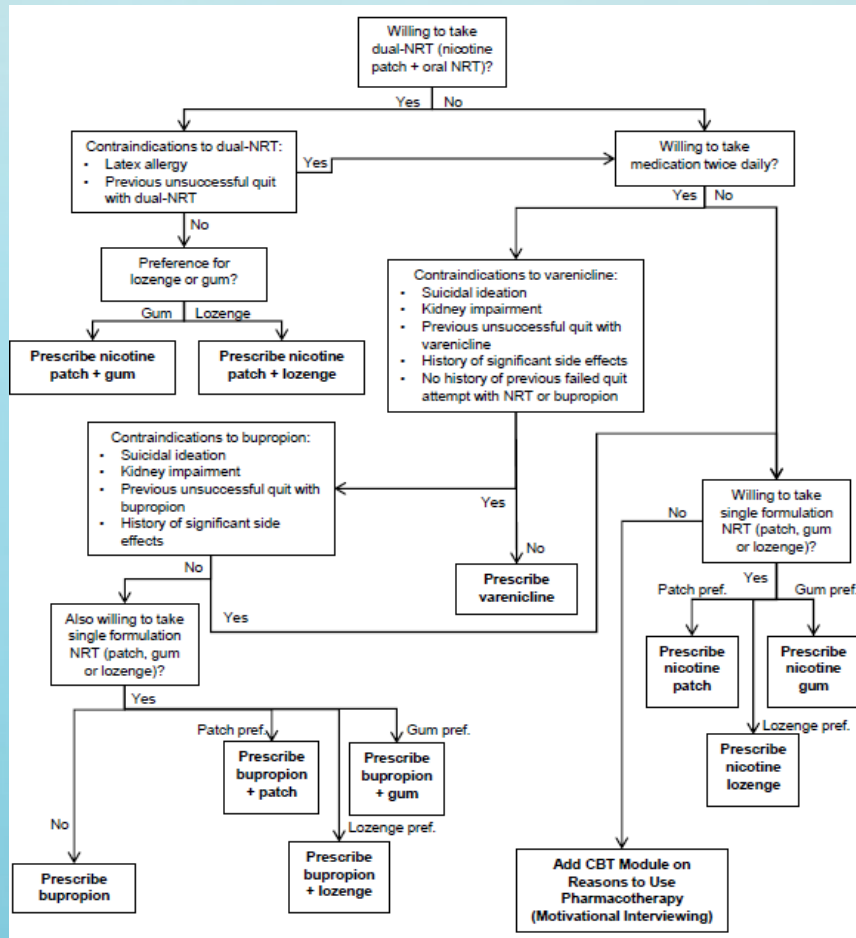
Successive Cohort Design
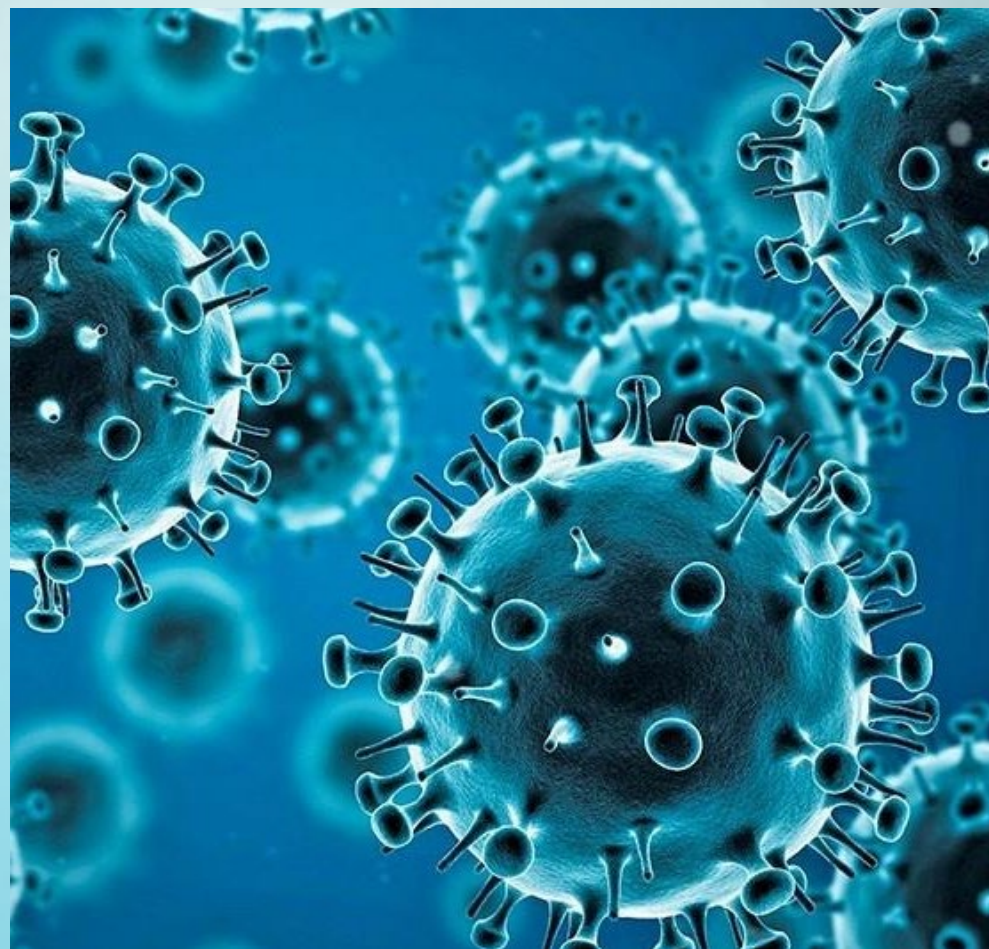# Preliminary Treatment Protocol
