



# Integrating rapid syphilis into community HIV testing programs

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## Background

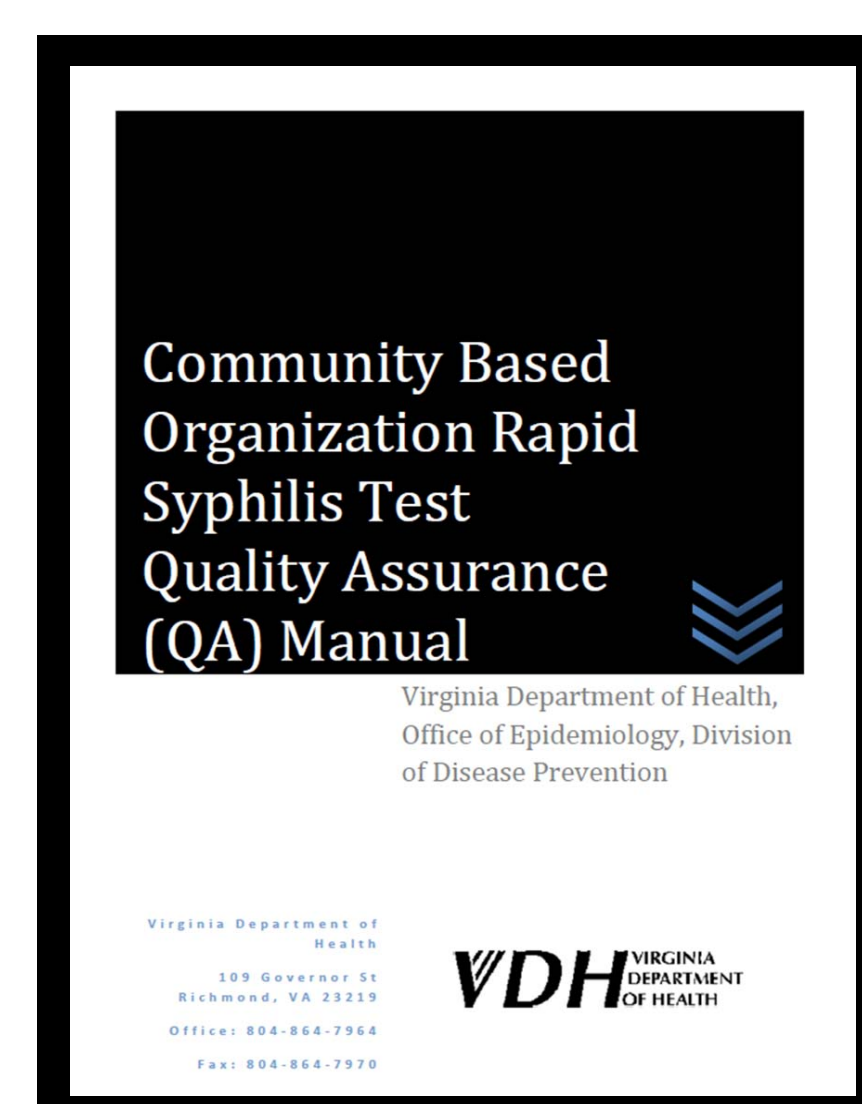
In Virginia, the burden of coinfection of HIV and syphilis is significant, with approximately one-third of early syphilis cases diagnosed among HIV positive patients. This creates an opportunity to strengthen collaboration and integrate service provision. The Virginia Department of Health supports a robust network of HIV screening sites including non-clinical settings administering point-of-care (POC) tests. Community based organizations (CBOs) in Virginia have historically reached a high-risk population not presenting in traditional local health department (LHD) clinics. In December 2014, a POC syphilis test received CLIA waiver, thereby enabling expansion of testing beyond traditional clinical settings.

