



**Center for
AIDS Research**

Implementation Challenges of App-requested HIV and STI Home Test Kits among Men Who Have Sex with Men

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Background

- Men who have sex with men (MSM): disproportionately impacted by HIV in the United States
- Testing rates remain suboptimal; prevention services underutilized
- Home-based HIV and STI testing is feasible and acceptable
- Mobile apps offer the opportunity to provide services at scale, and in areas not fully served by conventional prevention providers

Study Overview & Mobile App

M-Cubed Study: Mobile Messaging for Men

Objective: Evaluate the use and effectiveness of a mobile app with tailored prevention messages in supporting sexual health of MSM.

Study Design: Randomized Controlled Trial

- Participants download and use app for 3-months
- Control participants are offered the app at the 9-month visit
- Surveys completed at baseline, 3-, 6-, and 9-months

1200+ MSM in Atlanta, GA; New York City, NY; Detroit, MI.

Eligibility and Participant Recruitment

Eligibility Criteria

- MSM in Atlanta, Detroit, or New York City MSAs
- Aged 18+ years
- Sexually active with men (past year)
- Is included in one of the following risk groups
 - HIV seropositive
 - HIV seronegative at “lower risk”
 - HIV seronegative at “higher risk”

Recruitment Goals

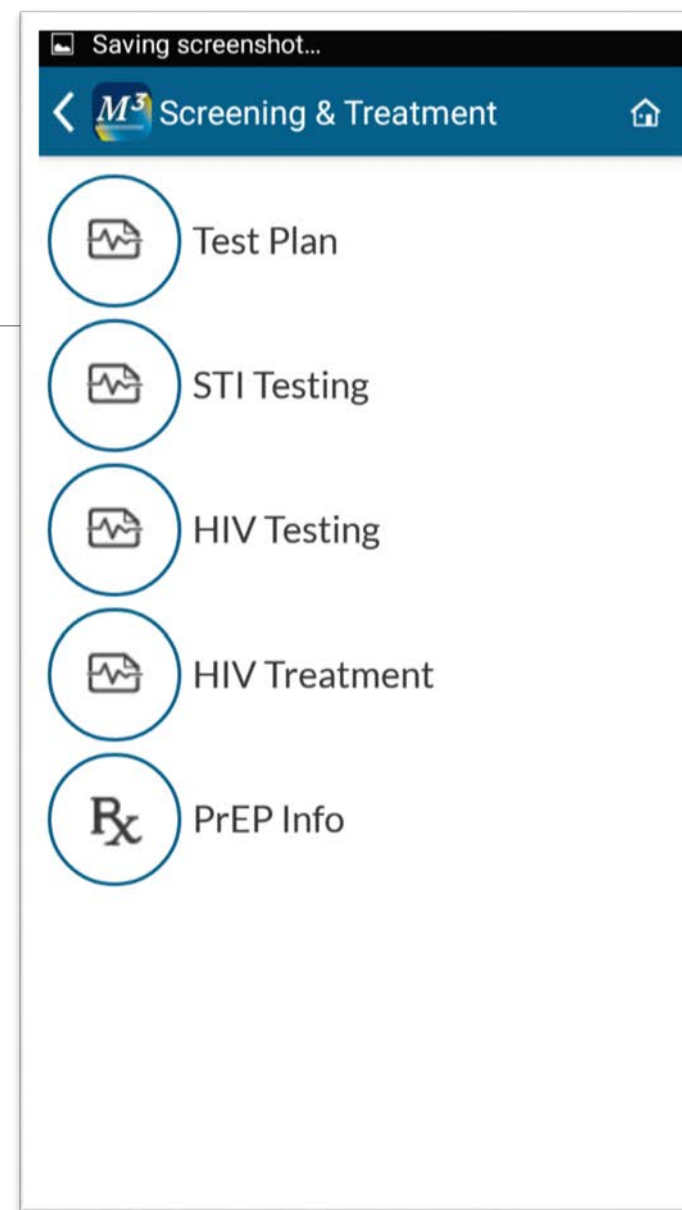
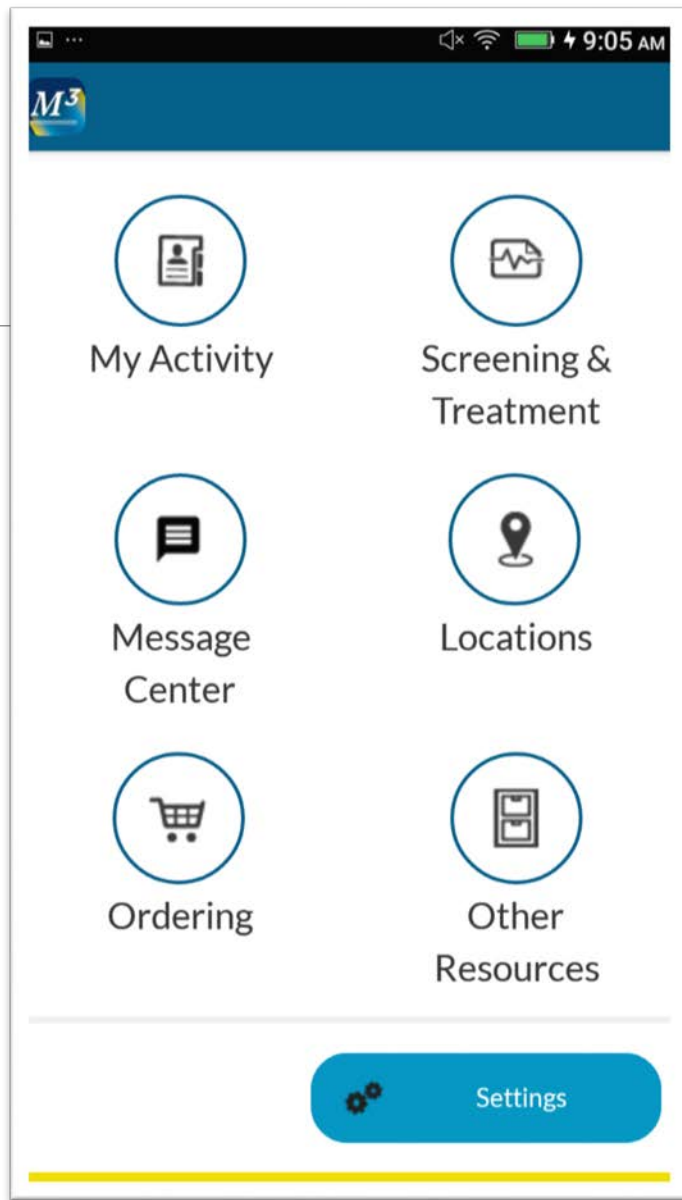
- Evenly split by city
- Evenly split by risk group within each city
- At least 30% non-white