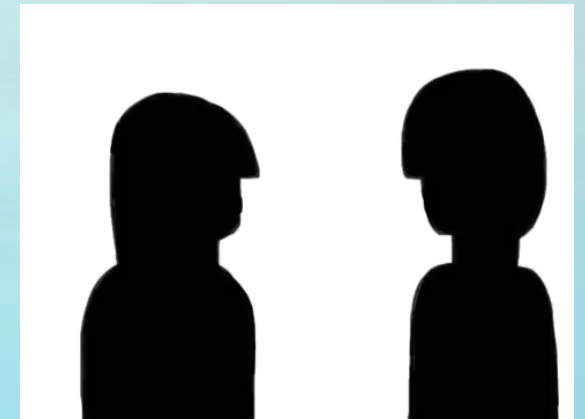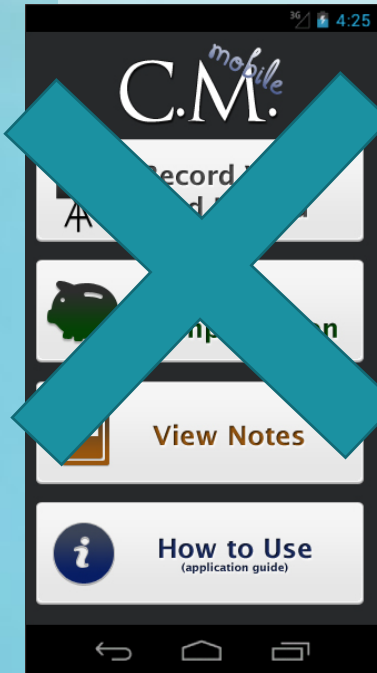
Successive Cohort Design
Preliminary Treatment Protocol

