

Use of a Urine Adherence Test Coupled with Adherence Intervention to Increase PrEP Adherence

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Michael was a patient of ours who became infected with HIV at age 24. His infection was avoidable and happened for 2 reasons:

- 1 Providers** are unable to identify which patients need more support.
- 2 Patients** don't feel any different when they take their medication.

Adherence limits PrEP's effectiveness especially for **vulnerable populations**

Background

J Acquir Immune Defic Syndr. 2018 Nov 1;79(3):339-346. doi: 10.1097/QAI.0000000000001822.

Elevated HIV Prevalence and Correlates of PrEP Use Among a Community Sample of Black Men Who Have Sex With Men.

Eaton LA¹, Matthews DD, Bukowski LA², Friedman MR, Chandler CJ², Whitfield DL³, Sang JM², Stall RD²; POWER Study Team.

Cross-sectional survey of 4,184 Black Men who have Sex with Men (BMSM)

HIV prevalence in BMSM on PrEP (32.3%) higher than those not on PrEP (20.0%)

PrEP efficacy still high, but poor adherence limits real world effectiveness

HHD uses adherence tests to **identify non-adherent PrEP patients** and link them to adherence support services

1 **Providers** can give targeted support

2 **Patients** see their drug is protecting them



Urine adherence tests require no additional visits, samples, or clinical burden

Patient acceptability is a priority and thus far feedback has been very positive

Patient Reception

"I've really been trying to remember to take my PrEP every day– **I'm happy this test shows that it's working**"

Provider Reception

"We explain to patients that they run a test to make sure Truvada is running well in their bodies, and the **patients are excited about that.**"

89% of patients in a recent study claimed it would be helpful for a urine adherence test to be included in the standard of care¹

UrSure adherence testing facilitates an honest counselling with non-adherent patients

Discussion points with non-adherent or inconsistently adherent patients:



Share results
with the patient



Encourage the
patient to share
what their
barriers to
adherence are



Discuss ways to
improve
adherence

Our providers have navigated adherence conversations with patients

Patient Reaction

Provider Response

Patient: “Well the reason my level was low was because I went out of town with my family, and well you know I wasn’t going to be doing anything sexually, so I just gave my body a rest from the medicine.”



HHD Provider: “Well, I understand, but since you’re back in town and you plan on having sex again, it would be better if you restarted your medicine.”

Patient: “Are you using this test to spy on me?”



HHD Provider: “No. We simply want to make sure Truvada is working well in your body and that you’re actually protected from HIV.”

UrSure adherence testing enables targeted, longitudinal patient management plan

Interpretation of adherence test results:

Non-adherence:

- A repeat UrSure adherence test is done monthly until the results reveal 3 consecutive adherent results

Inconsistent Adherence:

- A repeat UrSure adherence test is done in 1 month
- If the results reveal adherence, the patient may return to UrSure testing at each quarterly visit

The outcome of UrSure adherence testing is **better education and support of non-adherent patients**

The UrSure test and results are used to:



Educate patients who are not taking Truvada as prescribed



Assist patients in the development of a plan to remind them when to take their medication



