



Need to Know: Diagnosis to End the HIV Epidemic

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Financial disclosures

- None

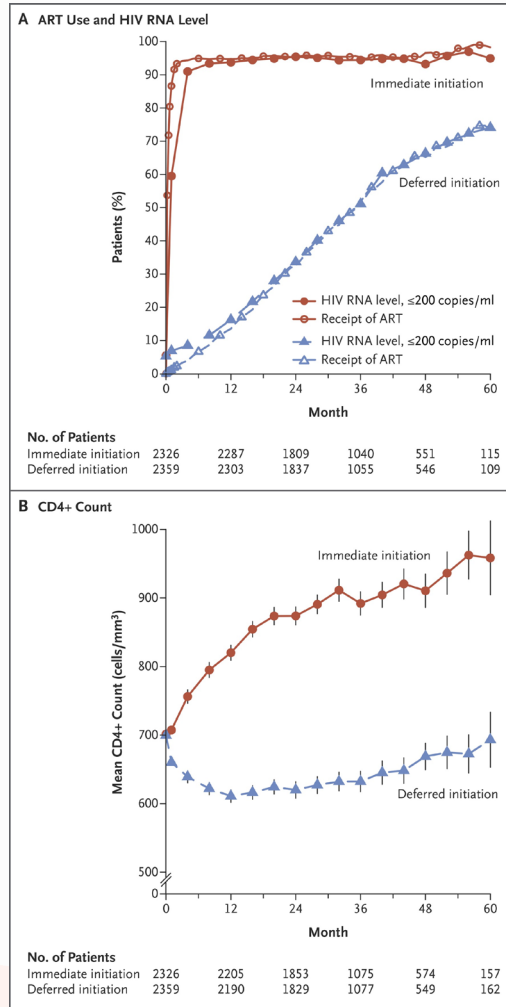
Learning Objectives

- Review types of HIV diagnostic tests
- Discuss best practices for HIV testing in the United States
- Review data on awareness of HIV diagnosis and time to HIV diagnosis in the United States with a focus on the South
- Discuss creative solutions to expand testing access and uptake