Successive Cohort Design
Preliminary Treatment Protocol

Then these things happened.

Successive Cohorts – Method and Sample

Cohort 1

- N = 5
- 100% completed treatment (5+ sessions)
  - All received pharmacotherapy
- Mean age: 55.2
- Mean cigs/day: 16
- Gender Identity: all cisgender men
- Race/Ethnicity:
  - 3 Black Not Latinx Veterans
  - 2 White Not Latinx Veterans
- Sexual Orientation
  - 2 gay Veterans
  - 3 straight Veterans

Cohort 2

- N = 6
- 33% completed treatment (5+ sessions)
  - 50% received pharmacotherapy
  - 50% initiated treatment
- Mean age: 60.7
- Mean cigs/day: 12
- Gender Identity: all cisgender men
- Race/Ethnicity:
  - 4 Black Not Latinx Veterans
  - 1 Black Latinx Veteran
  - 1 White Not Latinx Veteran
- Sexual Orientation
  - 1 bisexual Veteran
  - 1 gay Veteran
  - 4 straight Veterans

Successive Cohort Design – Key Impacts

More than 50 changes

Module on Unhelpful Thoughts

More virtual integration with the VHA care team

Where do we go from here?

Thank you to my amazing family!

All questions are welcome.

Contact:
Sarah.M.Wilson@va.gov

Spare Slides – not part of presentation

Veterans Living with HIV
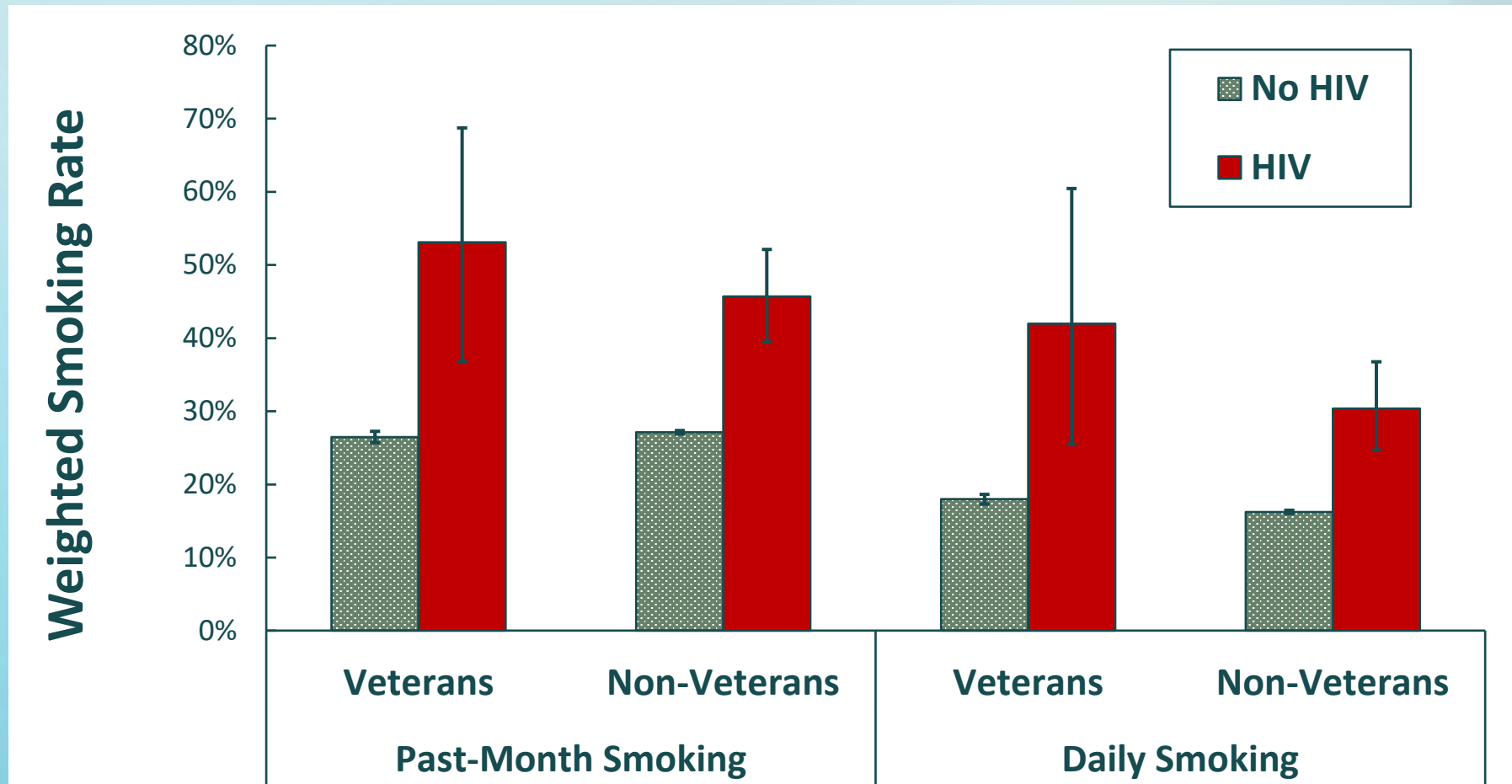
Wilson, S.M. et al., 2017, *AIDS & Behavior*