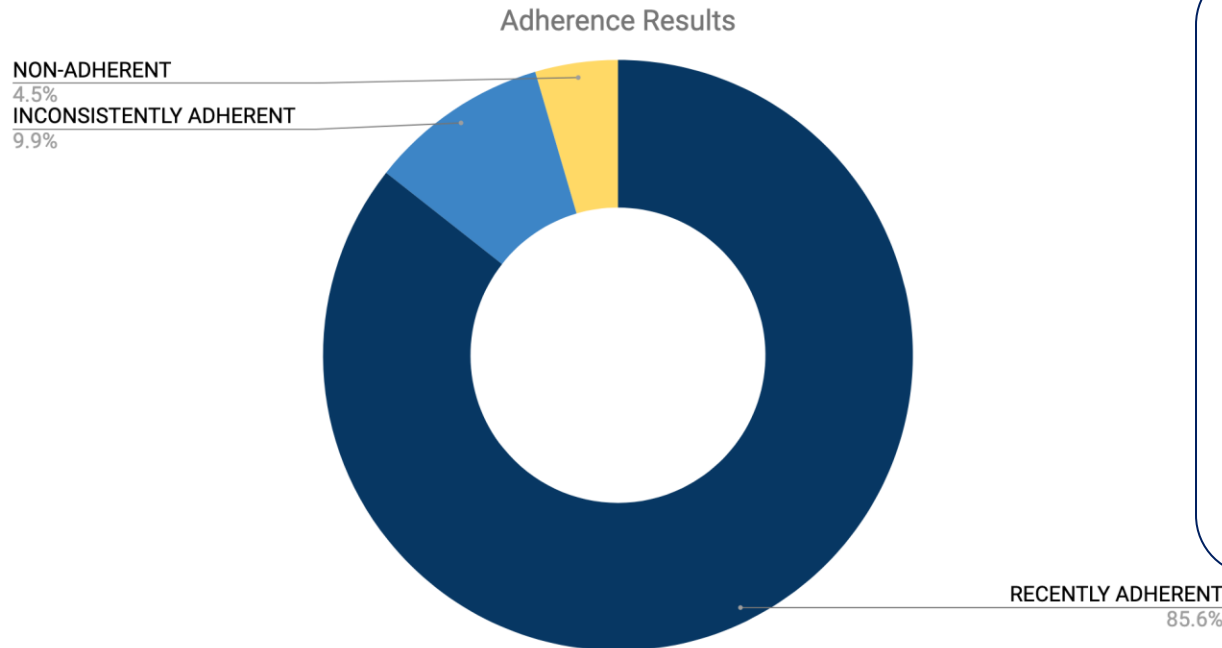
Help patients to overcome any other barriers

Most importantly, HHD does not utilize the UrSure test punitively

Utilization of adherence testing at HHD has generated >50 opportunities to improve adherence

Houston Health Department Data

November 2018 – August 2019 (n=375)