Why do we need to know

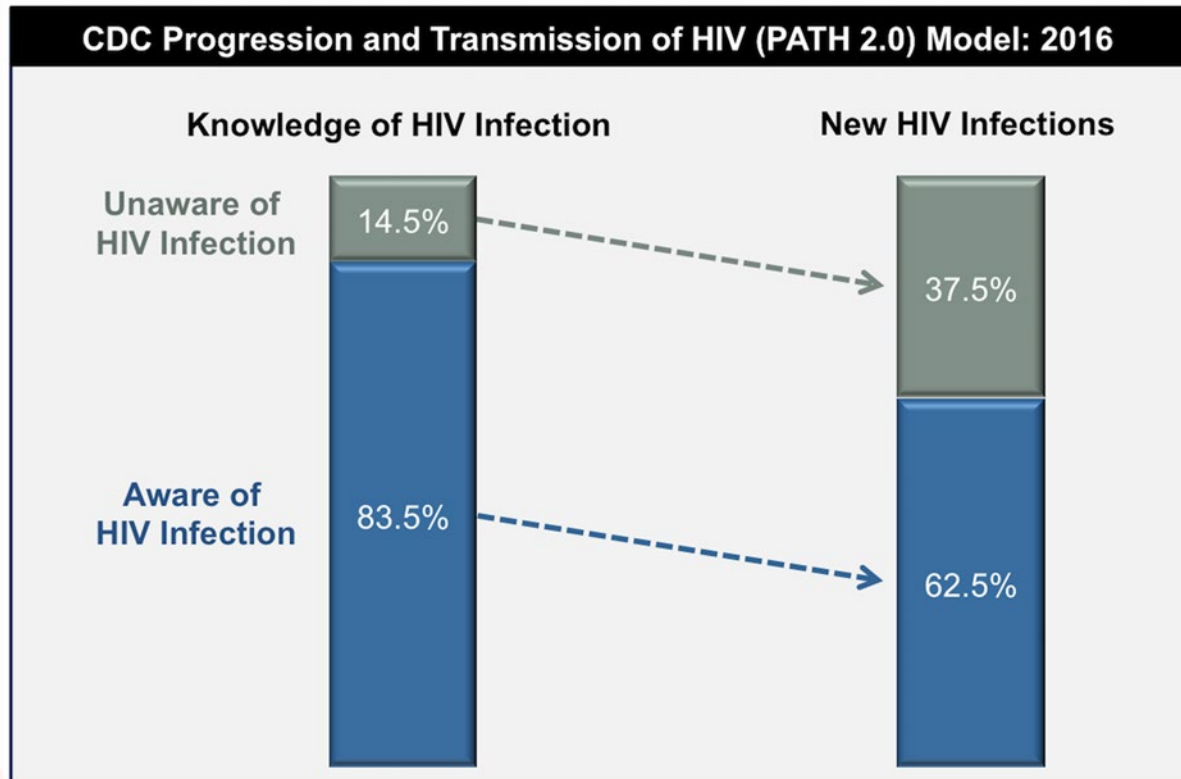


Why do we need to know



INSIGHT START, NEJM 2015

Why do we need to know



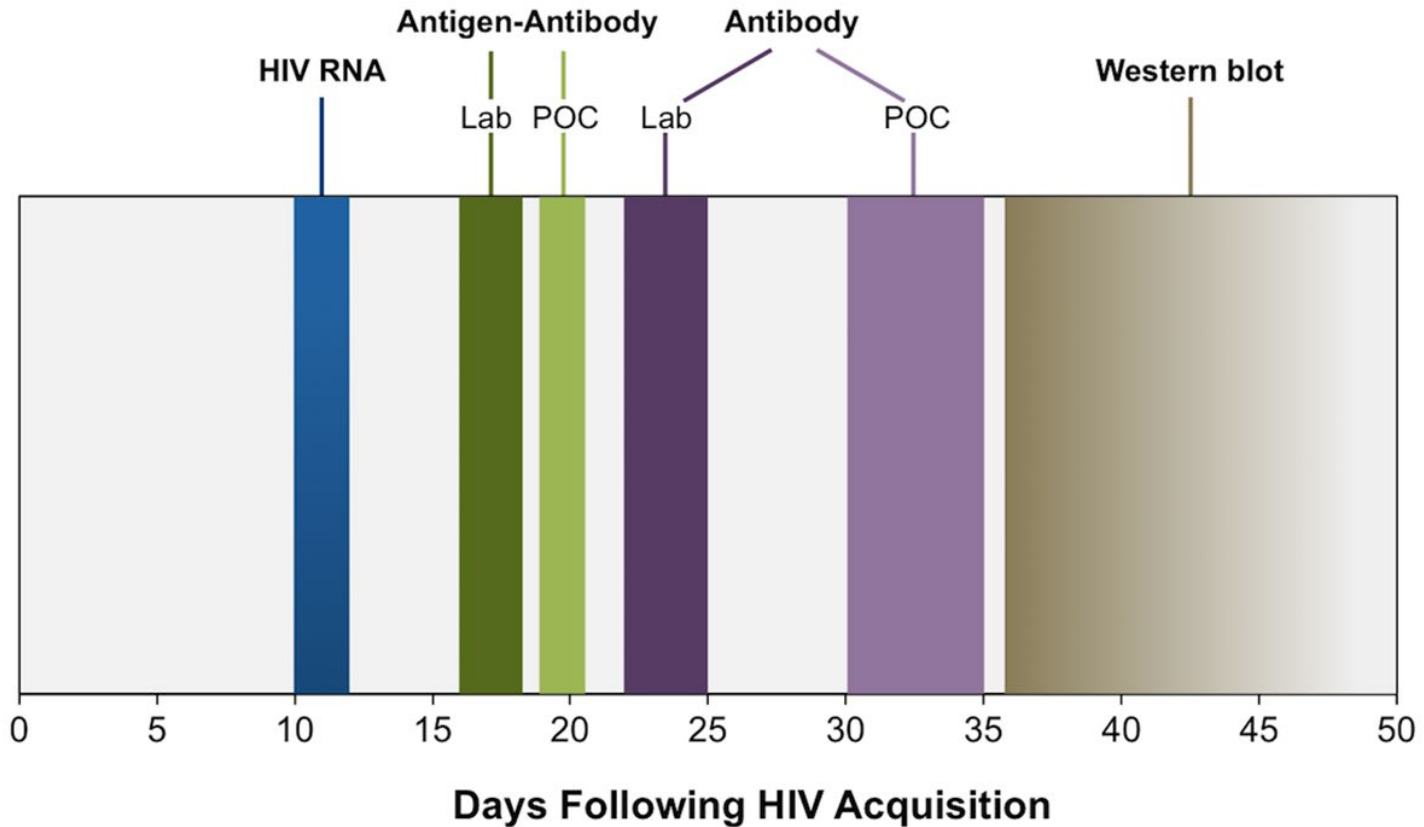
Li Z et al, 2019, MMWR Morb Mortal Wkly Rep

Why do we need to know



Types of HIV Diagnostic Tests

Time to Diagnosis

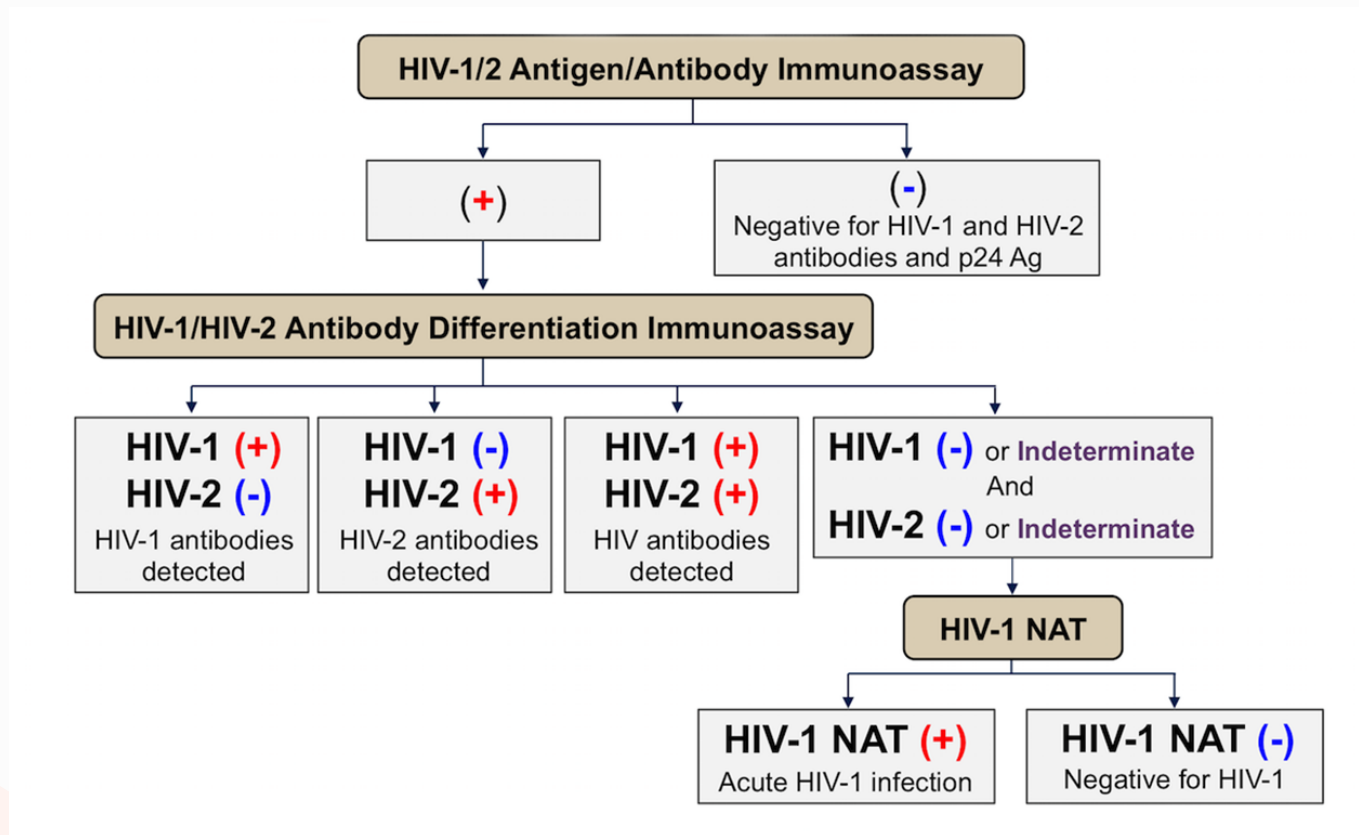


Spach, UW National HIV Curriculum, Centers for Disease Control and Prevention and Association of Public Health Laboratories. Laboratory Testing for the Diagnosis of HIV Infection: Updated Recommendations, 2014

