# RAPID HIV SCREENING IN AN URBAN PEDIATRIC PRIMARY CARE CLINIC

**Evidence-Informed Structural Intervention**

## INTERVENTION DESCRIPTION

**Goals of Intervention**

- Increase rapid HIV screening rate in a pediatric primary care setting
- Increase receipt of HIV screening results

**Target Population**

- 13- to 25-year-old patients in an urban pediatric primary care clinic

**Brief Description**

In the *Rapid HIV Screening in an Urban Pediatric Primary Care Clinic* intervention, rapid HIV screening is implemented as standard practice of a pediatric primary care clinic using repeated cycles of the Plan-Do-Study-Act (PDSA) model. Rapid HIV screening procedures are based on guidelines from the Centers for Disease Control and Prevention for HIV screening using an opt-out approach. The PDSA model is used to ensure successful implementation of the rapid HIV screening intervention , and involves a quality improvement team that consists of medical directors, nurse managers, social workers, and certified health educators who plan implementation strategies to change practice that affects service quality (plan), conduct implementation strategies identified in the "Plan" phase (do), rapidly assess the intervention and reflect on collected data at the end of each implementation phase (study), and reassess progress toward rapid screening and successful strategies (act). The intervention was assessed during a baseline period and four iterative cycles during which services are enhanced for each successive cycle. The baseline period implementation includes serology screening as standard practice. During this period, clinic providers receive information on HIV screening guidelines and are responsible for identifying patients in need of HIV screening. Cycle 1 includes the implementation of rapid HIV screening in the clinic conducted by trained certified health educators (CHEs), with screening dependent on referral by a provider. All clinic staff and providers receive training on the rapid HIV screening procedures, including how to refer patients to CHEs using a pager system. During Cycle 2, CHEs are co-located with providers in provider workrooms for greater improvement in patient care and to improve accessibility of rapid screening services. In Cycle 3, CHEs continue to be co-located with providers, but proactively approach eligible patients (determined by reviewing medical records of scheduled patients) at any opportunity during the clinical encounter, without provider referrals. During Cycle 4, CHEs continue to be co-located with providers and proactively approach patients, but also track missed opportunities for screening by documenting reasons why rapid HIV screening was not completed.

**Theoretical Basis**
- Plan-Do-Study-Act (PDSA) Quality Improvement Model

**Intervention Duration**
- Ongoing

**Intervention Setting**
- Pediatric primary care clinic

**Deliverer**
- Healthcare providers (i.e., pediatricians, pediatric residents, adolescent medicine providers, adolescent medicine fellows, HIV care providers)
- Certified health educators (CHEs)
- Quality improvement team (i.e., medical directors, nurse managers, social workers, and CHEs)

**Delivery Methods**
- Counseling
- Oral rapid HIV test
- Training

**Structural Components**
- Access
  - Increased access to HIV screening, HIV screening results, and linkage to HIV medical care
- Capacity-building – Provider/Supervisor Training
  - Trained CHEs to conduct rapid HIV screening without provider referral
  - Trained healthcare providers on HIV screening guidelines, the availability of rapid testing, and how to refer patients to CHEs using a paging system
- Physical Structure – Integration of Services
  - Co-located CHEs with healthcare providers to improve patient care and identification of eligible patients for rapid HIV screening
- Policy/Procedure – Institutional policy/procedure
  - Implemented Centers for Disease Control and Prevention (CDC) guidelines for HIV screening using an opt-out approach

## INTERVENTION PACKAGE INFORMATION

**The intervention package is not available at this time.** Please contact **Renata Arrington-Sanders**, Department of Pediatrics, Johns Hopkins University School of Medicine, 200 N. Wolfe Street, Room 2063, Baltimore, Maryland 21287.

E**mail:** rarring3@jhmi.edu for details on interventions materials.

## EVALUATION STUDY AND RESULTS

**Study Location Information**
The original evaluation study was conducted in Baltimore, Maryland* between September 2013 and June 2015.