~15% sub-optimal adherence across 375 samples



>50 sub-optimally adherent test results generated

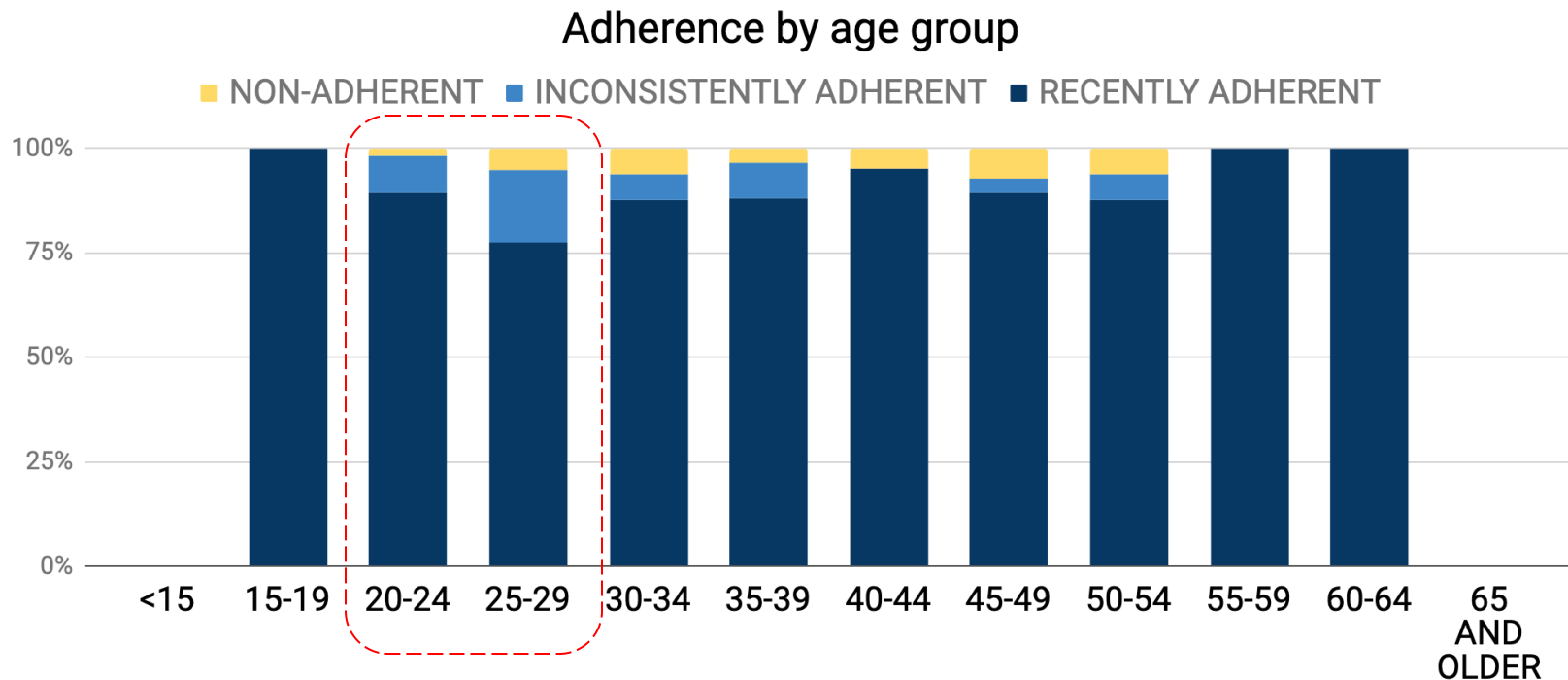


>50 opportunities to improve HIV prevention

This data has allowed us to look at non-adherence quantitatively and in aggregate, eliciting trends we otherwise wouldn't have found.

Adherence is generally worse among younger patients at HHD

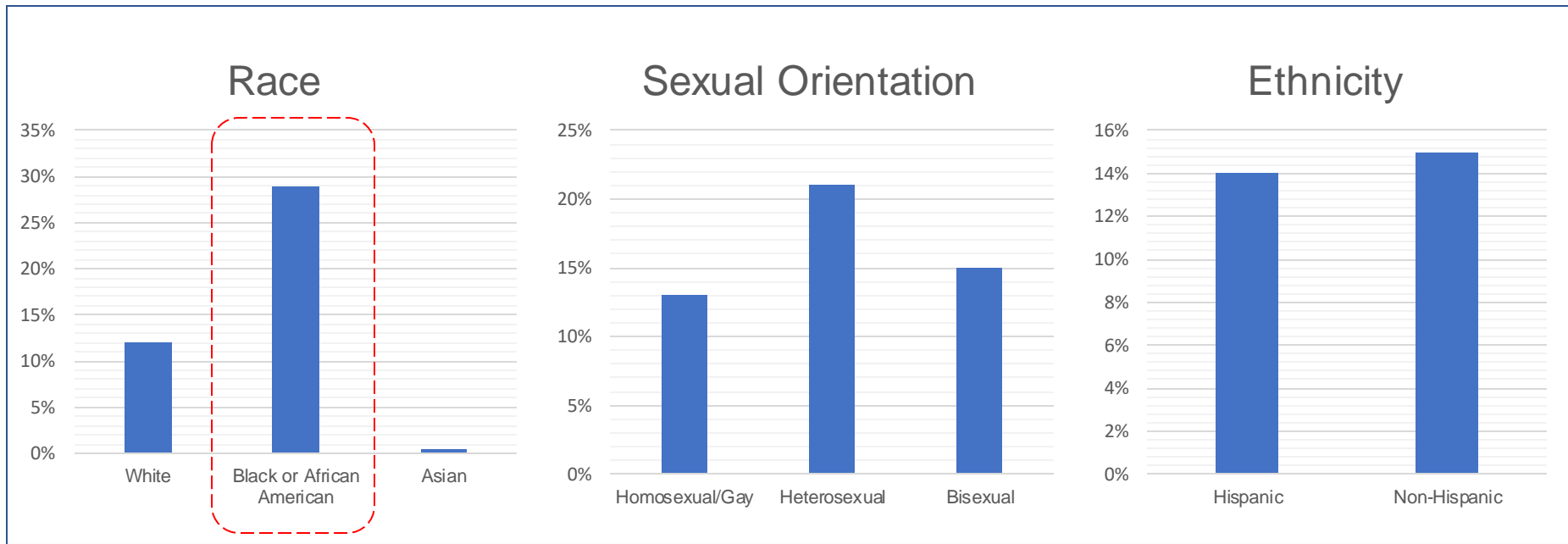
Adherence by age group, November 2018 – August 2019 (n=375)