Smokers Living with HIV have Heightened Risk
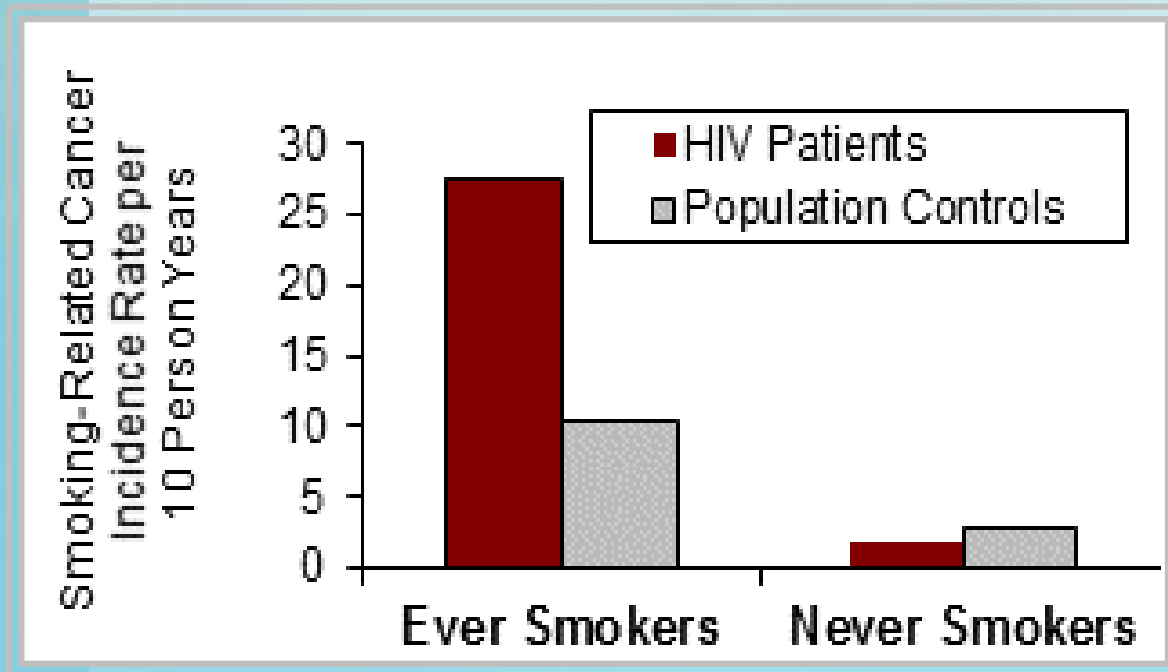
Helleberg et al., 2014
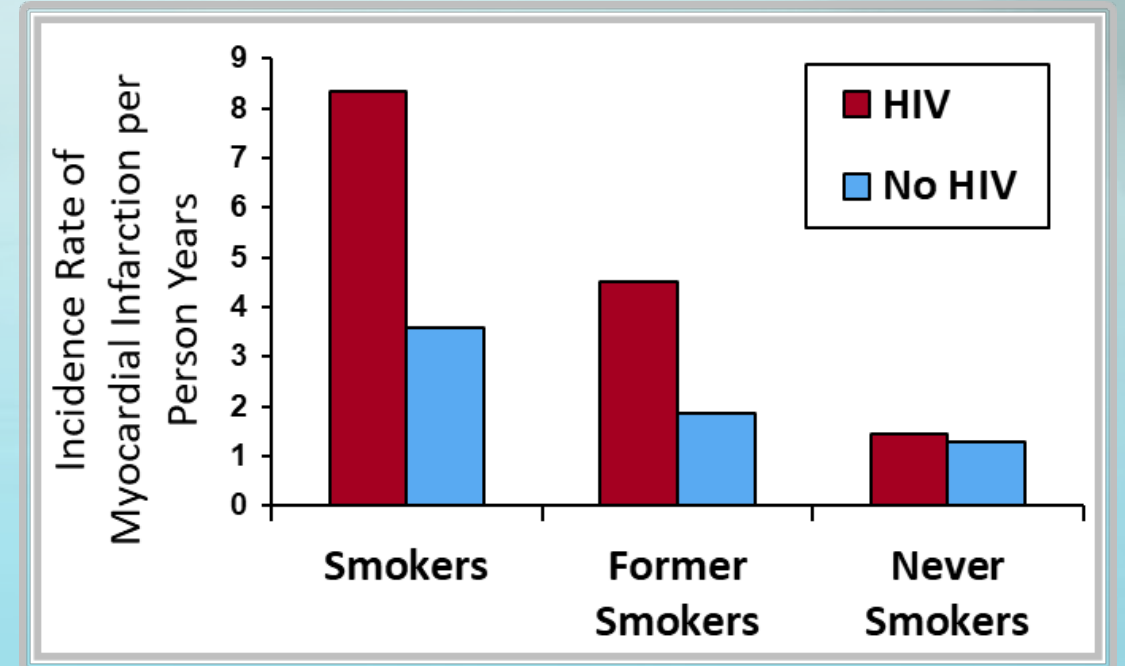
Rasmussen et al, 2015

