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COMMENTARIES

Establishing a medical student-run opt-out HIV testing initiative in an urban emergency department: Description of a pilot program

Michael Plankey[1]

[1] Medicine, Georgetown University Medical Center

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Since July 2012, a testing initiative implemented and staffed entirely by first and second year preclinical medical students has trained medical student volunteers to offer and perform OraQuick® rapid HIV-1/2 antibody tests (OrasureTechnologies, Inc., Bethlehem, PA) on an opt-out basis at a University hospital emergency department (ED) in the District of Columbia. This program is unique among current opt-out ED rapid HIV testing programs in the United States in that all logistics, staffing, and procurement of test kits are coordinated and operated solely by preclinical medical students (i.e, students in their first and second years of medical school). This paper will address the conception, development, and implementation of this pilot project. In addition, it will discuss several factors that were essential to its successful implementation and describe how key barriers were overcome.

Introduction and Purpose

Approximately 2.4% of the residents in the District of Columbia (DC) are infected with HIV.[1] This epidemic has been sustained by a high proportion of local residents in populations at increased risk of HIV infection, such as men who have sex with men, injection drug users, and high-risk heterosexuals that have overlapping social and sexual networks.[2,3] In 2006, the Centers for Disease Control and Prevention (CDC) released HIV testing guidelines recommending routine opt-out HIV testing in emergency departments in cities with a seroprevalence over 0.1%.[4] The majority of hospitals in DC established opt-out HIV programs for adult and adolescent patients in the emergency departments.[1] Like many other emergency departments (EDs) in the nation, Georgetown University Hospital ED chose not to implement universal opt-out testing, citing the common impediments of lack of time, inadequate resources, and concern about providing follow-up care.[5]

Despite the 2006 CDC recommendations and U.S. Preventive Services Task Force (USPSTF) 2013 updated guidelines establishing opt-out HIV testing in all healthcare settings including emergency department as the standard of care,[6,7] the practice of routine HIV screening among hospital EDs in the US remains varied.[8,9] With the now widespread availability of CLIA-waived point-of-care (POC) rapid HIV tests (both fingerstick and oral swab), clinicians can have access to test results within twenty minutes. The literature has firmly established that nontargeted HIV screening in all healthcare settings

plays a vital role in limiting HIV sequelae and spread.[10,11] Nevertheless, most emergency departments fail to routinely test for HIV, even for patients with documented risk factors.[12]

Among emergency department programs that have established or attempted to establish opt-out HIV testing protocols, a set of known potential barriers and pitfalls has emerged. A nationwide survey performed by Haukoos et al. indicates that the most significant barrier preventing increased uptake of HIV testing in EDs is the need for personnel to perform testing and counseling.[13] Additional factors that contribute to program failure or threatened failure are: lack of sustainability, lack of adequate linkage to care, and high program costs.[12,14]

Although a review of the literature suggests that a wide variety of operational models have been employed to provide ED HIV testing, including testing performed by physicians, nurses, social workers, and paid external staff, a testing model relying solely upon the efforts of preclinical medical students has yet to be described.[15,16] This article describes a pilot program that took place at an academic medical center in Washington, DC in which a team of volunteer preclinical medical students devised an opt-out rapid HIV screening protocol for an academic ED that relied on students alone for staffing.

Methods

In spring 2012, two first-year medical students piloted a project to investigate the possibility of creating a student-run and self-sustaining rapid HIV testing program in the ED at Georgetown University Medical Center (GUMC). The aims of this pilot project were two-fold. The first goal was to offer HIV testing to all ED patients and immediate linkage to care for those patients diagnosed as HIV positive. The second goal was to provide a valuable clinical learning opportunity for preclinical medical students to perform clinical tasks independently in a busy emergency department. The experience of interacting with patients, physicians, and other hospital staff, is subjectively valuable for preclinical medical students, as demonstrated by the popularity and success of other student driven clinical initiatives, such as student-run free clinics.

Outcomes

In order to maintain functional sustainability of a student-operated testing program given the inherent transitioning effect from pre-clinical to clinical training, a codified and reproducible protocol was required. The primary challenge was to ensure that this protocol was congruent with the goals and capabilities of ED, the Division of Infectious Diseases (ID) and the Department of Laboratory Medicine (LM) at GUMC. The two founding students discussed with the heads of these departments and agreed that medical student volunteers would be responsible for the logistic operation of the testing program. Specifically, the students agreed to interact with the patient, conduct the tests, log and report epidemiological data as mandated by the DC

Department of Health (DOH), and manage inventory of testing kits. In turn, the ED would provide faculty oversight during the shifts when students were performing the test, and agreed to order confirmatory Western Blots in the event of a positive rapid test. ID provided social work staff, who agreed to be on call during each shift. In the event of a reactive test, the medical student would page a social worker to initiate a conversation with the patient regarding the test results and linkage to care. Finally, LM ensured the proper documentation of all testing performed by the students was in accordance with hospital procedure.