Types of HIV Diagnostic Tests

TYPE OF HIV TEST	WHAT DO THEY TEST FOR?	WHEN CAN HIV BE DETECTED?	HOW LONG DOES IT TAKE TO GET THE RESULTS?	RELIABILITY
3rd generation antibody tests	HIV antibodies	3 months after exposure	Between a few days and a few weeks	High
4th generation antibody/antigen tests	HIV antibodies and p24 viral proteins (antigens)	1 month after exposure	Between a few days and a few weeks	High
Rapid tests	HIV antibodies	3 months after exposure	Within 20 mins	Satisfactory for uncomplicated infection
Self-testing kits	HIV antibodies	3 months after exposure	Within 20 mins	Satisfactory but results must be followed up at a healthcare clinic

Testing algorithm



(1) Centers for Disease Control and Prevention and Association of Public Health Laboratories. Laboratory Testing for the Diagnosis of HIV Infection: Updated Recommendations. Published June 27, 2014.

(2) Centers for Disease Control and Prevention and Association of Public Health Laboratories. 2018 Quick reference guide: Recommended laboratory HIV testing algorithm for serum or plasma specimens. Published January 27, 2018

Test characteristics



Counseling and linkage



Discuss best practices for HIV testing in the United States

Indications for HIV Testing



Useful screening

- Screened for Disease
 - Significant public health problem
 - Benefits from early treatment

- Screening Test
 - Cost effective
 - Minimal morbidity
 - Reproducible and valid
 - Able to detect before symptoms

AMA Council on Scientific Affairs 2005

Testing for adolescents and adults



Testing for pregnant people

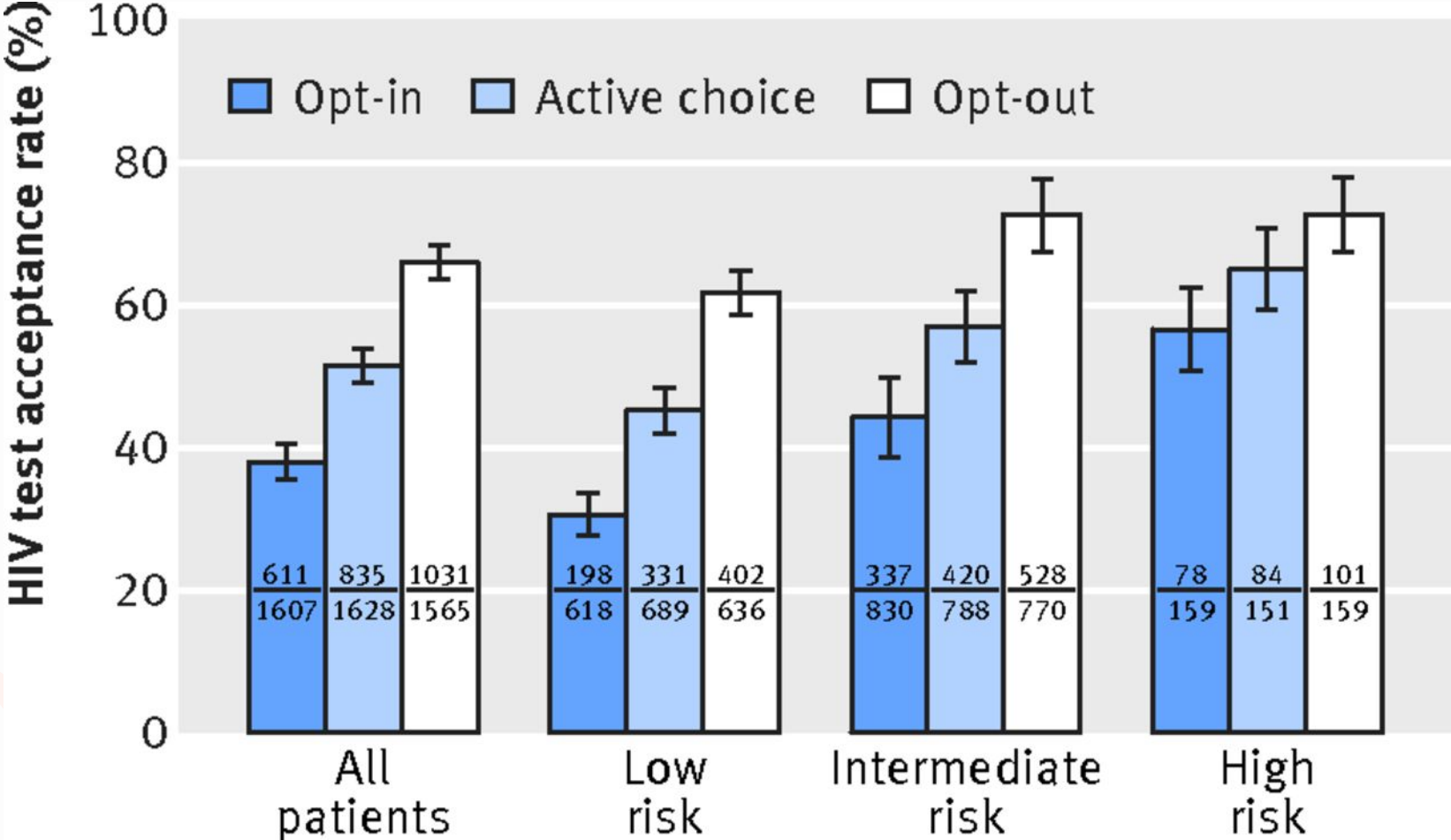
- Opt out testing for all pregnant individuals
- First trimester screening at earliest visit in each pregnancy
- Third trimester screening <36 weeks GA
- Antigen/Antibody combination immunoassay
- If HIV status unknown at L&D, rapid test there
- If refuses HIV testing during pregnancy, test newborn asap after birth
- Birthing person's HIV status must be documented before discharge of newborn