MESH Components:
1. Personalized Telehealth Cognitive Behavioral Therapy

VA Video Connect
(Free Video Telehealth)

Sessions

- Number
- Frequency
- Length
- Convenience of VA telehealth

Providers

- Provider conducting sessions (medication, therapy, peer support)
- Communication between Providers

MESH Pharmacotherapy Algorithm Baseline
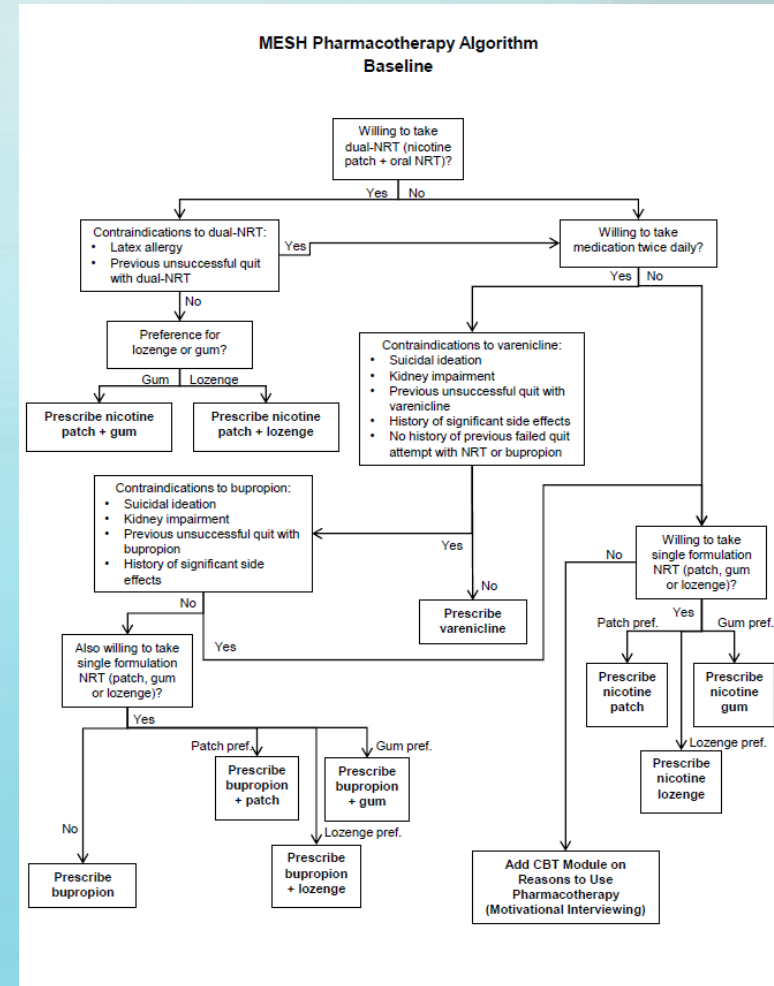
MESH Components:
2. Personalized Pharmacotherapy Plan
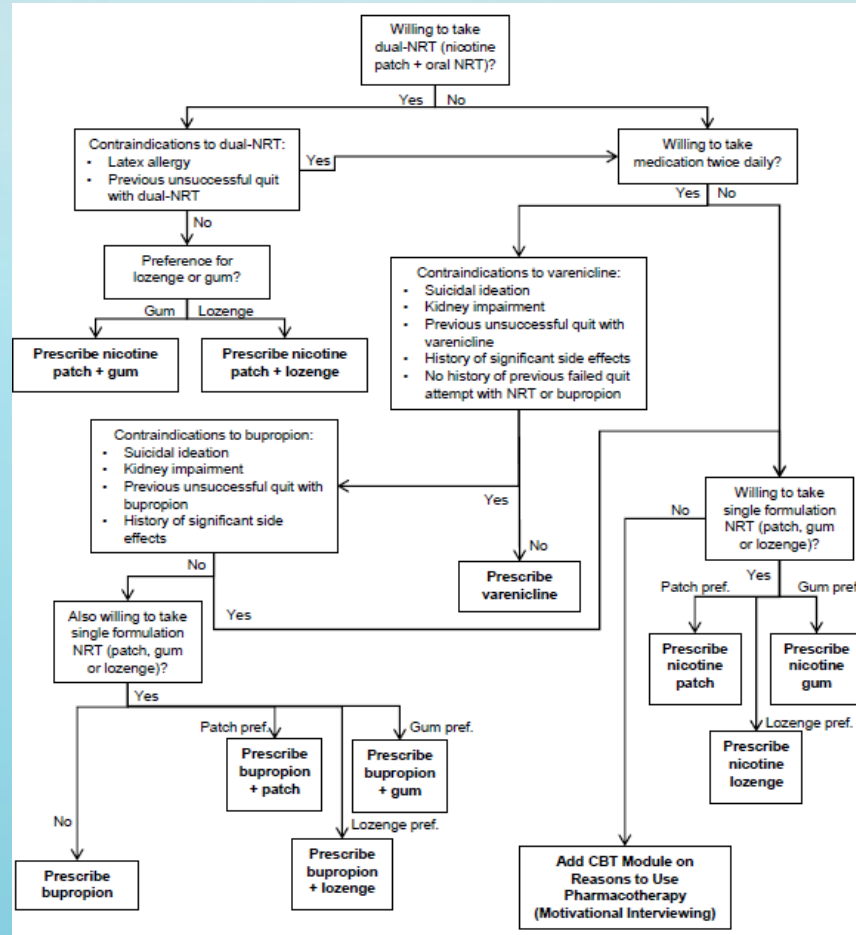
MESH Components:
3. Mobile Contingency Management (mCM)

Pilot Data: HIV+ smokers' video-confirmed expired CO over the mCM treatment period, *N* = 5

