

Routine HIV Screening, Acute Infection Diagnosis, and Partner Engagement: The Experience of a Safety-Net Provider in Chicago

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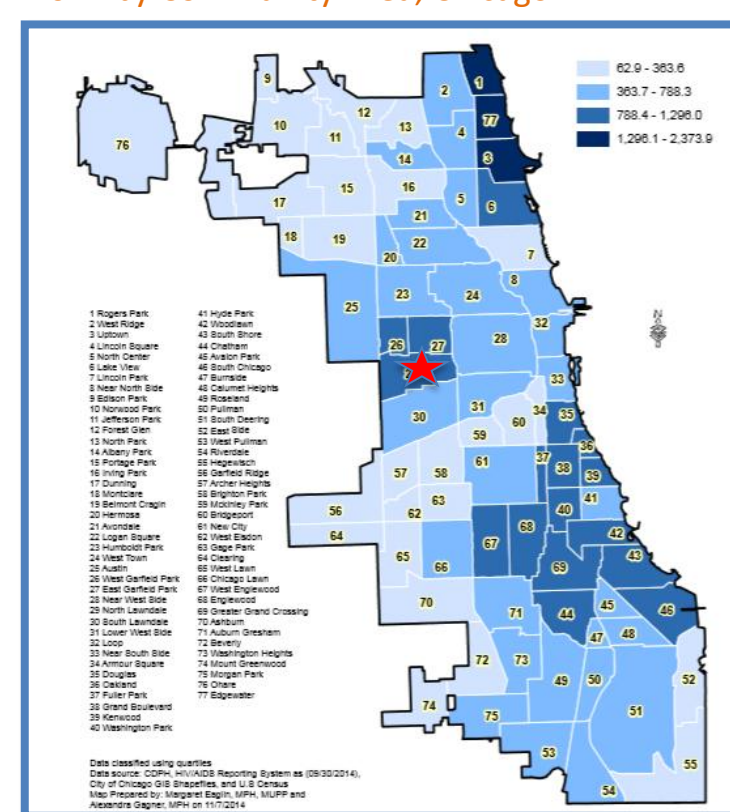
BACKGROUND

The interval between the appearance of detectable HIV RNA and the first detection of antibodies is known as Acute HIV infection (AHI) (1). The opportunity for detection of AHI can be enhanced in clinical settings with routine screening and heightened awareness of clinicians.

Sinai Health System, a hospital located in Chicago, began implementing routine HIV screening in 2011 after a decade of using dedicated HIV testers. The system-change to clinician-integrated testing is part of the HIV on the Frontlines of the Communities in the US (FOCUS) project which has established over 150 partnerships in 11 US cities, resulting in over 1,000,000 HIV tests and over 5,400 HIV diagnoses (2).

Sinai, a designated safety-net provider and teaching hospital, is located in the Chicago community area of North Lawndale, which in 2012 had an HIV prevalence rate of 1,030.3 per 100,000 persons and an HIV incidence of 68.2 per 100,000 persons (3) (Figure 1).

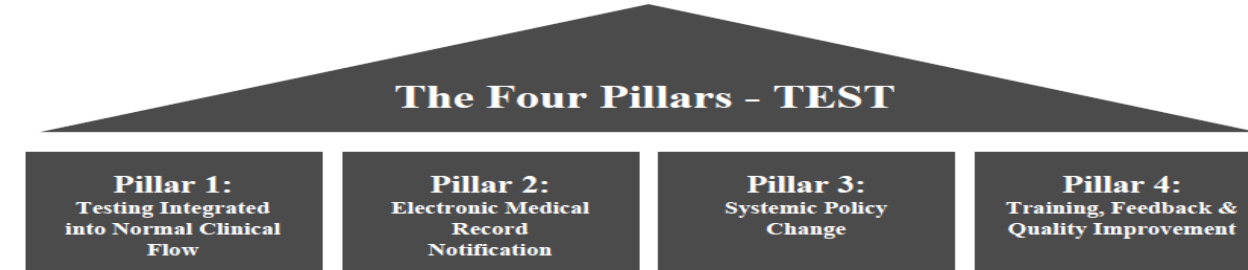
Figure 1. People Living with HIV Infection in 2012 by Community Area, Chicago