More than just the test



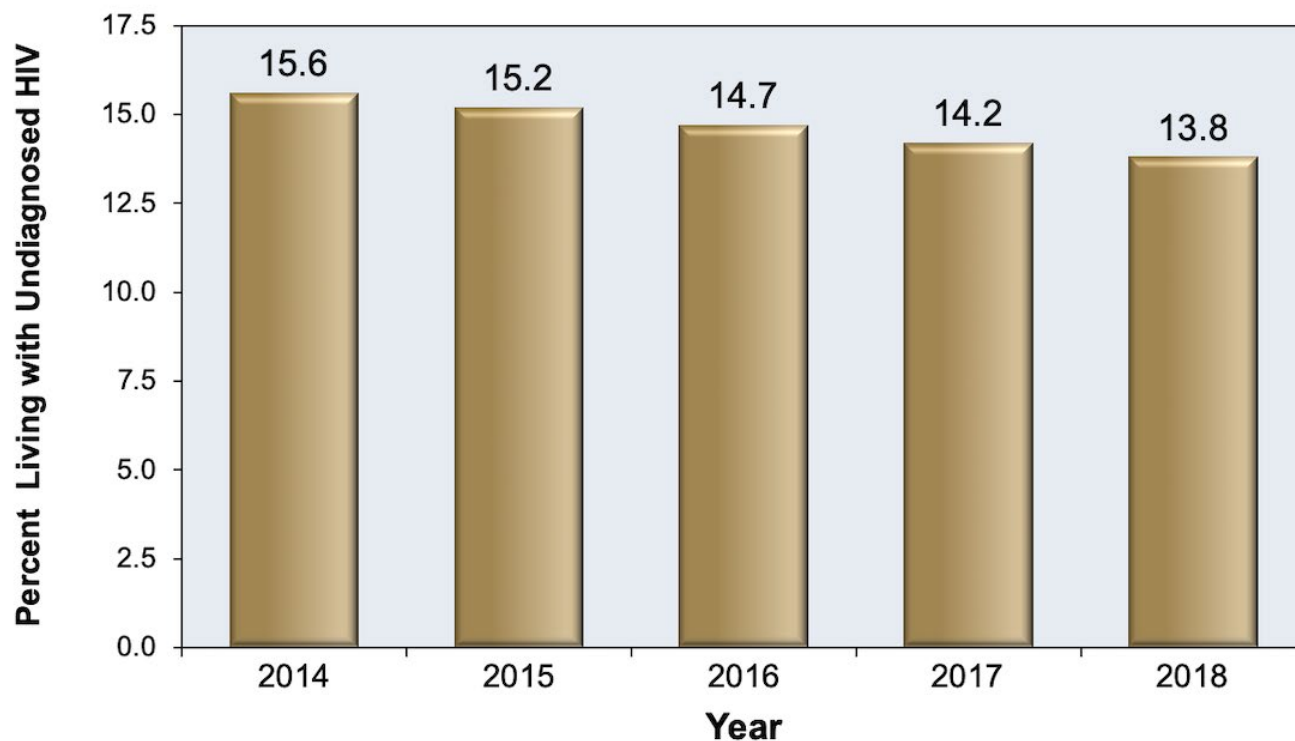
Fig 2 HIV test acceptance percentage by risk of infection: unadjusted results.



Juan Carlos C Montoy et al. BMJ 2016;352:bmj.h6895

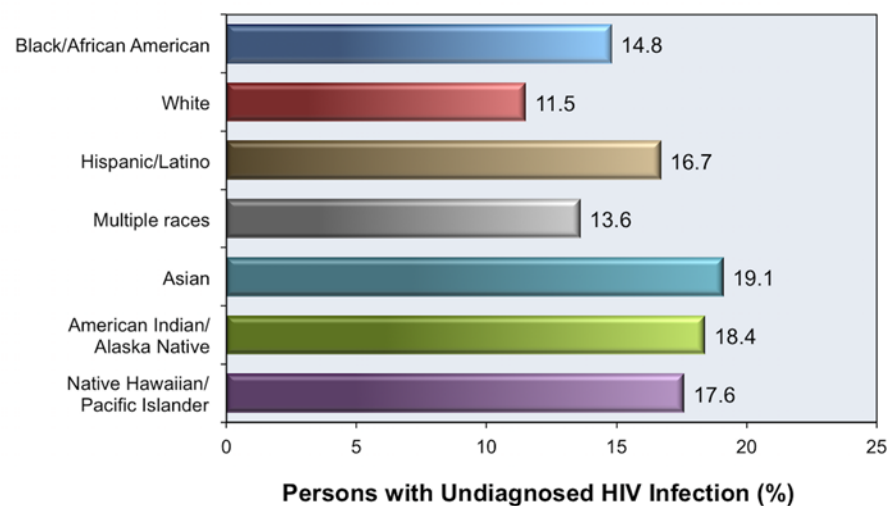
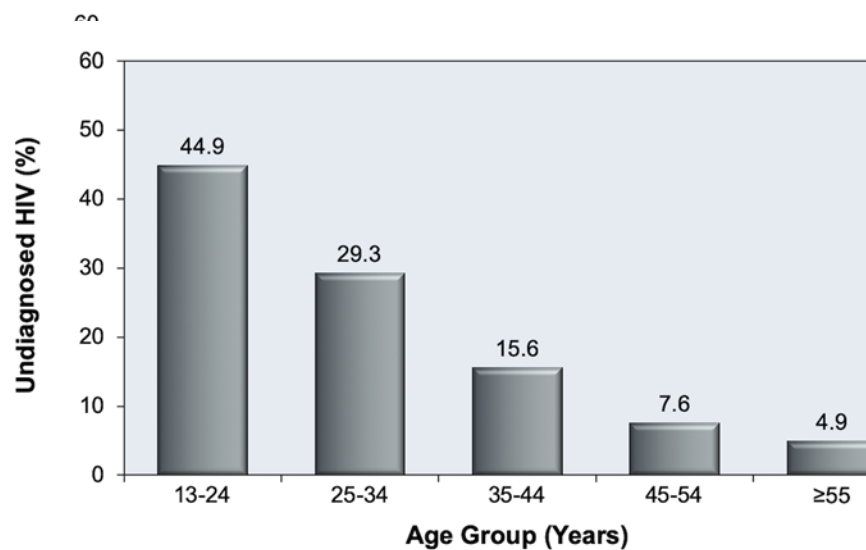
Review data on awareness of HIV status and time to diagnosis in the United States with a focus on the South

Proportion of Persons with Undiagnosed HIV in the USA



Source: Centers for Disease Control and Prevention. Estimated HIV Incidence and Prevalence in the United States, 2014–2018. HIV Surveillance Supplemental Report. 2020;25(No. 1):1-77. Published May 2020.