### Program Objectives & Strategy

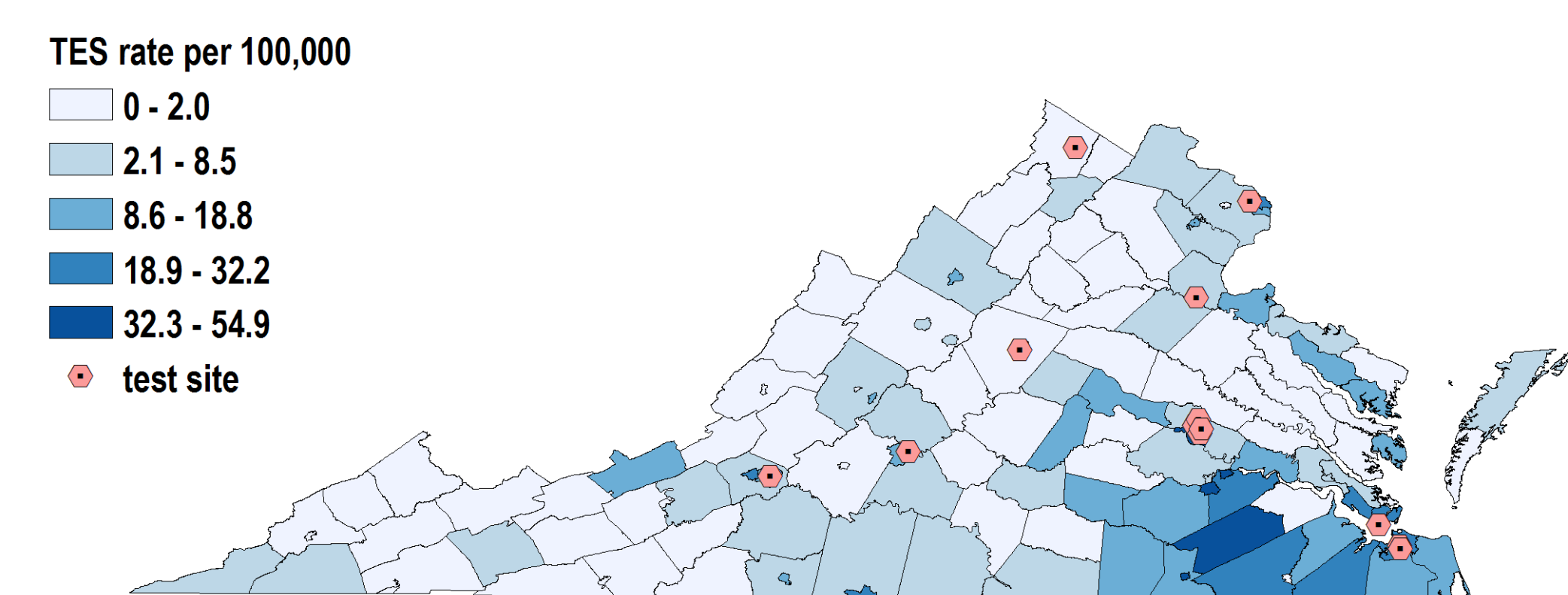
1. Expand syphilis screening outside of LHD clinics using existing community HIV testing infrastructure (e.g., LGBT events, drop-in centers, bars, mobile vans, community events, non-profits, jails, behavioral health).
2. CBOs refer patients with a positive rapid syphilis test (RST) to LHD STD clinic and Disease Intervention Specialist (DIS) for further testing and assessment.

## Methods

CBOs were identified for participation based on the following criteria: current participation as a POC HIV testing site, local syphilis morbidity, geographic catchment area, rapport with at-risk population, lack of clinical capacity, interest, and sufficient adherence to HIV-related quality control standards. State/LHD/pilot CBO staff collaborated to develop a quality assurance manual, business process flow, and data collection tool to capture demographic and risk behaviors for those tested. The Plan-Do-Study-Act model for quality improvement was used following program implementation.



### HIV/syphilis testing sites and TES morbidity, 2015



The content of this presentation represents findings and/or opinions from the authors and does not necessarily represent the view of the Virginia Department of Health.

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## Results

Between November 2015 and August 2016, 13 agencies conducted 1,626 RSTs. Behavioral risk factors clients reported within the previous year indicate CBOs are reaching a high-risk population. The most frequently reported risk factor was male to male sexual contact (MSM) and among men tested 43% indicated sex with a male. Notably, 1 in 6 screened report illicit or injection drug use and 1 in 7 men indicate having a sexual encounter with someone they would be unable to contact. Among MTF transgender persons screened, 87% report sex with a male.

|       | syphilis + | syphilis - |
|-------|------------|------------|
| RST + | 36 (TP)    | 56 (FP)    |
| RST - | — (FN)     | 1,491 (TN) |

Of the 1,626 RSTs, 135 yielded a positive result. Though a negative self-reported history of syphilis is established prior to testing, 10% of rapid positives were found to be previously infected with syphilis upon further interview or a search of the surveillance database. Five new HIV/syphilis co-infections were identified. While false positivity was high and positive predictive value (PPV) low, upon LHD visit for serology, four chlamydia and three gonorrhea infections were newly diagnosed.