METHODS

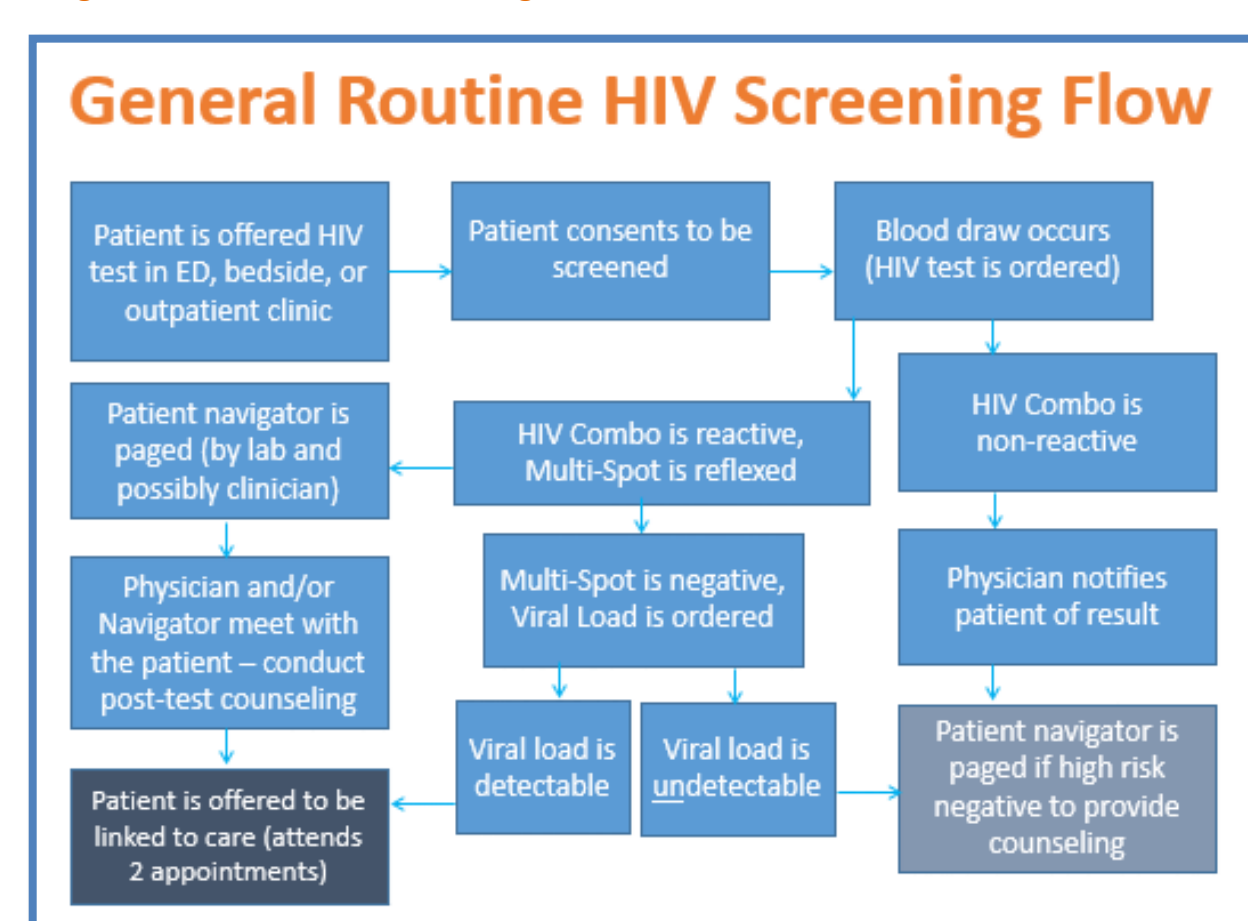
Sinai's routine screening program is implemented via four pillars that are the foundation of the FOCUS program (Figure 2). Since the start of routine screening in 2011, Sinai has incorporated screening expectations into clinical staff trainings and orientations, made updates on routine screening efforts in clinical departmental meetings, sent data reports to department chairs, and adapted its hospital and outpatient electronic medical record systems to capture patient consent and order HIV tests.

