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ORIGINAL PAPER

Implementation of an Immediate HIV Treatment Initiation Program in a Public/Academic Medical Center in the U.S. South: The Miami Test and Treat Rapid Response Program

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Abstract

Test and Rapid Response Treatment (TRRT) linkage programs have demonstrated improved HIV suppression rates. This paper describes the design and implementation of the Miami TRRT initiative and its clinical impact. Assisted by a dedicated care navigator, patients receiving a reactive HIV rapid test at the Florida Department of Health STD Clinic were offered same-day HIV care at the University of Miami/Jackson Memorial Medical Center Adult HIV Outpatient Clinic. Patient retention and labs were tracked for 12 months. Of the 2337 individuals tested, 46 had a reactive HIV test; 41 (89%) consented to participate. For the 36 patients in continued care for a year, 33 (91.7%) achieved virological suppression (< 200 copies/mL) within 70 days of their reactive HIV rapid test; at 12 months, 35 (97.2%) remained suppressed, and mean CD4 T cell counts increased from 452 ± 266 to 597 ± 322 cells/mm^3. The Miami TRRT initiative demonstrated that immediate linkage to care is feasible and improves retention and suppression in a public/academic medical center in the U.S. South.

Keywords Linkage · Retention · Rapid treatment · Suppression

Resumen

Los programas de Respuesta Rápida con Vinculación y Tratamiento a pruebas positivas (TRRT, Por sus siglas en inglés) han demostrado mejorar las tasas de supresión del VIH. Este artículo describe el diseño y la implementación de la iniciativa del programa TRRT y su impacto clínico. Con la ayuda de un navegador de pacientes, aquellos quienes recibieron un resultado reactivo por medio de una prueba rápida del VIH en la Clínica de Enfermedades de Transmisión Sexual del Departamento de Salud de la Florida, se les fue ofrecido cuidado médico para el VIH ese mismo día en la Clínica Ambulatoria para Adultos con VIH del Centro Médico de la Universidad de Miami/Jackson Memorial. La retención al cuidado médico y los laboratorios fueron monitoreados durante 12 meses. De los 2337 individuos a quienes se les realizó la prueba del VIH en un año, 46 obtuvieron una prueba de VIH reactiva; 41 (89%) accedieron a participar en el programa. Treinta y seis pacientes permanecieron en atención continua durante un año, 33 (91.7%) lograron la supresión de la carga viral (< 200 copias/ml) en un plazo de 70 días de su prueba rápida reactiva de VIH; a los 12 meses, 35 (97.2%) permanecieron suprimidos, y el recuento medio de células T CD4 aumentó de 452 ± 266 a 597 ± 322 células/mm^3. La iniciativa de Respuesta Rápida a pruebas positivas de Miami demostró que la vinculación inmediata al cuidado médico es factible y mejora la retención y supresión viral en un centro médico público/académico en el sur de los EE. UU.

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Introduction

With the advent of efficacious combination antiretroviral therapy (ART) for people living with HIV (PLWH), life expectancy is now comparable to those without HIV infection provided that diagnosis and treatment occur early after infection [1, 2]. Early diagnosis and treatment of HIV also confers an improved quality of life and a decrease in transmitted infections [3, 4]. Programs focused on HIV detection followed by immediate ART initiation, herein referred to as a Test and Rapid Response Treatment (TRRT), result in reduced morbidity and mortality and fewer incidences of viral transmission, thereby reducing the impact of the HIV epidemic [4–6].

Existing rapid treatment initiation programs have demonstrated that ART initiated immediately after an HIV diagnosis shortens the time to virologic suppression compared to patients newly entering care via traditional routes due to system-level barriers [7–10]. Overcoming implementation barriers to achieve quicker suppression results in clinical benefits for patients and prevention benefits to the community; traditional modalities of slower ART initiation have led to concomitant increases in AIDS diagnoses, non-AIDS associated co-morbidities, and HIV transmission [11, 12]. Obstacles to early initiation of ART include delayed diagnosis of HIV due to patient proximity to care and accessing care. Moreover, cultural factors, for example, have resulted in time lapses between diagnosis and treatment, and poor engagement in HIV care [13, 14]. Despite the obstacles for implementation, TRRT programs in the U.S. [7–9] and other countries [15–17] have overcome some of these barriers mostly owing to collaborations among diagnostic centers, clinical settings, and health funding agencies.