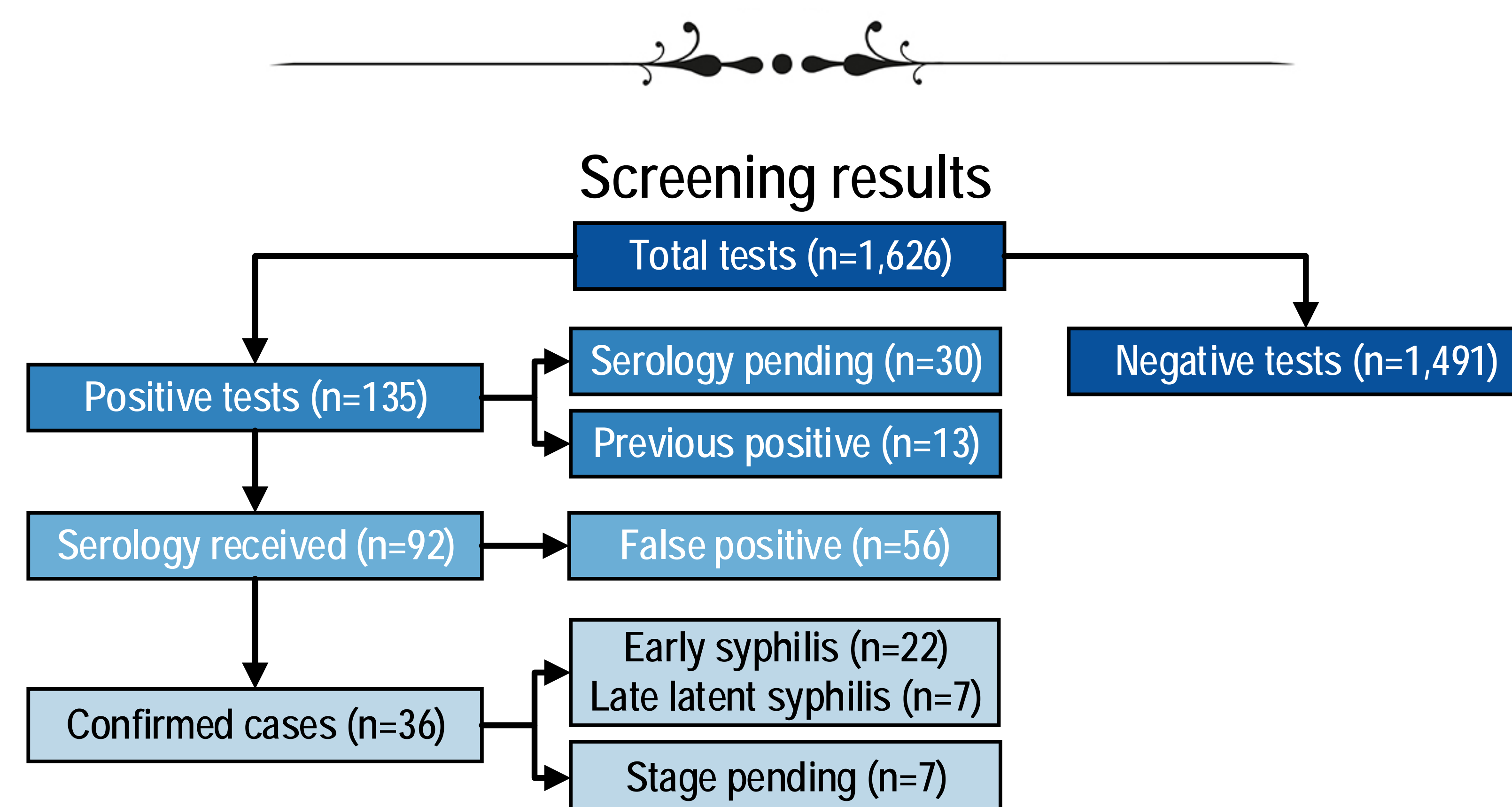
- RST positivity: 8% (n=135)
- False positivity: 41% (n=56)
- Case positivity: 2% (n=36)
- PPV: 39%
- Specificity: 96%

Inclusion of syphilis testing resulted in a 13% marginal increase in the average cost per test when integrated with HIV.