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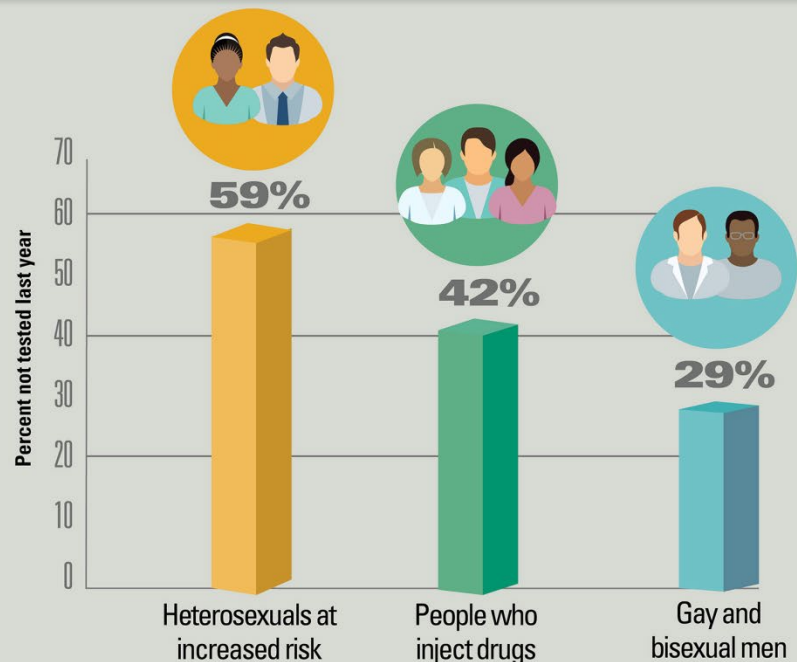
Many people have HIV for years before they know it.

In 2015, nearly **40,000** people in the US received an HIV diagnosis

1 in 2 had been living with HIV 3 years or more

1 in 4 had been living with HIV 7 years or more

1 in 5 already had the most advanced stage of HIV (AIDS)



Many people at high risk* for HIV aren't getting tested every year

*People at high risk for HIV include: 1) sexually active gay and bisexual men, 2) people who inject drugs, and 3) heterosexuals who have sex with someone who is at risk for or has HIV.

Vitalsigns[™]
CDC

www.cdc.gov/vitalsigns/hiv-testing

SOURCES: CDC National HIV Surveillance System, 2015; CDC National HIV Behavioral Surveillance, 2014-2016



HIV diagnosis delays vary by risk group and race/ethnicity

Risk Group	Median time from HIV infection to diagnosis, 2015
Heterosexual females	2.5 years
Females who inject drugs	2.5 years
Gay and bisexual males	3 years
Males who inject drugs	3 years
Heterosexual males	5 years

Race / Ethnicity	Median time from HIV infection to diagnosis, 2015
Whites	2 years
African Americans	3 years
Latinos	3 years
Native Americans	3.5 years
Asian Americans	4 years

Source: Centers for Disease Control and Prevention



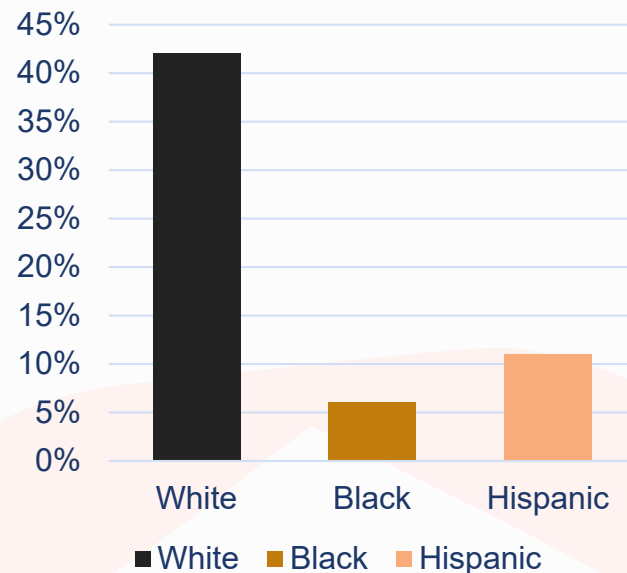
U.S. Department of
Health and Human Services
Centers for Disease
Control and Prevention

Missing the at risk negatives



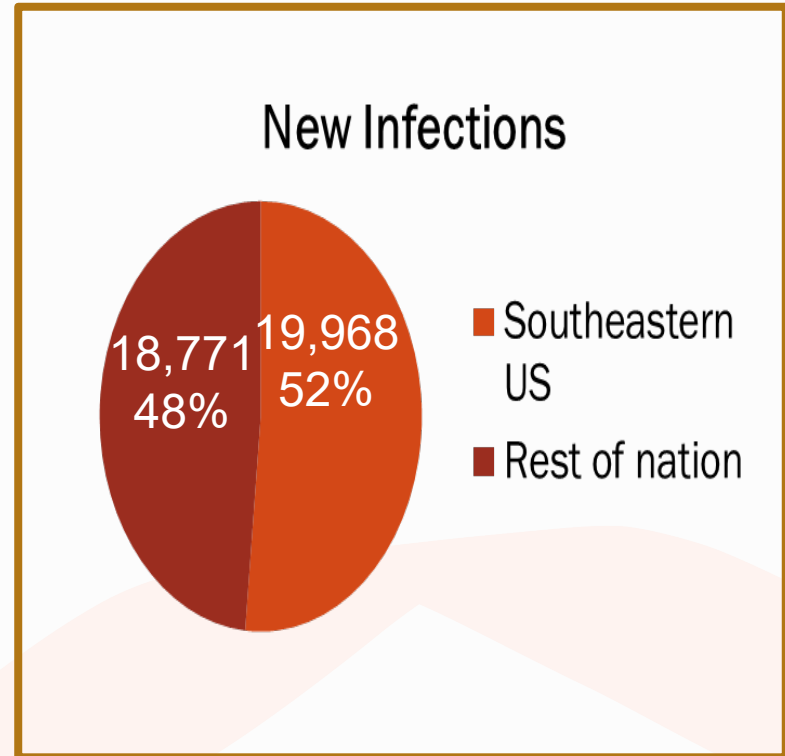
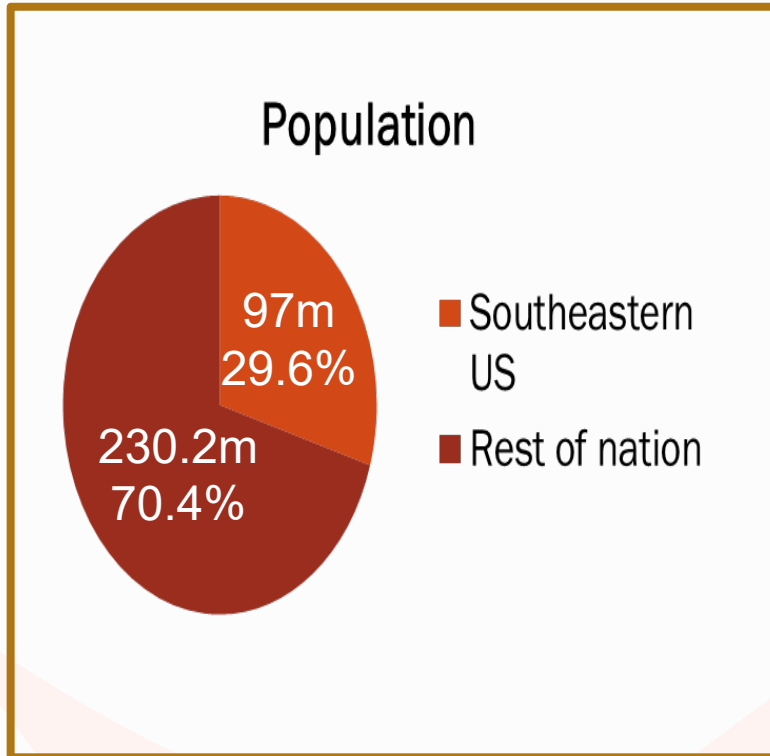
National PrEP Coverage: 18%