Notably, TRRT initiatives can differentially affect patient outcomes based on geographic location and may have a larger benefit to clinical outcomes for patients in the U.S. South who experience a greater HIV burden compared to other regions [18, 19]; more than half of all new HIV diagnoses in both 2016 and 2017 were in the U.S. South and Washington, D.C. [20]. The larger impact of implementing a TRRT program in the U.S. South is due to the more abundant and more potent barriers to timely linkage to HIV care for newly diagnosed patients living in this area. Poorer outcomes for PLWHA have been reported in the U.S. South [18, 19]; compared to other regions, barriers to effective care to improve progression along the HIV care continuum have been demonstrated to be worse in this area of the U.S. due to location-specific factors such as increased stigma [21, 22] and residing in a rural setting [23]. Furthermore, this region has higher rates of poverty, opioid use, and lower education levels [24]. On a structural level, the U.S. South has the largest difficulty in access to care in that this region has fewer HIV care providers per capita [25, 26] and fewer resources devoted to HIV care [19, 24, 25], compounding the negative impact of these barriers to effectively link new patients to HIV care. Taken together, TRRT initiatives can address the greater need to improve expediated linkage to HIV care experienced by those in the U.S. South compared to other regions. These structural difficulties pertaining to access that present a large burden to expedited linkage for those in the U.S. South call for more detailed studies of TRRT initiatives to fully elucidate the optimal design, feasibility, and impact of implementation in various settings, particularly in locales with high HIV rates and resource-limited areas such as HIV clinics located in the Southern U.S., those in large academic settings, and clinics within public hospitals. Miami-Dade County is one such setting in that medical, financial, and case management services are not fully integrated at the main public hospital in the county; the absence of coordinated patient services elicits delays in ART initiation. Prior to program implementation, the time to ARV initiation after an initial HIV diagnosis was 49–73 days (Fig. 1).

Miami-Dade County is an epicenter of the HIV/AIDS epidemic both in the U.S. and among the Southern states; in 2016, it had the highest HIV infection case rate (51.2 per 100,000) in the U.S. with a 6% increase in diagnoses from the prior 2 years [27]. The largest increases in new diagnoses have been among Hispanic/Latino men who have sex with men (MSM), accounting for 61% of new infections. Hispanic/Latino MSM also had the highest numbers of new AIDS diagnoses, increasing by 7% [27]. The HIV Care Continuum in Florida indicated only 75% of PLWHA are successfully linked and retained; of those, around 82% achieve virological suppression [27]. These figures underscore the need to improve culturally-relevant community-wide testing, linkage, and retention in care to increase suppression rates, particularly among ethnic minorities in Miami-Dade County.

To increase the rates of successful ART treatment in order to reduce HIV transmission and HIV-related deaths, the Florida Department of Health (FLDOH) has championed initiatives to increase HIV testing and provide rapid access to ART. The FLDOH, in collaboration with Jackson Memorial Medical Center and the University of Miami Miller School of Medicine, launched a pilot TRRT program in March 2016 to provide immediate ART on either the same day of a positive rapid HIV test or at a follow-up HIV care appointment scheduled no longer than 1 week after the positive result at the FLDOH Sexually Transmitted Diseases (STD) clinic. Having received ART within 7 days of a positive HIV rapid test was considerably less than the 2–3 month start time prior to implementation of the TRRT program, reducing the time from diagnosis to the first dose of medication and subsequent virological suppression.

