

# Acute HIV Infection and Sero-Conversion: Why You Should Screen for HIV and Why You Should Keep Doing it

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Poster number 80

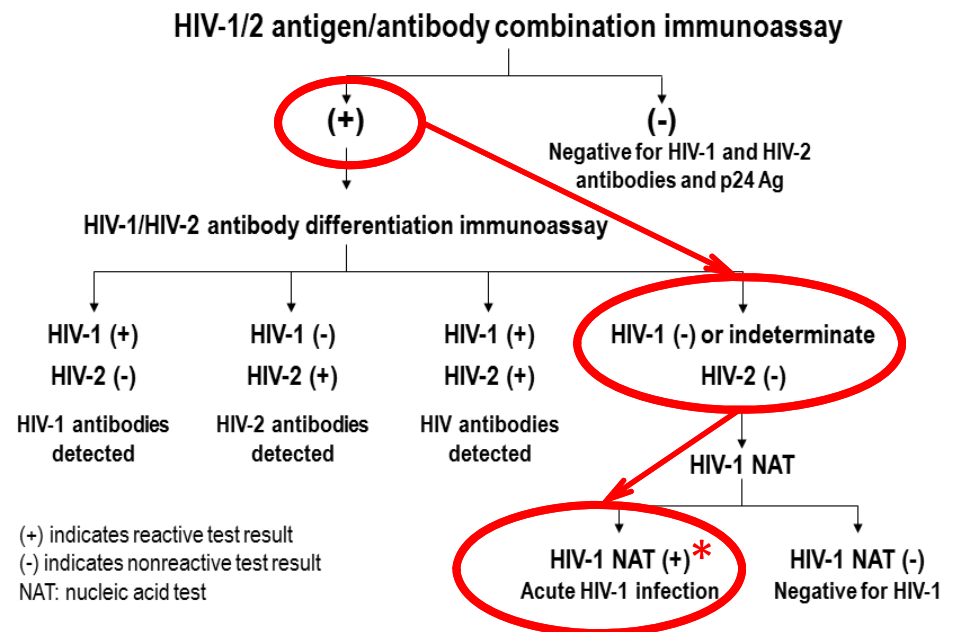
- We would like to thank City of Houston Department of Health and Human Services and Harris County Public Health and Environmental Services for assistance with data.
- Our routine HIV testing program and its evaluation has been supported in part by grants from the CDC, Texas Department of State Health Services, Baylor-UTHouston CFAR, and the Gilead HIV FOCUS program.

## Routine Universal Screening for HIV (RUSH) Program:

- Patients 16 and older requiring blood draw for other reasons will receive HIV test unless they opt out
- Over 500,000 HIV tests since 2008, including 1184 new diagnoses
- Testing started in EC's, now is system-wide
- 3<sup>rd</sup> generation screening followed by Western blot was used for 6 years
- CDC's revised HIV testing algorithm (4<sup>th</sup> gen.) implemented 10/2014