PrEP % Coverage for people with indication for PrEP



PrEP Gap = 990,000 people

HIV in the South

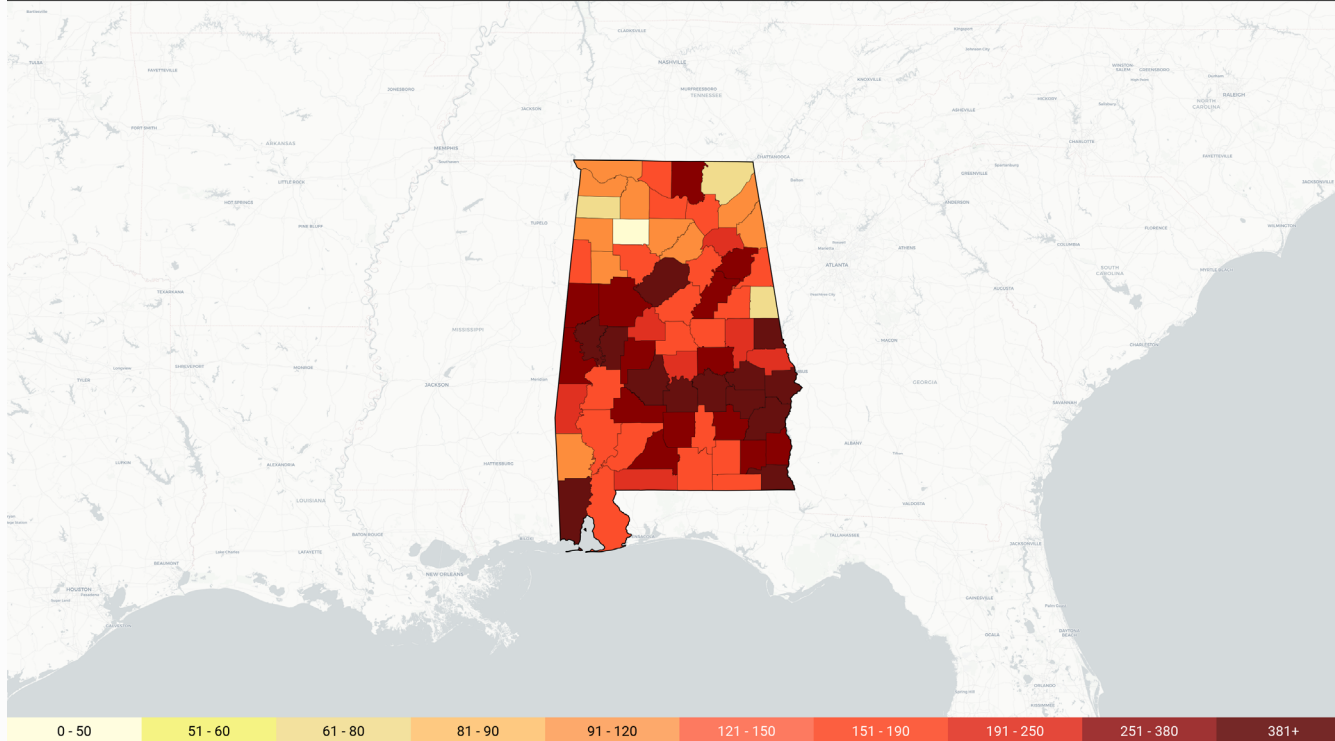


CDC. [Diagnoses of HIV infection in the United States and dependent areas, 2017](#). HIV Surveillance Report 2018;29.

HIV in Alabama



Rates of Persons Living with HIV, 2018



0 - 50 51 - 60 61 - 80 81 - 90 91 - 120 121 - 150 151 - 190 191 - 250 251 - 380 381+