Disparities in age groups indicated that there was an increased need for adherence interventions for younger patients

Populations at higher risk of HIV acquisition show **disproportionately poorer adherence**

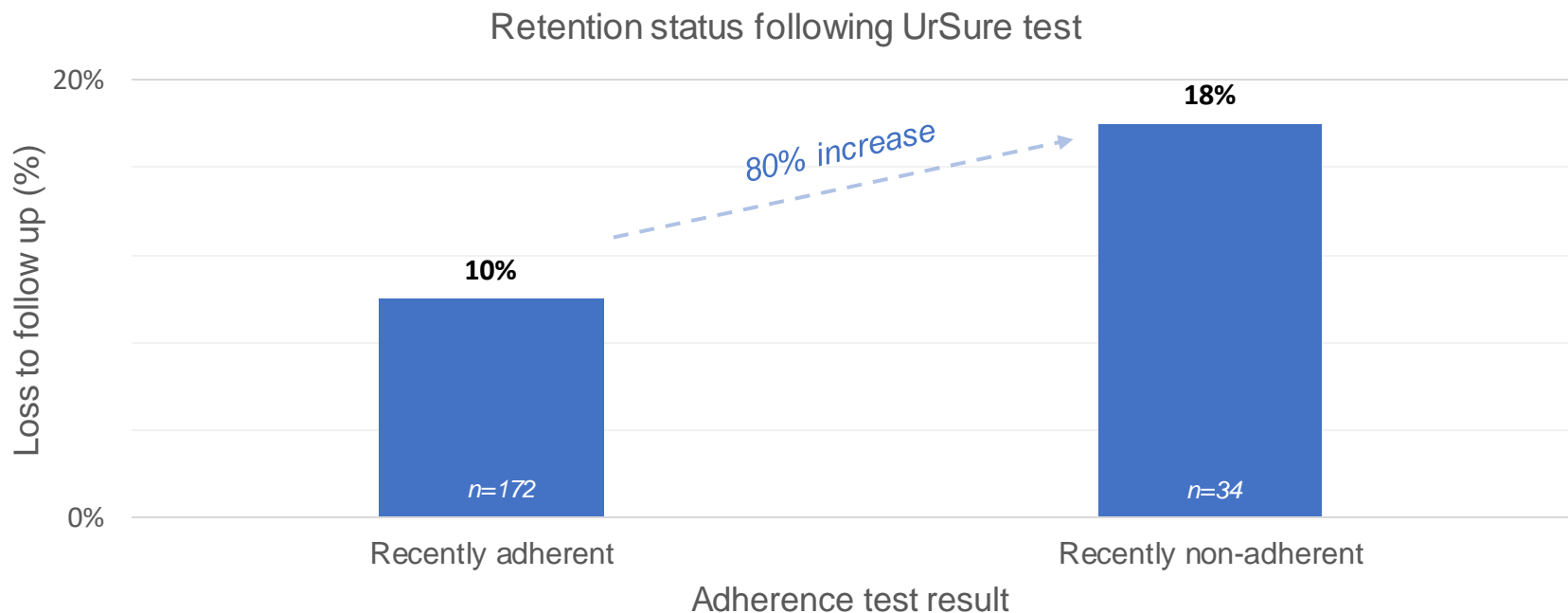
Non-adherence rates across populations at Houston Health Department (n=54)



Disparities in adherence rates across demographics underscore the urgent need to target adherence support to those at greatest risk