Abstinence, CO ≤ 4 ppm
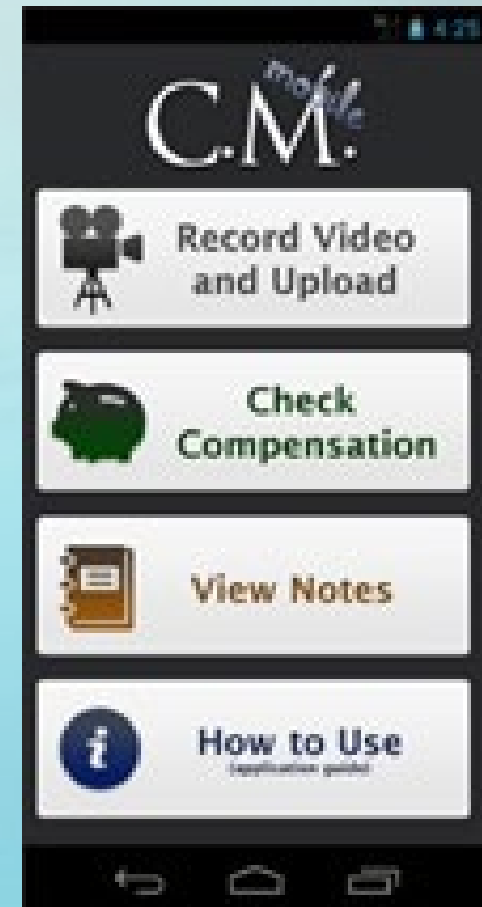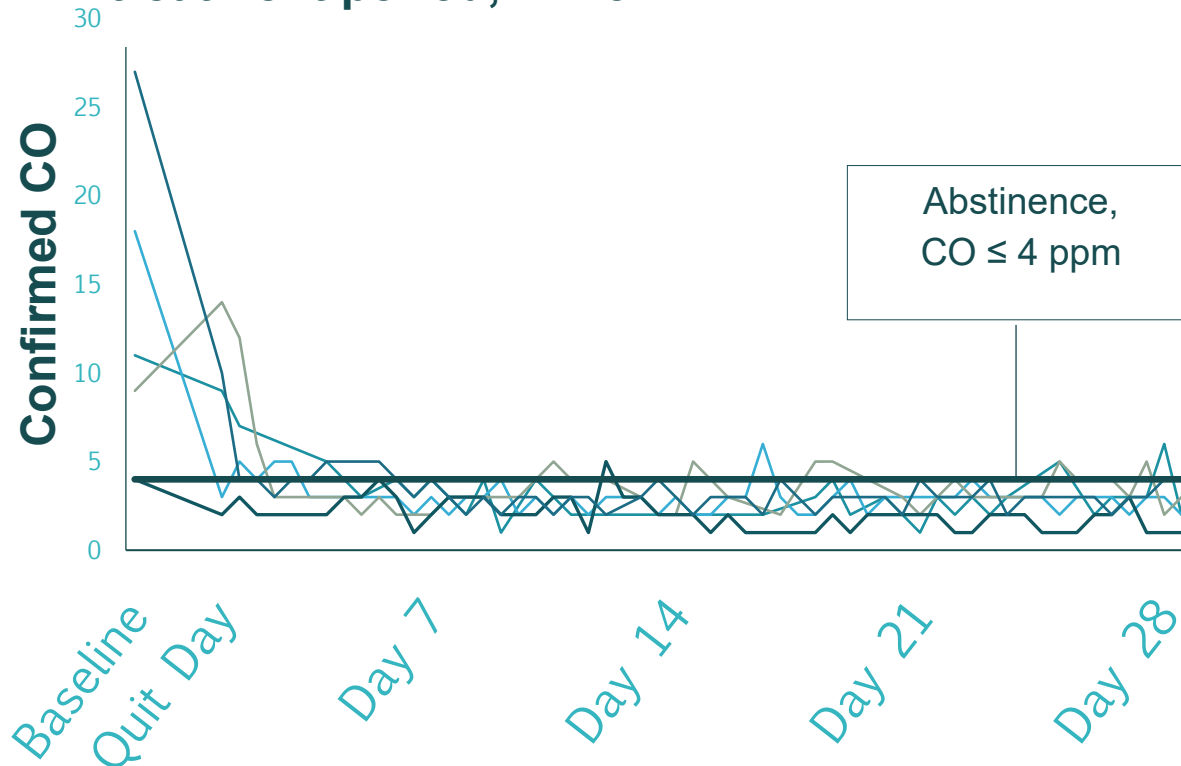
MESH Components:
4. Personalized Relapse-Prevention Texting