Multiple Recruitment Methods

- Venue- and event-based
- Online advertisements
- Social Media
- Print advertisements
- Referrals
- Community outreach
- Public transportation

App Features Encourage Testing

- “Quizzes”
 - Behavioral risk assessment
 - PrEP indication
 - PEP indication
 - Testing frequency
 - HIV treatment
- Test planner
- PrEP and ART medical provider locators
- HIV and STI testing site locators
- Insurance information
- Free Commodity Ordering
 - Condoms and lubricant
 - HIV test kits (Oraquick)
 - STI CareKits
- Risk-tailored brief prevention messages

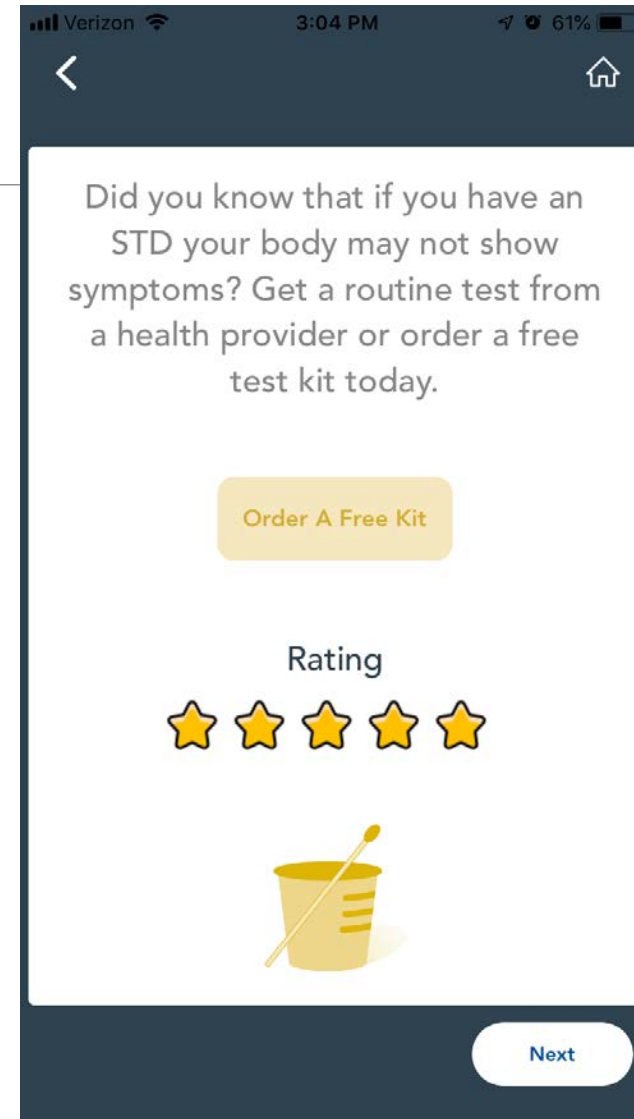


App Messages

Messages pushed out to participants over a 3-month intervention

Written (1-2 sentences; sent approx. every 2 days):
36 core messages to everyone with 9 additional messages targeted by HIV-status/risk

Video (~1 minute, 1 sent per week): 12 core video messages to everyone that reinforce written messages/domains