Figure 2. The Four Pillars, FOCUS Program



In December 2012 Sinai began using a 4th generation testing platform, the Abbott Architect to test for the p-24 antigen and still maintained use of the Western Blot to test specimens positive for the p-24 antigen or antibodies. In February 2014, Sinai began using the MultiSpot HIV-1/HIV-2 Rapid supplemental test on specimens reactive for the p-24 antigen or HIV antibody as recommended for laboratories by the Centers for Disease Control and Prevention (3). When acute infection was suspected (Multi-spot negative or indeterminate), a viral load test was administered on additional blood. Sinai offered in-person notification and linkage to care by dedicated staff people. Linkage to care included result notification and post-test counseling, needs assessment, an HIV primary care appointment, reminder calls, and meeting the patient at the appointment (Figure 3).

Figure 3. Routine HIV Screening Flow for Sinai



RESULTS

Of 15,532 patients screened at Sinai, 74 patients were newly diagnosed with chronic HIV infection and 9 patients were diagnosed with AHI from December 2012 to March 2015 (when 4th generation testing was available) (Figure 4). Patients were Latino (n=1), black (n=6), and white (n=2); ranged from 17 years to 56 years old; and were male (n=6), female (n=2), and male to female transgender (n=1) (Table 1).

Initial viral loads ranged from 84,403 to over 10,000,000 copies per ml. Patients with AHI were diagnosed in the Emergency Department and 100% were linked to care (2 appointments within 90 days). The median time to the first appointment was 11 days (range of 3 to 37 days) and the average time to the second appointment was 31 days (range of 10 to 79 days). There were many challenges related to linking patients to care that resulted in frequent rescheduling of appointments. Challenges included patients leaving the state and homelessness.

Viral suppression within 6 months of their diagnosis was <400 copies per ml (n=5) and <2,000 copies per ml (n=4), and 100% initiated treatment. Patients were heterosexual 55.6% (n=5) and men who had sex with men 44.4% (n=4). Regarding reported sexual partners: those who were unaware of their HIV status and for whom the partner could be reached were tested for HIV (n=5), initiated Pre-Exposure Prophylaxis (n=2), were living with HIV infection but the AHI was unaware (n=1), and reinitiated antiretroviral therapy when HIV infection was known (n=1).

Throughout the use of fourth generation testing algorithm, patient navigators have been essential in making sure that clinicians ordered viral loads for patients suspected of having acute infection.