Recent non-adherence is an **objective predictor of future non-retention**

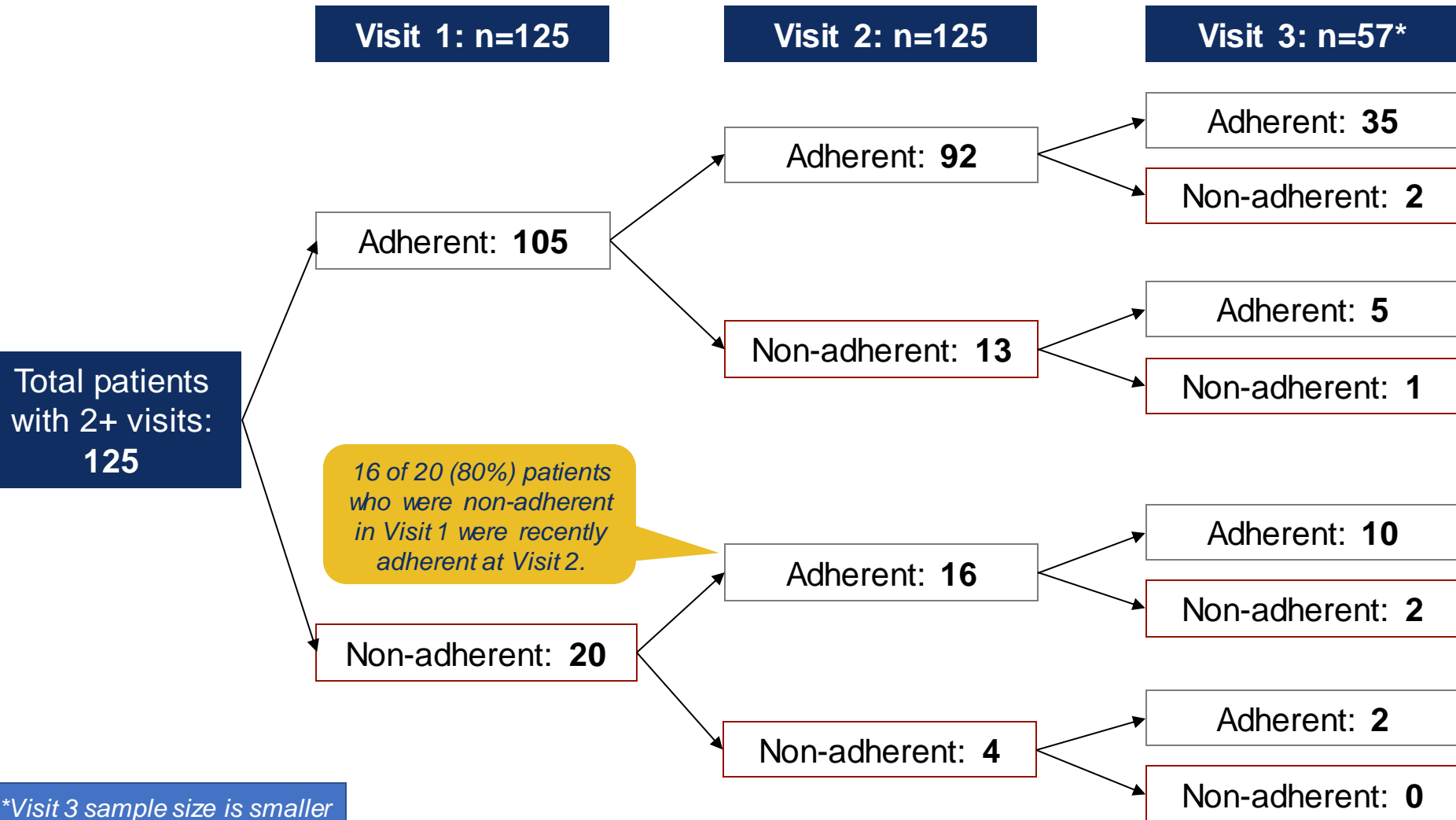
Patients who test non-adherent are 80% more likely to not be retained in care



“The strongest factor associated with future study non-retention was an undetectable DBS FTC-TP level (short-term adherence)”

-Spinelli et al, JAIDS (2019)

Patients who test non-adherent have substantial adherence improvement at next visit