Inspirational

"Success is not final. Failure is not fatal. It is the courage to continue that counts!" – Winston Churchill

Medication Reminders

Having trouble remembering to take your varenicline (AKA Chantix) two times a day? Try a reminder on your phone or a sticky note on your mirror.

Help with Lapses

If you slipped and had a cigarette, we can help! Text back OOPS for what to do next.

Trigger Information

Do you remember what smoking triggers are? They are high-risk situations that bring on an urge to smoke. A trigger could be a person, place or activity.

Behavioral Skills

If boredom leads to temptations to smoke, keep yourself busy with a new project or a hobby. Some people try a solitaire, crossword, or Sudoku app for their phone.

Veteran Interviews – Select Findings

Emergent Theme	Action Taken
Unsuccessful Treatment Experiences	Ensure pharmacotherapy algorithm takes into account past unsuccessful experiences with medications Address misuse of nicotine gum/lozenge causing nausea by providing detailed instructions on proper use
Treatment Facilitators	Incorporate "Smoking and HIV" handout on health into participant workbook (adapted from VA Tobacco Policy & Programs HIV & Tobacco Use handout)
Treatment Format	Tailor length of treatment to each Veteran (5-7 sessions) Incorporated aspects of 12-step philosophy into treatment (e.g., cessation as a process; modeling acceptance, humility and willingness)
Texting	Added messages to the texting library based upon participant quotes (e.g., "Tip from a Veteran: It took me a million times to succeed. One success outweighs a million failures!")

Veteran Interviews – Select Findings

Veteran Interviews – Select Findings

HIV & Smoking: What You Need to Know

There are 3 times as many HIV+ smokers than there are HIV-negative smokers.

Just like HIV-negative smokers, HIV+ smokers develop lung diseases, respiratory problems, heart disease, lung cancer, bladder cancer, and prostate cancer; BUT...

HIV+ smokers are more likely than HIV-negative smokers to have:

- More AIDS-related illness (such as tuberculosis)
- More non-AIDS related cancers and diseases (such as heart and lung conditions like pneumonia and lung cancer)
- An increased risk of death compared to HIV+ individuals who never smoked

Smoking can also make your HIV worse and continuing to smoke can undo the hard work you've done to manage your HIV.

THE GOOD NEWS:

- Quitting smoking can decrease the risk of heart disease in HIV+ individuals, maybe more than the use of lipid-lowering drugs or antiretroviral therapy (ART).
- The risk of heart attack and stroke in HIV+ individuals decreases the longer you go without smoking.
- HIV-related symptoms also tend to decrease the longer you go without smoking.

Results from Crowd-Sourced Stakeholder Feedback

- Messages were divided into quartiles by sample based on average rating

- The top and bottom quartiles (for both PLWH and Veteran samples) were further reviewed by the study team

- Of the bottom-performing 30 messages:
  - 8 were permanently deleted from the final intervention texting library
  - 22 were revised based upon formative qualitative work and stop smoking facilitator input

- Example Top Rated Messages:
  - "Many of life's failures are people who did not realize how close they were to success when they gave up." -- Thomas Edison
  - In order to succeed, we must first believe that we can.
  - Quitting smoking is not easy, but you are consistently making an effort and progressing. Congratulations on all your hard work! It will pay off!

- Example Bottom Rated Messages:
  - Tip from a [Veteran/smoker]: When you smoke, think about how your lungs are crying!
  - Hang in there. Have you smoked? Reply: YES or NO
  - You still on course? Text SMOKED if you need to rework your quit plan.