## Power of the 4<sup>th</sup> Gen. Algorithm:

- Detect Acute HIV Infections

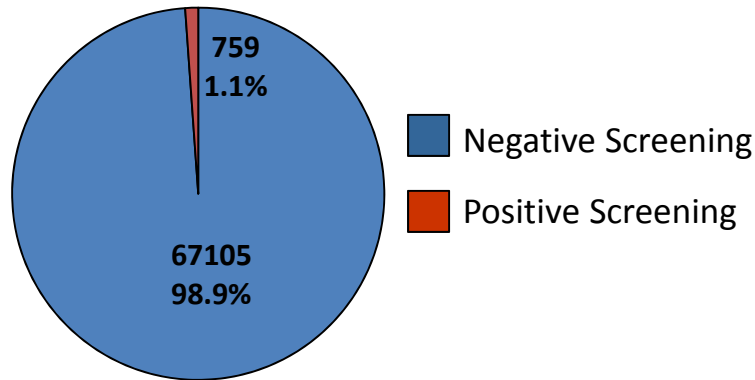


\* We use HIV RNA viral load test

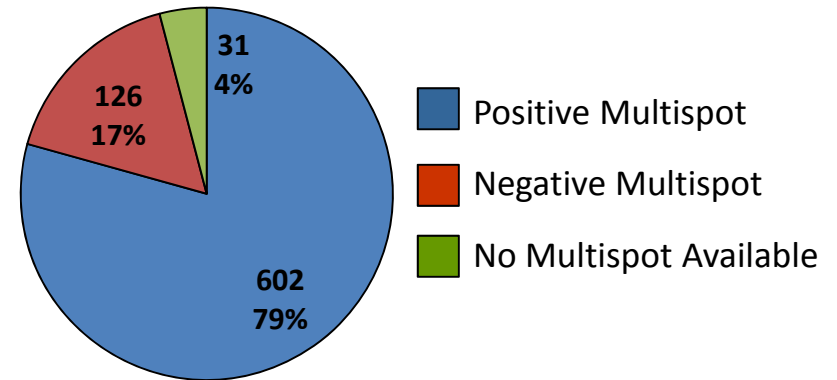
## Acute HIV infection:

- Revised Algorithm: 15 acute cases in 7 months (2.1 /month or 2.2 /10,000 tests)

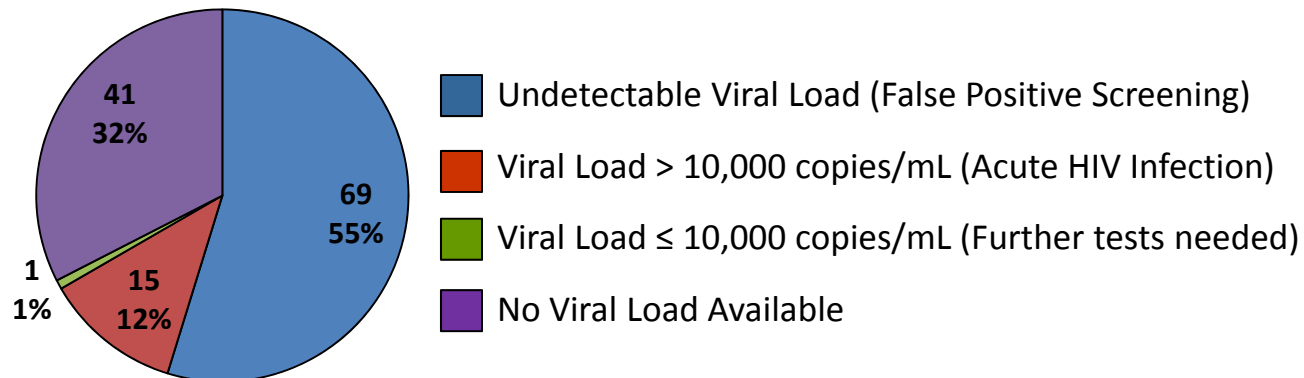
4<sup>th</sup> Generation HIV Tests Performed  
(October 2014 – May 2015; N = 67,864)



Tests With a Positive Initial Screening Result  
(N = 759)



Tests with Positive Screening and Negative Multispot Results (N=126)



- 3<sup>rd</sup> Generation Screening → Western-blot Algorithm: 49 acute HIV cases in 6 years (0.7 /month or 0.9 /10,000 tests).

## **Sero-Conversion: Why Repeat Testing?**

- Among 1184 new diagnoses made between August 2008 and May 2015, 132 (11.1%) had a prior negative HIV test in our system.
- The median time between the last negative test and diagnosis was 354 days.
- 8 of these patients were diagnosed during their acute infection phase (including 6 diagnosed with the new algorithm).

## **Conclusions:**

- Our program is identifying acute HIV infections with the 4<sup>th</sup> generation algorithm at 3-times the rate as it did with the previous algorithm.
- Procedures need to be revised so that samples for viral load testing are readily available to discriminate false positive results from acute HIV infection.
- Consistent with recent modeling data,\* our data suggests that annual testing in high prevalence areas is likely beneficial.

\* Lucas A. and Armbruster B., "The cost-effectiveness of expanded HIV screening in the United States" 2013 Mar 13;27(5):795-801.