

## **Implementing a Laboratory-based Rapid HIV Testing Algorithm using Two Different Test Kits in a Hospital Emergency Department**

<i>Abstract Category:</i>	Applications of Point of Care Strategies Using Combinations of Rapid Tests
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### **PROJECT**

We implemented a two-step rapid HIV testing algorithm among patients presenting to the emergency department (ED) at Denver Health Medical Center in Denver, Colorado. HIV screening is being conducted to assess the feasibility of implementing the revised Centers for Disease Control and Prevention (CDC) guidelines for HIV testing in healthcare settings. As part of this project and in order to maximize receipt of HIV test results, we used a whole-blood, rapid HIV test (Unigold Recombigen®, Trinity Biotech, Bray, Ireland) as the initial test, followed by a second rapid HIV test (OraQuick ADVANCE® Rapid HIV-1/2 Antibody Test, OraSure Technologies, Bethlehem, PA) performed on specimens found to be reactive on the first test. All tests were performed by personnel in our hospital's laboratory.

### **ISSUES**

Current CDC guidelines for rapid HIV testing recommend that all positive rapid tests be confirmed with Western Blot testing. In order to more quickly distinguish persons likely to have false-positive test results on screening from those likely to be truly infected, we added a second rapid test to our algorithm. Adding a second test was feasible and allowed for differentiation of persons likely to have false-positive test results from those who were likely to be truly infected.

### **RESULTS**

From August 15, 2007, through October 27, 2007, 1539 patients completed rapid HIV testing. The median age of these patients was 39 years (range: 16 to 96) years and 53% were male. A total of 5 (0.3%) patients had positive primary rapid test results and of these, 4 (80%) had positive test results on the secondary testing. All patients who tested positive by both tests were confirmed positive using Western blot. One patient with a positive Unigold Recombigen® result had a negative OraQuick ADVANCE® result, and was negative by Western blot testing conducted at the public health lab.

### **LESSONS LEARNED**

Partnering with our laboratory allowed us to implement a two-step rapid HIV testing algorithm in our ED. This enabled us to provide more information to both the hospital staff and the patients who have positive preliminary tests. Although diagnostic experience with a larger number of patients will be required to make definitive recommendations, a two-step rapid HIV testing algorithm holds promise for point of care HIV testing.