*Visit 3 sample size is smaller due to pending results

Objective adherence monitoring helps **more individuals** become **better protected**

1

Increase Access to PrEP

An objective measure of adherence can make providers more comfortable prescribing PrEP

2

Improve Adherence

Monitoring allows providers to tailor support to individuals struggling with adherence

3

Lengthen Retention

Improve individual motivation to stay on tenofovir because they can see it is in their system

Appendix

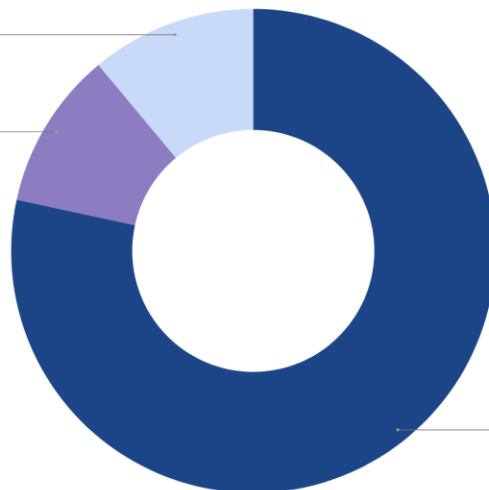
Objective adherence data can revolutionize surveillance across multiple sites

Adherence Data - Overview

October 2018 – February 2019

Non-adherent
11.1%

Inconsistently adherent
10.6%



Total samples run: 398

Non-adherent: 44

Inconsistently adherent: 42

Recently adherent: 312

Sub-optimally adherent

(86/398) = 21.6%

Recently adherent
78.4%

*Most of these patients self-reported as adherent:
These patients would not have otherwise been identified as sub-optimally adherent*