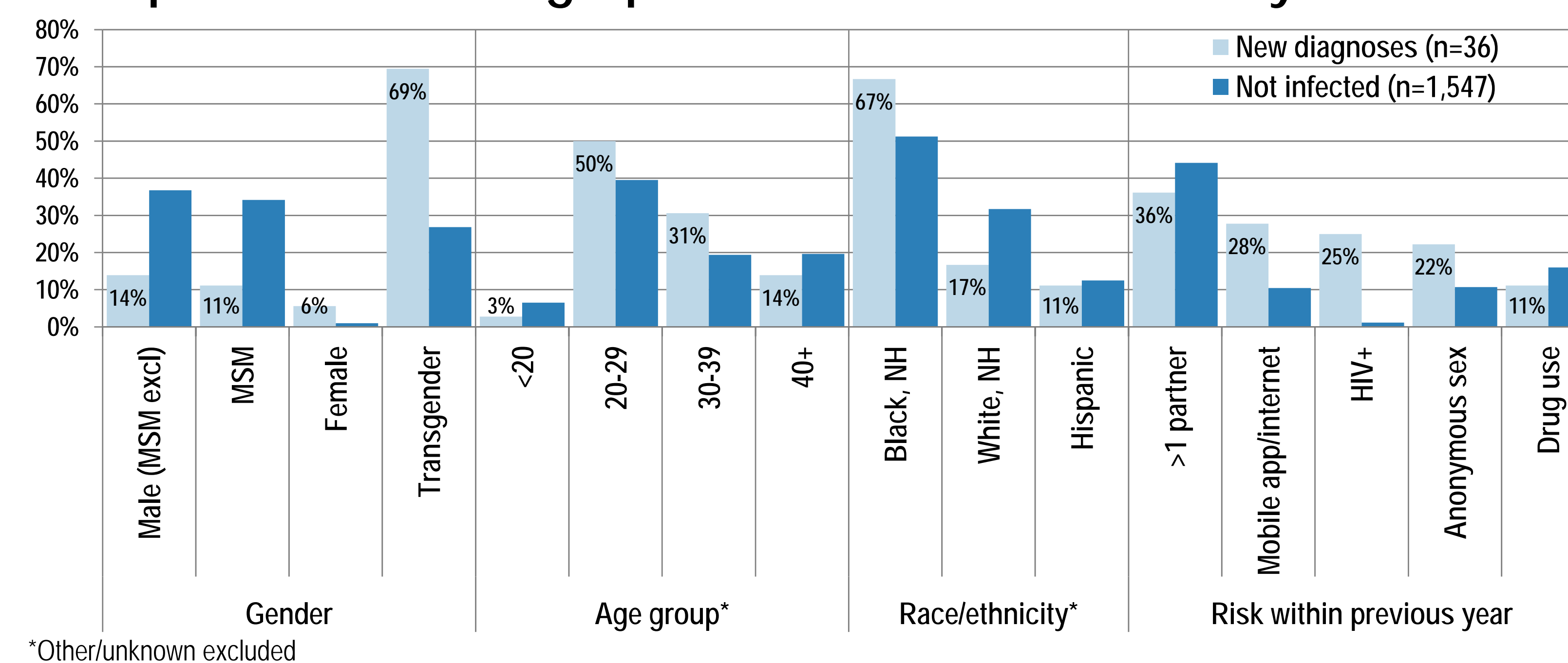
## Conclusions

Integration of syphilis testing within the existing HIV POC testing program offers many advantages in maximizing opportunities to diagnose, treat, and prevent infection. Additional POC tests in development will further expand the reach of screening outside of clinical environments necessitating a unified approach to collaboration and service integration. CBOs did indeed reach a significantly high-risk population as incidence of syphilis within the screened population was 2%, and, comparatively, Virginia's reported incidence of syphilis last year was 0.01% in the population.

Reflecting a PPV of nearly one-third, subsequent serologic tests are essential to confirm infection as the rapid result had limited clinical utility. Preliminary results from other RSTs currently in clinical trials use an optical reader and report a significantly improved PPV.



### Comparison of demographics and risk behaviors by case status



### Business process flow