**Key Intervention Effects**
- Increased HIV screening

**Recruitment Settings**
- Pediatric primary care clinic

**Eligibility Criteria**
Participants were eligible if they were between the ages of 13 and 25 years and either had no documentation of an HIV test ever; were sexually active and had no HIV test documented in the past 12 months; or had documentation of recent risk behavior (i.e., vaginal or anal sex without a condom; one or more partners whose HIV status is unknown; history of exchanging sex for drugs or money; recent sexually transmitted infection [STIs]; sex partner with an STI; or living with HIV or in a high-risk category),* but no documentation of screening in the past six months.

**Study Sample**
The baseline study sample of 4,433 pediatric patients is characterized by the following:
- *94% non-Hispanic African American, 2% non-Hispanic white, 2% other race and/or ethnicity (e.g., Asian American and/or Pacific Islander, and American Indian), 1% Hispanic*
- *60% female, 40% male*
- *28% 13-14 years old, 37% 15-17 years old, 18% 18-19 years old, 17% 20-25 years old*

**Comparison**
The study used a pre-post design that compared data from the baseline period to data from each follow-up cycle (Cycles 1, 2, 3, and 4). Data from each subsequent cycle was compared with the previous cycle.
The baseline period included patients who were eligible for HIV screening, and patients who had been HIV screened using the standard practice serology test, prior to implementation of rapid HIV screening using a PDSA approach. Cycles 1, 2, 3, and 4 included patients who were eligible for HIV screening, and patients who received HIV screening based on implementation of rapid HIV screening, with improvements made to screening procedures in each subsequent cycle.

**Relevant Outcomes Measured**
- HIV screening rate was measured as the number of eligible patients who were HIV screened with a rapid or serology test per the number of eligible patients by cycle.

**Participant Retention**
Because participant retention is not a criterion for the Structural Interventions (SI) chapter, the Prevention Research Synthesis (PRS) project does not evaluate that information.

**Significant Findings on Relevant Outcomes**
- The odds of HIV screening were significantly higher among the following comparisons:

- Cycle 1 vs baseline period: (OR = 1.31, 95% CI=1.01-1.69, p<0.05)
- Cycle 2 vs baseline period: (OR = 1.65, 95% CI=1.44-1.89, p< 0.001)
- Cycle 3 vs baseline period: (OR = 4.67, 95% CI= 3.91-5.57, p< 0.001)
- Cycle 4 vs baseline period: (OR = 12.72, 95% CI=10.45-15.48, p<0.001)
- Cycle 3 vs Cycle 1: (OR = 3.58, 95% CI=2.70-4.74, p< 0.001)
- Cycle 3 vs Cycle 2: (OR = 2.83, 95% CI=2.39-3.36, p<0.001)
- Cycle 4 vs Cycle 1: (OR = 9.75, 95% CI=7.27-13.08, p<0.001)
- Cycle 4 vs Cycle 2: (OR = 7.71, 95% CI= 6.37-9.34, p<0.001)
- Cycle 4 vs Cycle 3: (OR = 2.73, 95% CI=2.18-3.41, p<0.001)

**Strengths**
- None identified

**Considerations**
*Additional significant positive findings on non-relevant outcomes*
- None reported

*Non-significant findings on relevant outcomes*
- HIV screening was higher among participants in Cycle 2 compared to participants in Cycle 1; however, this was not statistically significant.

*Negative findings*
- None reported

*Adverse events*
- None reported

*Other related findings*
- During the program, five patients were identified with HIV and were immediately linked to on-site care. At the end of the program, three of the five patients were retained in care.

*Implementation-related findings*
- Adoption/Sustainability:
  - Training of all clinical staff and providers on rapid HIV screening procedures was conducted at the beginning of the intervention, during Cycle 1. During Cycles 2 through Cycle 4, strategies were implemented to enhance rapid HIV screening procedures in the clinic, and each strategy was evaluated to ensure successful implementation of HIV screening in the pediatric clinic.
- Feasibility/Sustainability—Other settings may find the training of existing staff, such as medical or nursing assistants, to be easier to implement and sustain over time than using certified health educators.

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***Information obtained from author**

## REFERENCES AND CONTACT INFORMATION

Arrington-Sanders, R., Wheeler, N. J., Matson, P., Kim, J., Tawe, M., Toaszewski, K., . . . Marcell, A. V. (2018). A system-level approach to improve HIV screening in an urban pediatric primary care setting. *Pediatrics, 142*(5), 1-10.

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