*DATA NOT SHOWN

**DATA NOT RELEASED TO AIDS VU

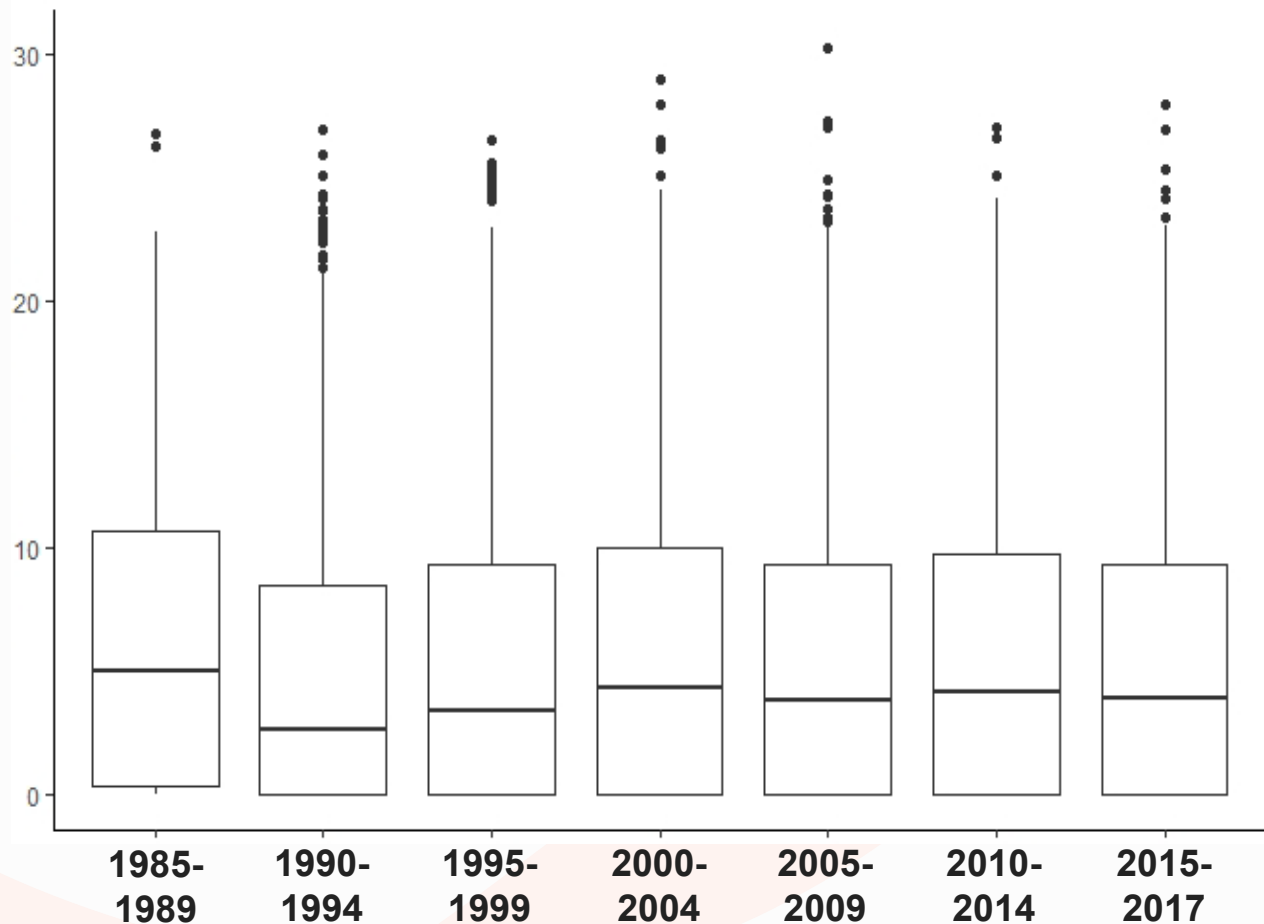
* Data not shown to protect privacy because of a small number of cases and/or a small population.

** State health department, per its HIV data re-release agreement with CDC, requested not to release data to AIDS Vu. See Data Methods for more information.

NOTE: There are no country-level maps for Alaska, District of Columbia, and Puerto Rico because there are no countries in these states.

Time to Diagnosis – median 3.8 years

Estimated years from infection to diagnosis



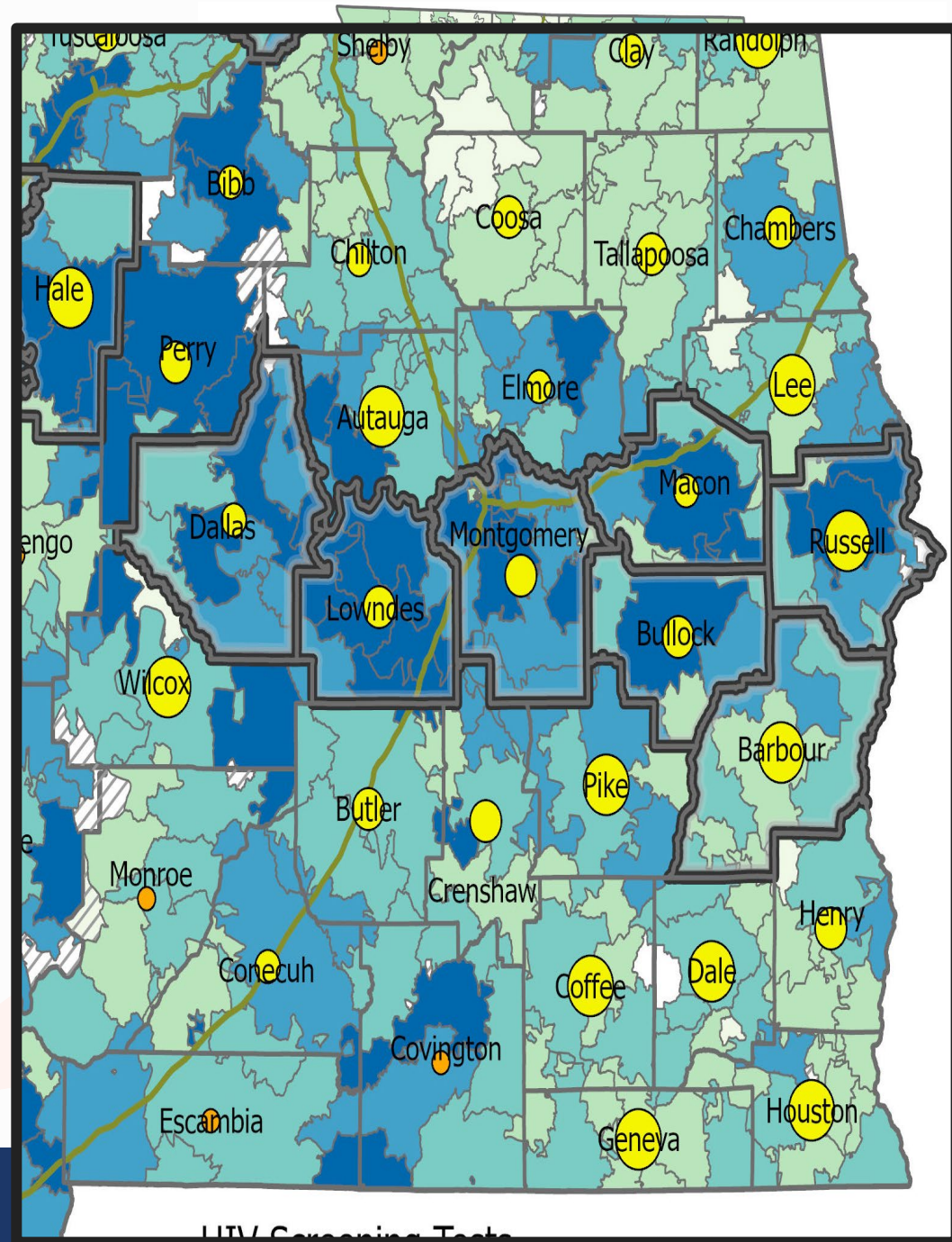
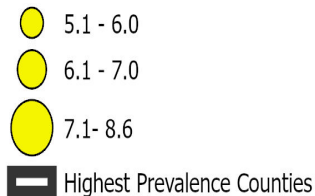
LT Matthews et al. Using Big Data to Inform Testing Interventions in Alabama. Oral abstract. National Ending the HIV Epidemic Conference: April 2021.