Figure 4. Total Routine HIV Screenings, Sinai Health System,

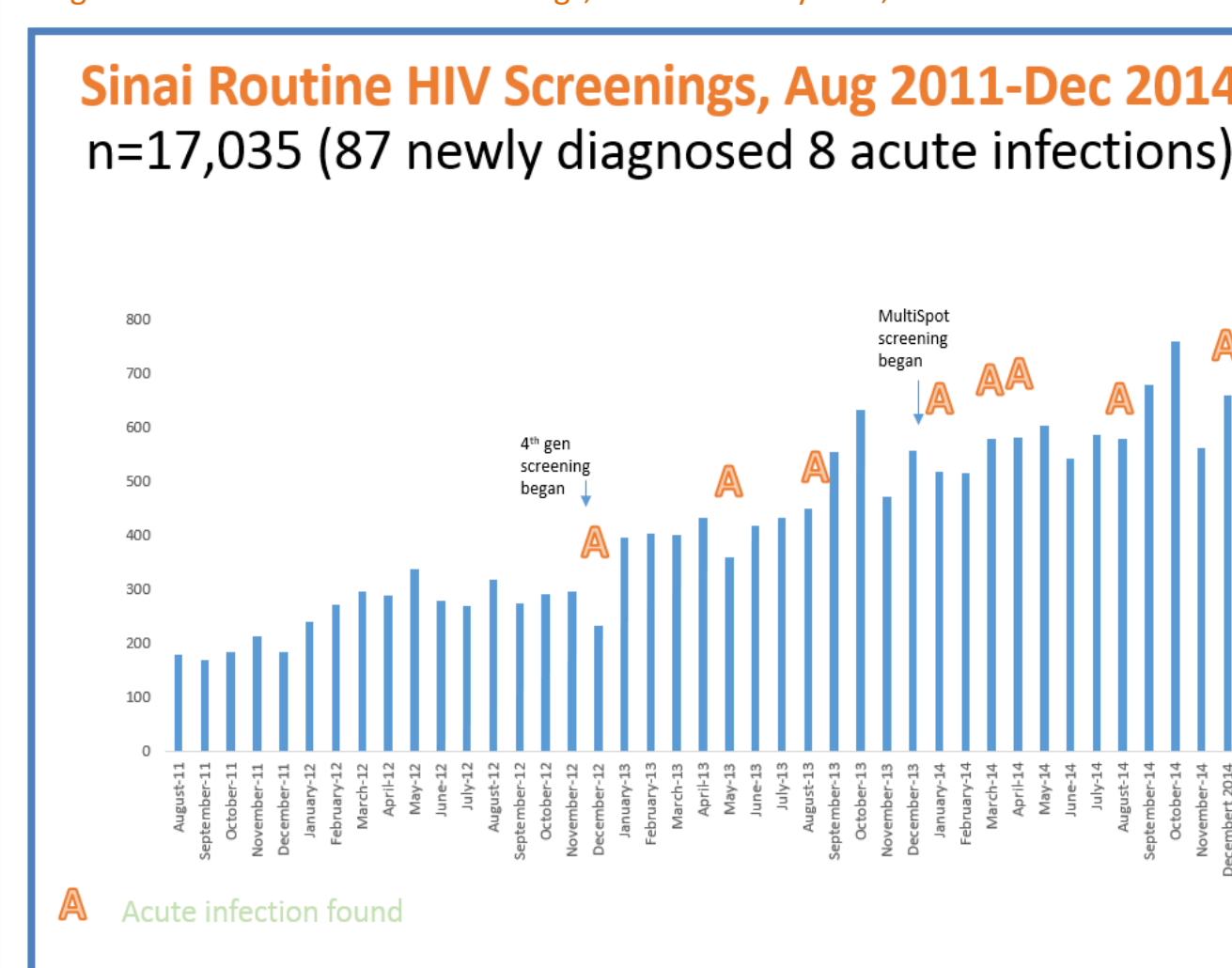


Table 1. Total Acute Infections, Sinai Health System,

Patient	Presenting Symptoms/ Reason for Visit	Risk	Gender	Age
Case 1	Cocaine poisoning	Heterosexual	Black Man	47
Case 2	Fever; dizziness; vision changes	Heterosexual	Hispanic Man	32
Case 3	Fever; confusion	MSM	White Man	28
Case 4	Hypotension	likely heterosexual	Black Woman	56
Case 5	Thrush	MSM	Black Man	19
Case 6	Confusion; fever; Meningitis	Heterosexual	White Woman	28
Case 7	Fever, chills, diarrhea	MSM	Black Man	19
Case 8	Swollen lymph node	Sex with a man	Black Male-Female Trans	25
Case 9	Nausea and Vomiting	MSM	Black Man	17

CONCLUSIONS

The newly recommended HIV testing algorithm coupled with routine screening helps clinicians to broaden who they think is at risk for HIV. Patients with AHI achieved high rates of viral suppression shortly after treatment initiation reducing the risk of spreading HIV to their partners. There are challenges in linking some patients to care given that the life circumstance of patients does not cease with an HIV diagnosis. Equal focus should be placed on diagnosing patients with AHI, anticipating and eliminating barriers to linkage to care, and conducting follow-up of patient's social and sexual networks to prevent the spread of HIV and identify other new infections.

LITERATURE CITED

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