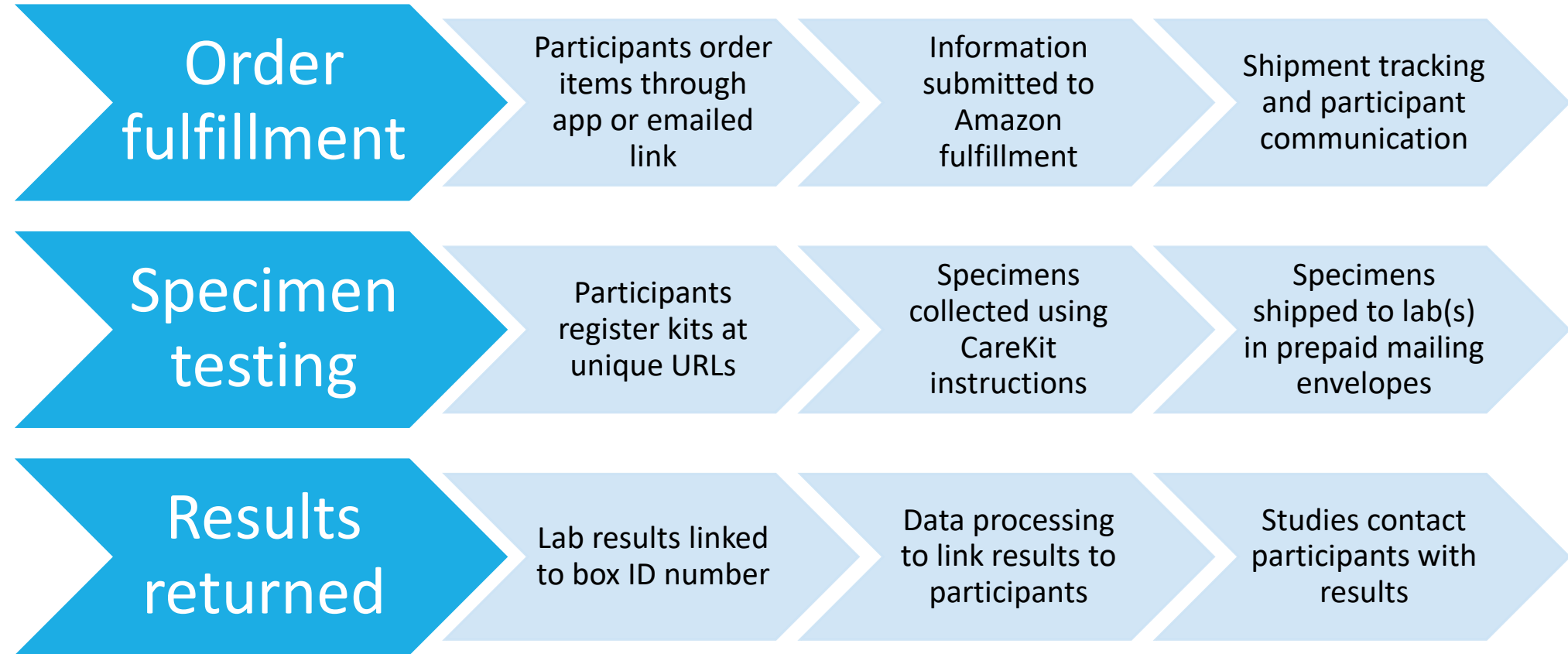
STI CareKits

STI CareKits

- Home-based specimen collection kits for STI testing
 - Urine (gonorrhea/chlamydia)
 - Throat swab (gonorrhea/chlamydia)
 - Rectal swab (gonorrhea/chlamydia)
 - Blood microvette (syphilis)
- Written instructions and video demonstrations
- Specimens returned to Emory CfAR lab
- No follow-up from staff until return of results