HIV test coverage/
 adult population
 +
 Time to HIV
 diagnosis
 +
 11 highest HIV
 prevalence counties
 outlined

HIV Screening Tests



Median Time to
 Diagnosis

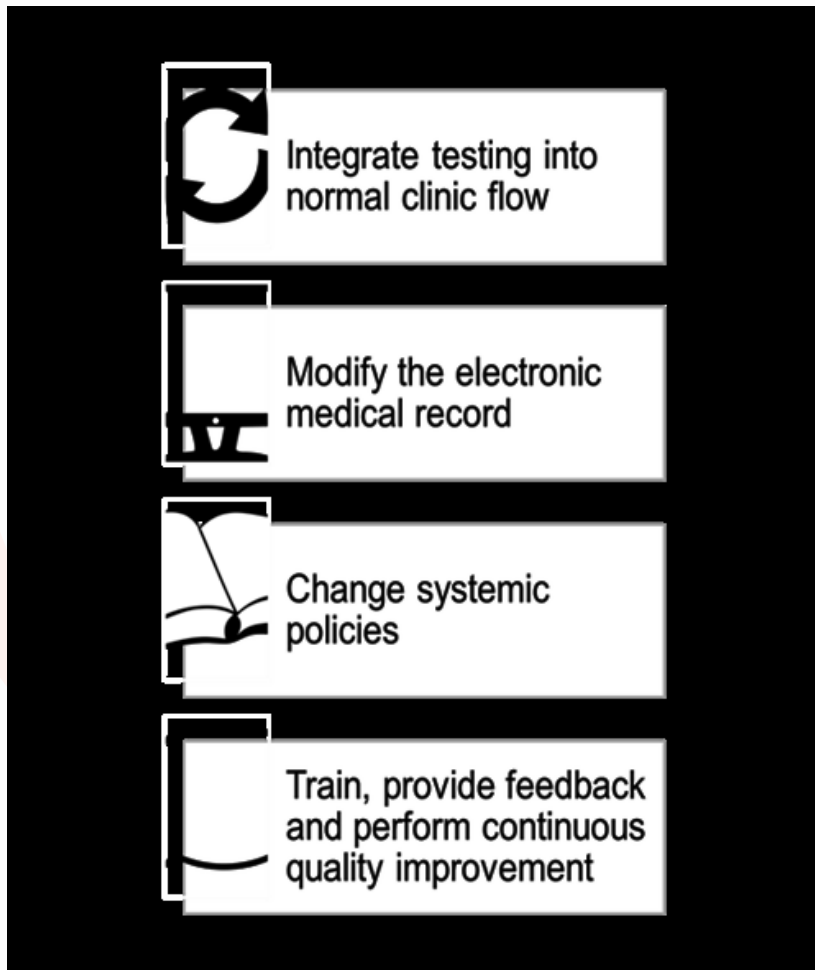


Discuss creative solutions to expand testing access and uptake

Universal Screening



Universal Screening



BestPractice Advisory - Testing,Focus

① Patient has not had a HIV Test in the past 12 months. As part of your care, we will test you for HIV. Please let us know if you do not want to be tested.

[HIV 1/2-FOCUS Grant](#)

Acknowledge Reason _____

Fadul and Dortche, RWC Conference 2018

Meeting People Where They Are



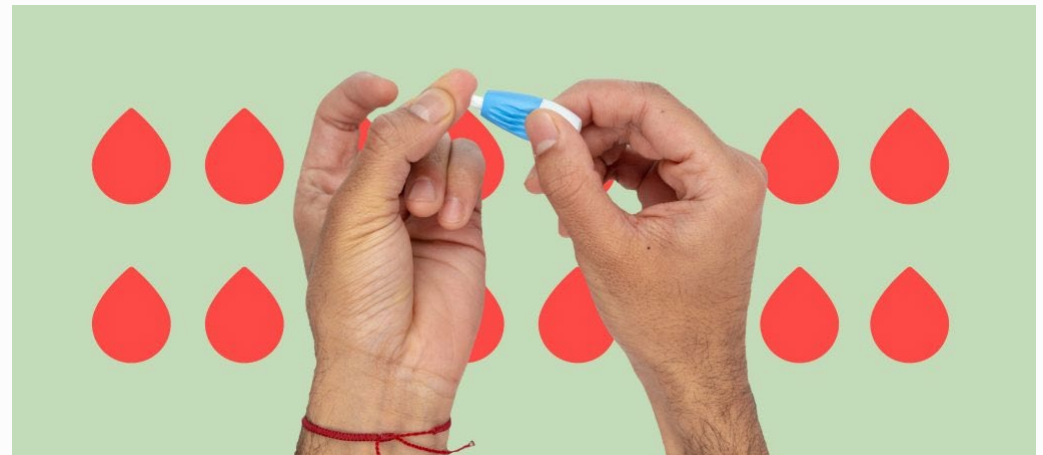
Testing Campaigns



Social Network Testing



Self Testing



Hawk et al, 2020 Patient Preference and Adherence

Incentives



Basset et al, 2016 Curr Opin HIV AIDS

Closing thoughts

- You know if you know, and you need to know
- Great options for testing, and don't forget a history
- Test everyone
- No matter the results, link to next steps
- Big data to guide grassroots innovation
- Options and comfort

Thank you! Questions?

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