

# Rapid HIV diagnosis in the hospital emergency department and primary care clinic settings: successful experience and challenges

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Yun F (Wayne) Wang<sup>1,3\*</sup>, Bijal Shah<sup>2</sup>, Heather Freiman<sup>2</sup>

<sup>1</sup>Pathology & Lab Medicine, <sup>2</sup>Emergency Medicine, Emory University School of Medicine; <sup>3</sup>Grady Memorial Hospital, Atlanta, GA,

## ABSTRACT

Routine HIV testing & diagnosis in the hospital emergency department (ED) and primary care clinics (PCC) began in July 2013 for identification and linkage to care for newly diagnosed HIV-positive patients.

Relevant issues include (1) implementation of rapid testing and reporting of HIV testing in the ED and PCC; (2) follow up for newly diagnosed patients manage the linkage to care after discharged from the ED and PCC.

Relevant efforts include (1) manage the rapid testing of HIV for the FOCUS program using the updated HIV testing algorithm; (2) identify newly diagnosed patients and link them to HIV-related medical care and support services.

The routine testing program began on July 9, 2013, and HIV Ag/Ab testing replaced HIV EIA screening on February 16, 2015; data presented here are for tests completed through November 30, 2015 (3<sup>rd</sup> generation: 19 months; 4<sup>th</sup> generation: 9.5 months).

During this period, 62,002 total tests were completed, belonging to 53,113 unique patients and 465 patients were identified with a new HIV diagnosis (0.9% of unique tested).

A higher frequency of patients were identified with acute HIV via 4<sup>th</sup> generation testing compared to 3<sup>rd</sup> generation testing.

62.3% of newly diagnosed patients with at least 90 days to be linked to care attended a first appointment with an HIV-care provider (223 out of 413).

70.0% of patients with acute HIV and at least 90 days to be linked to care attended a first medical appointment (14 of 21 patients).

### Contact Information:

Dr. Yun F. (Wayne) Wang, yfwang@emory.edu  
Dr. Bijal Shah, bijal.shah@emory.edu  
Heather Freiman, hfreima@emory.edu

## BACKGROUND

- Early diagnosis and initiation of treatment for HIV are important for individual patient health and to reduce HIV transmission in the community.
- The FOCUS Program for routine HIV testing and linkage to care was implemented in July 2013 in the ED and PCC sites.
- Relevant issues include (1) Implementation of rapid testing and reporting of HIV testing in the ED and PCC; (2) follow up for newly diagnosed patients manage the linkage to care after discharged from the ED and PCC.



## MATERIALS AND METHODS

- Blood samples were collected during the course of clinical care and sent to the Grady clinical laboratory. Blood samples were processed on the track system.
- HIV 3<sup>rd</sup> generation EIA for HIV-1/2 antibody detection was performed using Ortho system. HIV 4<sup>th</sup> generation for HIV antigen and antibody detection was performed using Abbott Architect system.
- Rapid testing and reporting of HIV for the FOCUS program have been managed by using the updated HIV testing algorithm;
- The FOCUS team used laboratory results populated in the EMR to identify patients with HIV and link them to HIV-related medical care and support services.

### Disclosure

- Funding for implementation of the HIV screening program described here was provided by Gilead Sciences, Inc.

## RESULTS

- From July 9, 2013 – November 30, 2015:
- 62,002 total tests completed (53,113 unique patients), identifying 465 patients with a new HIV diagnosis (0.9% of unique tested) (Table 1).
- A higher frequency of patients were identified with acute HIV via 4<sup>th</sup> generation testing compared to 3<sup>rd</sup> generation testing (7.7% vs. 3.7% of new HIV diagnoses, p = 0.06).
- 62.3% of newly diagnosed patients with at least 90 days to be linked to care attended a first appointment with an HIV-care provider (223 out of 413).
- 70.0% of patients with acute HIV, and at least 90 days to be linked to care, attended a first medical appointment (14 of 21 patients)
- Denominator for linkage to care is adjusted for patients who were unable to be linked because they were deceased, incarcerated, declined linkage, or moved out of the area.

## RESULTS

**Table 1. Unique patients tested from July 9, 2013 – November 30, 2015**

	3 <sup>rd</sup> Gen (EIA) 7/9/13-2/15/15 N=28,825	4 <sup>th</sup> Gen (Ag/Ab) 2/16/15-11/30/15 N=24,288	Total 7/9/13- 11/30/15 N=53,113
Patients newly diagnosed with HIV	297 (1.0% of unique tested)	168 (0.7% of unique tested)	465 (0.9% of unique tested)
Patients with an acute HIV diagnosis	11 (3.7% of new HIV+)	13 (7.7% of new HIV+)	24 (5.2% of new HIV+)

## CONCLUSIONS

- The HIV FOCUS program integrates HIV testing into the course of routine patient care in the ED and primary care settings.
- Integrated testing permits rapid diagnosis program and earlier opportunity to link to HIV care services.
- Within our population, the main reason for failure to link to care is incorrect contact information provided at registration.

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