STI Testing Process

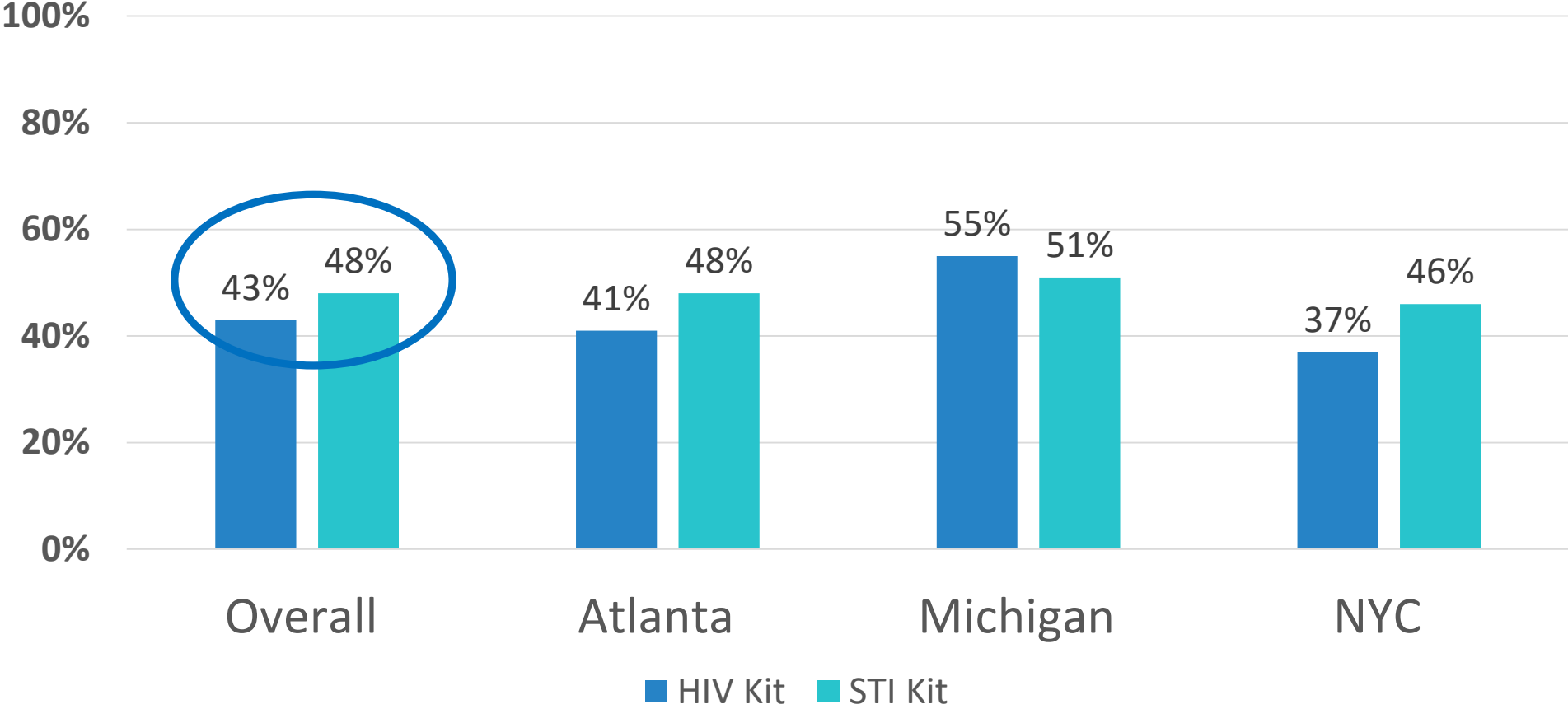


Results

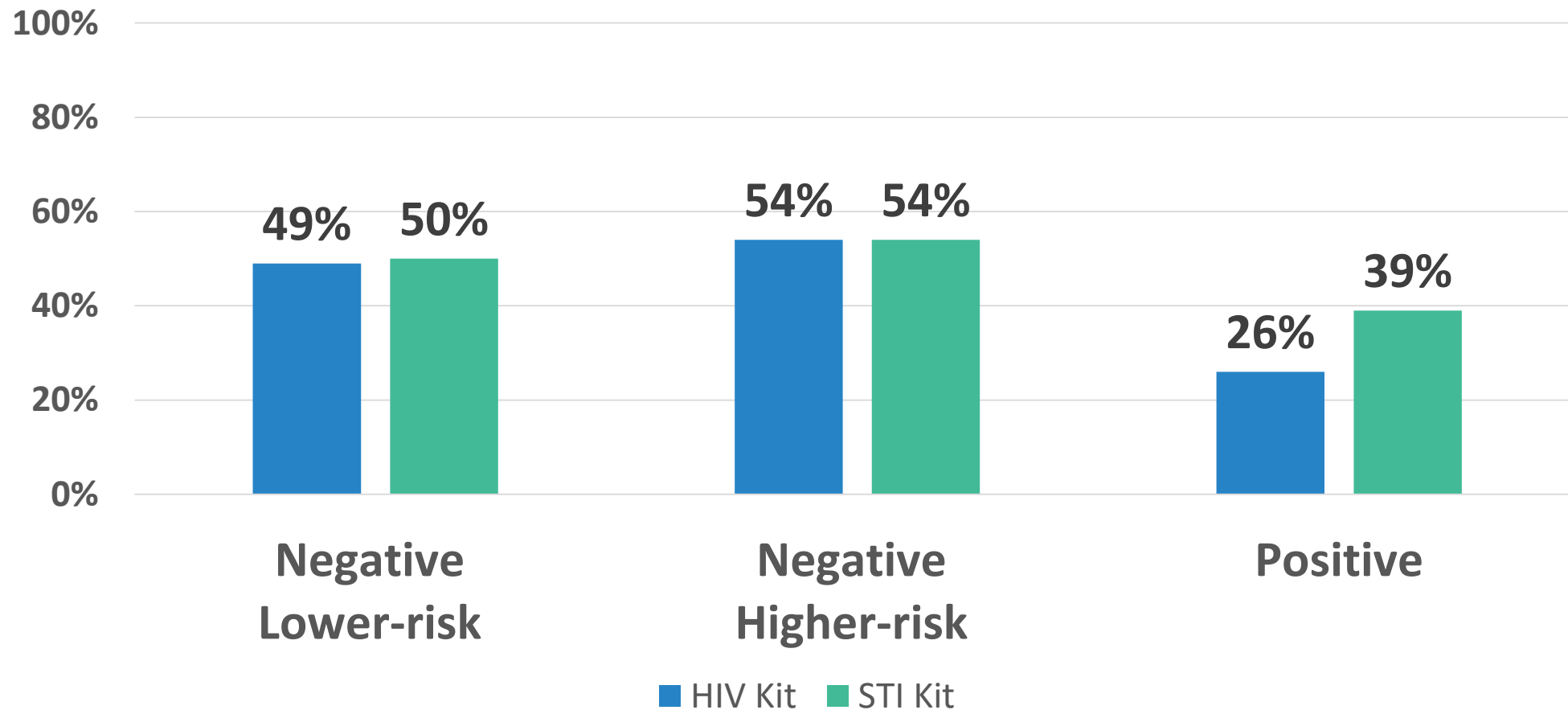
Participant characteristics

| Characteristics | Overall | Atlanta | Detroit | New York City |
|---------------------------------------|-----------|------------|------------|---------------|
| Total Enrolled | 1229 | 478 (39%) | 335 (27%) | 416 (34%) |
| Total Intervention Participants | 611 | 239 (39%) | 166 (27%) | 206 (34%) |
| <i>Intervention Participants Only</i> | | | | |
| Risk Group | | | | |
| HIV Neg, Lower Risk | 202 (33%) | 71 (30%) | 60 (36%) | 71 (34%) |
| HIV Neg, Higher Risk | 215 (35%) | 71 (30%) | 78 (47%) | 66 (32%) |
| HIV Positive | 194 (32%) | 97 (40%) | 28 (17%) | 69 (33%) |
| Age (Median/Range) | 32 | 36 (19-71) | 28 (18-70) | 32 (19-75) |
| Race | | | | |
| American Indian/Alaska Native | 1 (<1%) | 1 (<1%) | 0 (0%) | 0 (0%) |
| Asian | 28 (5%) | 6 (3%) | 9 (5%) | 13 (6%) |
| Black or African American | 213 (35%) | 100 (42%) | 39 (23%) | 74 (36%) |
| White | 286 (47%) | 106 (44%) | 100 (60%) | 80 (39%) |
| Mixed Race | 43 (7%) | 19 (8%) | 11 (7%) | 13 (6%) |
| Other | 39 (6%) | 7 (3%) | 7 (4%) | 25 (12%) |
| Don't Know | 1 (<1%) | 0 (0%) | 0 (0%) | 1 (<1%) |