The initial protocol was implemented by the two founding students such that medical student program coordinators would be responsible for completing these tasks: 1) organize training sessions for administering the rapid test each year; 2) coordinate communication between the medical students, ED, ID, and LM; and 3) securing the rapid test kits at no cost from DC DOH. The two second year program coordinators shared supervisory and managerial roles, including having one coordinator present during every testing shift, and working together to recruit and train new coordinators from the class of first year medical students.

DC DOH agreed to donate the OraQuick ® rapid HIV test kits with the stipulation that the medical students would compile monthly status reports for DOH, which included confidential (not anonymous) demographic data about patients who received an HIV test, regardless of outcome. These reports included the number of tests completed by the program, a breakdown of reactive vs. nonreactive test results, and basic voluntary demographic information. Additionally, DOH staff members were responsible for teaching the procedures for reporting demographic data on all patients who were tested including submitting the mandatory CDC report of any positive result.

A technical representative from Orasure Technologies, Inc. (Bethlehem, PA), the manufacturer of the OraQuick® rapid HIV test, conducted the training sessions at no cost. Support from Orasure Technologies was available by phone if needed.

The students worked extensively with ID to develop a modular protocol, which could be easily inherited with each successive cohort of medical student volunteers. This competency training in the form of staff developed literature and a competency quiz includes information about testing and reporting logistics, such as beginning and end of shift procedures, defined exclusion criteria (those younger than age < 13, tested within past year, known to be positive or unable to provide consent were not tested), ensuring linkage to care, and covered a number of hypothetical scenarios the students might encounter (such as scenarios involving difficult patients or confidentiality concerns). By establishing this multi-faceted and collaborative protocol, the student coordinators were confident the program could be sustained indefinitely by successive medical school classes.

There were several obstacles encountered while implementing this testing program. First, GUMC had had a longstanding policy of requiring a written consent for all HIV tests. In the emergency department setting, and especially for an opt-out process, written consent was not feasible, and so a standardized oral consent script was created collaboratively and approved by the Department of Regulatory Affairs. This script (constituting an oral consent) was to be read by the medical students to all patients.

Second, the decision of who would order the confirmatory Western Blot testing in the event of a positive rapid test result was not straightforward. At first, the ED faculty requested that an ID fellow or attending be physically present in the ED in the event of a positive rapid test to order the confirmatory test. Given this would prove too time burdensome for the ID staff, it was agreed that the ED attending physician would assume responsibility for ordering the confirmatory test, while the ID social work staff would be on call to initiate the conversation with the patient regarding the preliminary results, to communicate the results of the Western Blot to the patient, and to coordinate all other aspects of linkage to care by scheduling an appointment at Georgetown or at another clinic in the DC area.

A third issue was obtaining the permission to train medical students to perform a CLIA-waived POC test in the hospital. LM worked with the student supervisors and the Orasure representative to ensure that the training was appropriate. The department of LM also required the passage of its own written test to ensure competency and bi-annual recertification of all student testers, and to maintain a separate log of patients tested. Finally, the students were subject to random spot checks by LM staff to ensure competency.

Mutual support and cooperation from the Chiefs of ID, ED, and LM obtained early in the process were unquestionably essential to the successful development and implementation of this HIV testing program. For example, the ID social work staff made available by the ID Chief was indispensible, as linkage to care with follow-up is an essential prevention treatment strategy in DC, which continues to be burgeoned by HIV infection among its residents. This staff agreed to provide back-up assistance “on call” should the student testers encounter complex situations, such as to help communicate information to a challenging patient, or to relay information to a patient who had signed out against medical advice.

Lessons Learned

The concept of utilizing preclinical medical students to immerse themselves in clinical experiences is a feasible method of establishing an opt-out HIV testing protocol in an ED for hospitals.

This student-driven testing model immediately circumvents at least two of the most pernicious barriers preventing more widespread adoption of opt-out testing described above. By utilizing medical student volunteers, utilization

of paid staff time is minimized, allowing for the testing program to run in parallel to normal ED activity instead of interrupting it. Additionally, the nature of a student group allows for a much more sustainable program. The leadership of a student group is fundamentally more flexible than a hospital-run program, with predictable numbers of students coming in and out at set times throughout the year. As such, a student driven testing initiative run as a "club" of the medical school can run itself indefinitely with yearly changes in leadership for students who demonstrate interest. Finally, as the students learn to set up their own training sessions and teach each other how the program is run, projected costs for the maintenance of such a program decrease as well. Medical student interest can be attracted by nonfinancial incentives such as course or elective credit or community service hours.

The success of a student-run opt-out HIV testing program in the ED hinges on many factors: namely, the identification of program champions both within the school administration and the hospital itself, close coordination between various hospital departments, the development of a comprehensive testing protocol and strict adherence to it, and buy-in from involved hospital departments. By leveraging the resource of medical students and by avoiding potential barriers to successful implementation as outlined in this article, academic medical centers that have previously thought HIV testing protocols to be implausible for their EDs may now reconsider the practicality of implementation.

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