Key Takeaways

21.6%

of all patients identified as not optimally adherent

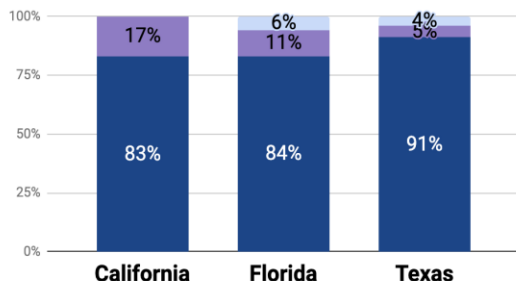
43%

difference in adherence between males and females

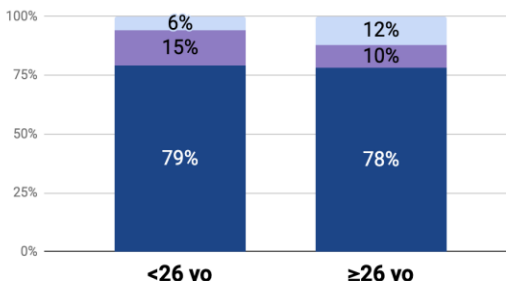
Texas

demonstrates highest adherence rates

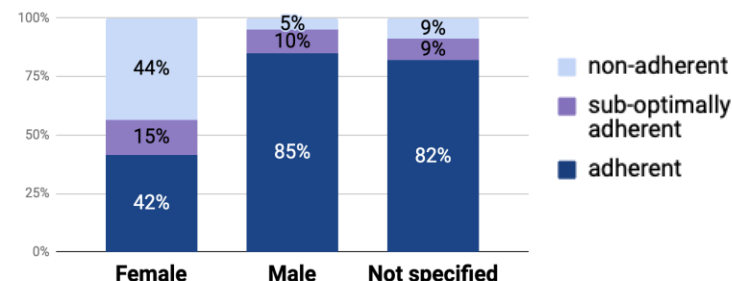
State



Age



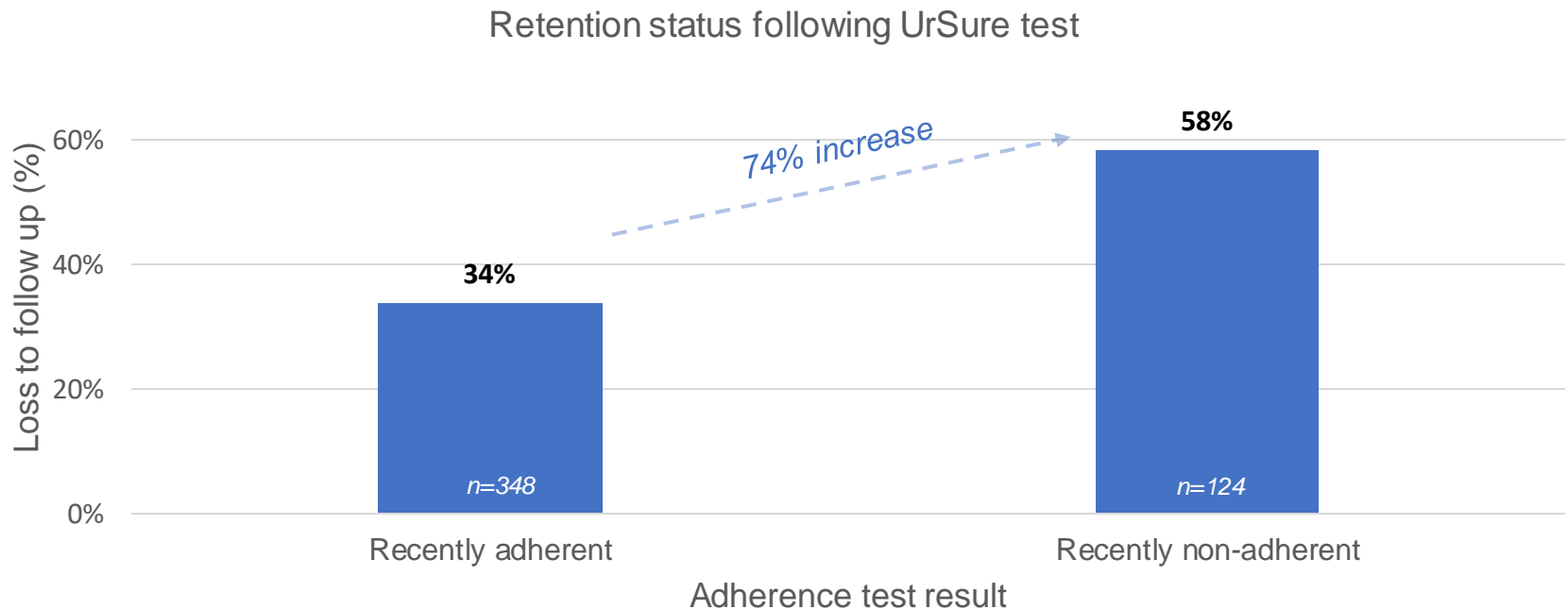
Sex



non-adherent
sub-optimally adherent
adherent

Recent non-adherence is an **objective predictor of future non-retention**

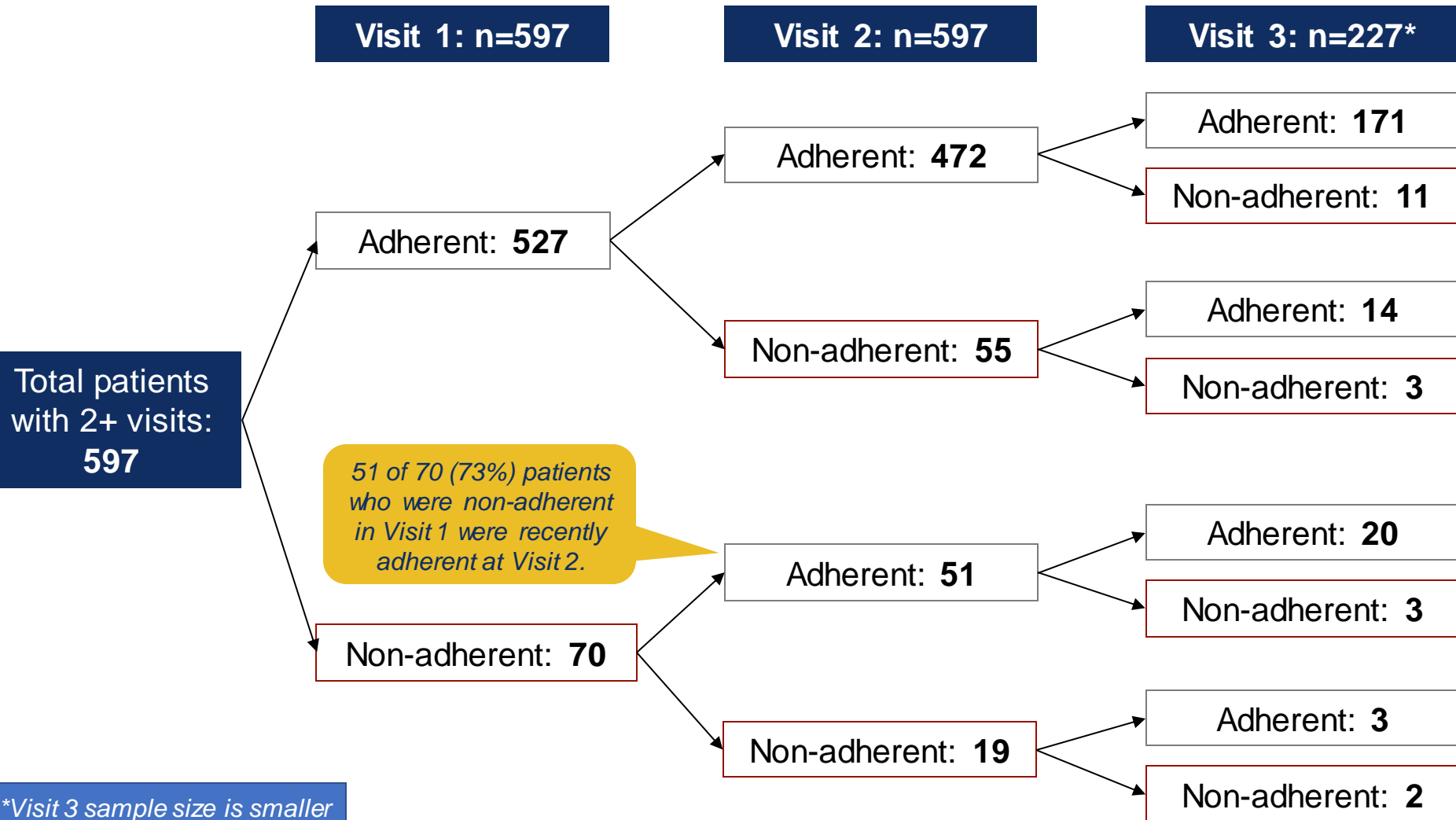
Patients who test non-adherent are 74% more likely to not be retained in care



“The strongest factor associated with future study non-retention was an undetectable DBS FTC-TP level (short-term adherence)”

-Spinelli et al, JAIDS (2019)

Patients who test non-adherent have substantial adherence improvement at next visit



*Visit 3 sample size is smaller due to pending results

UrSure adherence testing has been **acceptable and appreciated by patients and providers**

Patient Reception

"Thanks for calling me to give the result of my urine test. I've really been trying to remember to take my PrEP every day— **I'm happy this test show that it's working**"

"The urine test was **easy to do**. I only miss my PrEP every once in a while and **I'm glad the test confirms this**"

"**I know I told you that I had been taking the PrEP every day, but I actually hadn't started taking it yet.** I was on spring break and drinking too much so I didn't start taking it. **I'm glad you called to tell me it's ok to take the PrEP--I'm taking it every day now**"

Provider Reception

"Using the UrSure tests with patients has **improved the language I use with patients** regarding PrEP adherence. I am **more deliberate and specific when discussing adherence** vs. non-adherence with patients; at times this has **sparked deeper discussions of psychosocial issues impacting adherence**"

"UrSure has assisted our clinic in the **active management of our PrEP patients**. The test has been useful for our clinicians as an objective reference which can serve as a **launching point to discuss social, economic, and personal issues** that affect adherence. It helps to **reinforce our counseling advice**"