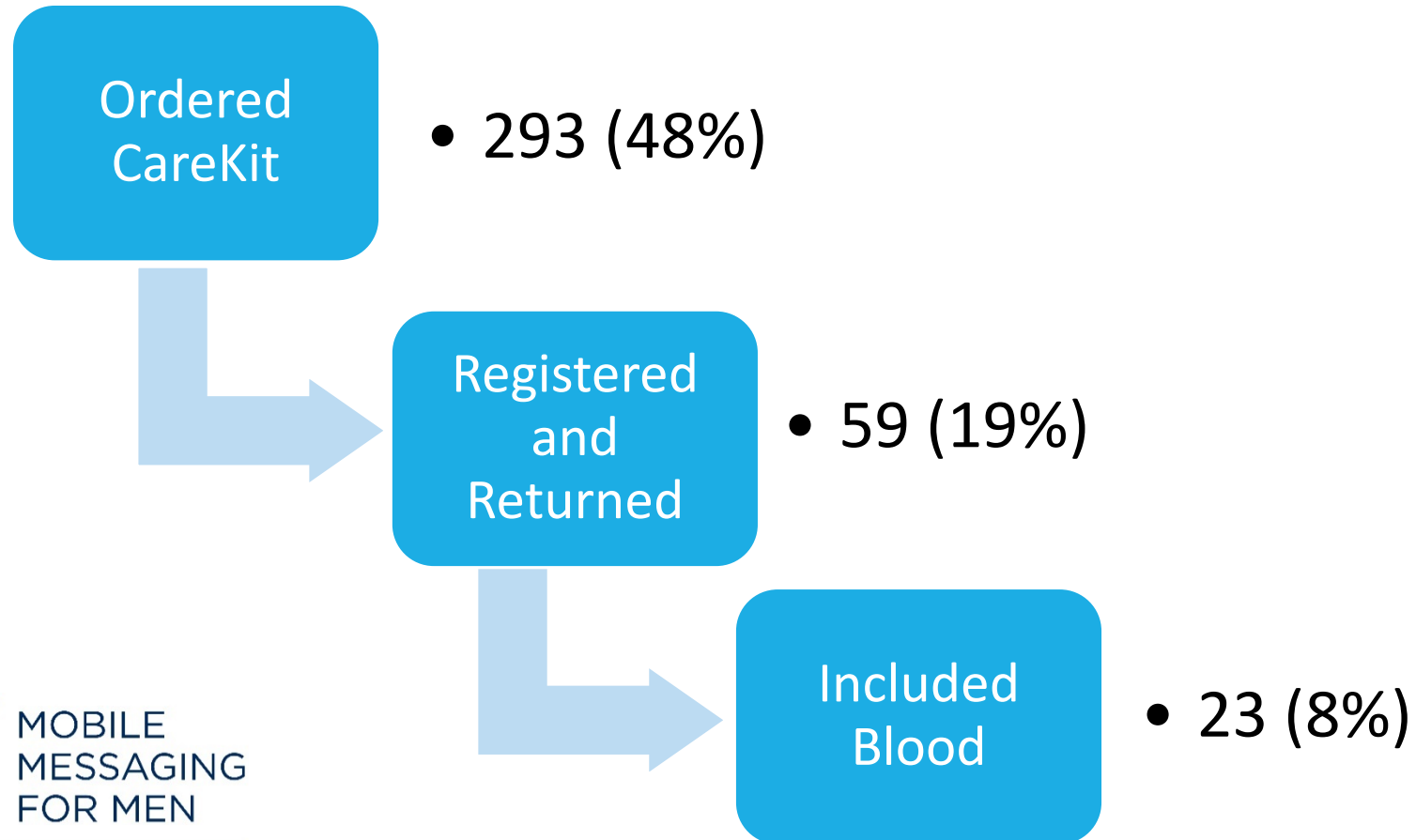
HIV and STI Kit Orders by Study Site



HIV and STI Kit Orders by Risk Group



STI Specimen Return



Challenges

- Requiring kit registration presents linkage barrier
- Users need encouragement to complete collection
- Lack of syphilis samples may indicate user difficult
- The study does not receive HIV test results

Next Steps

- Continuous process improvements
 - Active reminders/follow-up by study staff
 - Instruction material edits
 - Optimizing linkage of test results
 - Examining fulfillment and business processes
- Waitlist-control to begin app usage
- In-depth interviews to understand home test kit usage
- Study end in September 2019

Summary

- Ordering of home-based test kits for HIV and STIs was high among users of a mobile app
- Proper kit registration and return was low
 - Need for improved linkage of results
 - May require assistance and reminders
- Return of blood sample was particularly low
 - May indicate difficulty in collecting the sample
 - Other options for syphilis testing should be explored

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STI Testing

| Kit and Specimen | Overall (N= 611) n(%) | Study site | | | HIV Risk group | | |
|---------------------------|-----------------------------|---------------------|----------------------|-----------------|------------------------------------|------------------------------------|---------------------|
| | | Atlanta (n= 239) | Michigan (n= 166) | NYC (n= 206) | Negative Lower-risk (n= 202) | Negative Higher-risk (n=215) | Positive (n=194) |
| Kits Ordered | | | | | | | |
| HIV Kit | 265 (43%) | 98 (41%) | 91 (55%) | 76 (37%) | 98 (49%) | 117 (54%) | 50 (26%) |
| STI Kit | 293 (48%) | 114 (48%) | 84 (51%) | 95 (46%) | 100 (50%) | 117 (54%) | 76 (39%) |
| Any STI Specimen Returned | 56 (19%) | 18 (16%) | 20 (24%) | 18 (19%) | 22 (22%) | 27 (23%) | 7 (9%) |
| Urine samples returned | 50 (17%) | 15 (13%) | 20 (24%) | 15 (16%) | 20 (20%) | 25 (21%) | 5 (7%) |
| Rectal swabs returned | 52 (18%) | 16 (14%) | 19 (23%) | 17 (18%) | 21 (21%) | 26 (22%) | 5 (7%) |
| Pharyngeal swabs returned | 52 (18%) | 16 (14%) | 19 (23%) | 17 (18%) | 21 (21%) | 26 (22%) | 5 (7%) |
| Blood sample returned | 23 (8%) | 10 (9%) | 8 (10%) | 5 (5%) | 9 (9%) | 11 (9%) | 3 (4%) |