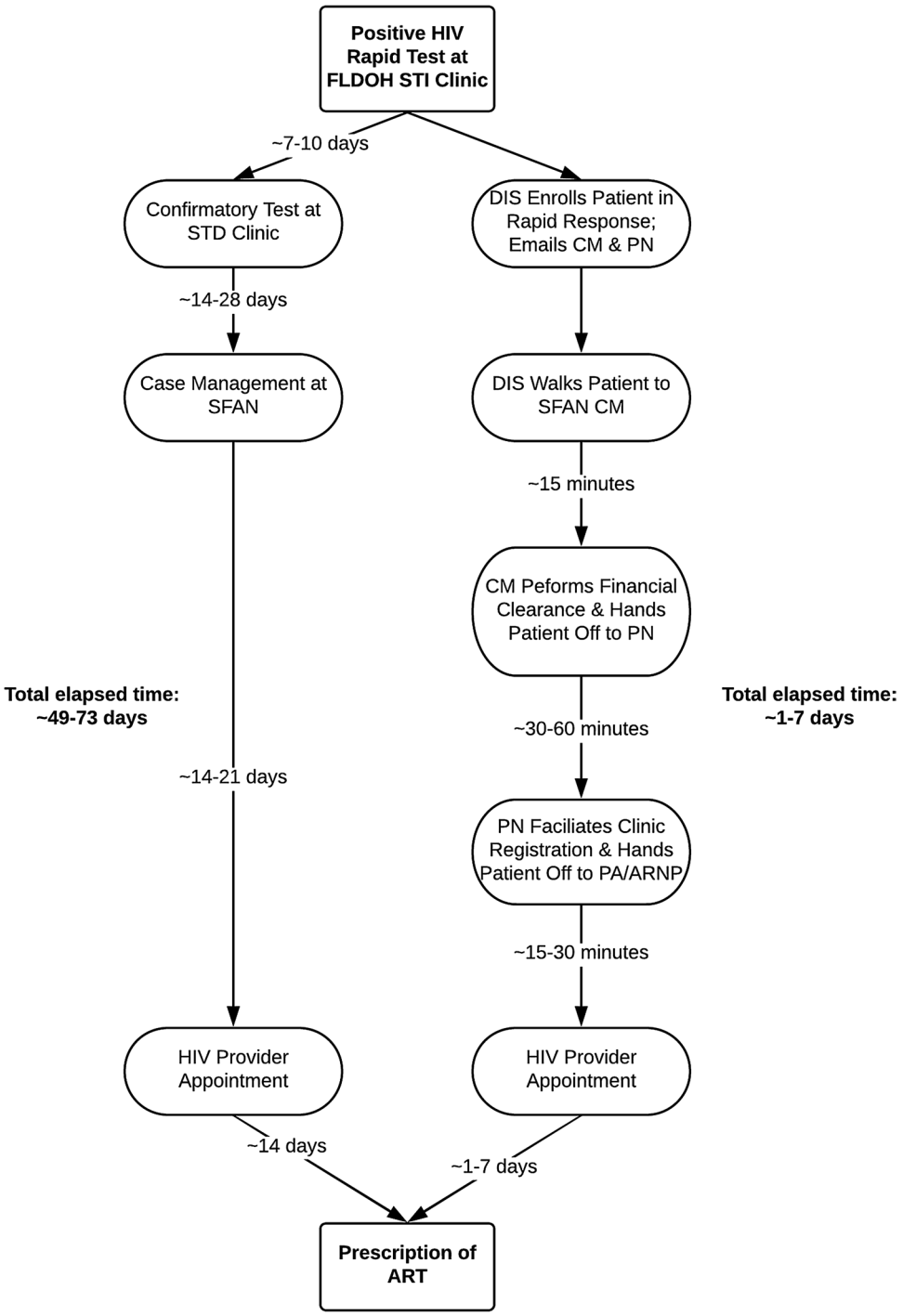

Fig. 1 Flowchart comparing new patient processes in the TRRT program to traditional linkage to care. The left shows timing prior to implementation of the Miami TRRT, the right shown timing for patients enrolled in the Miami TRRT

This paper describes the design and implementation of this TRRT initiative and the impact on viral load suppression, linkage, and retention in care for patients engaged during the first year of the pilot program at a public/academic medical center in the U.S. South. Challenges and barriers to implementation are discussed.

Methods

Ethics Statement

Permission to conduct the study was granted from the Institutional Review Board of the University of Miami and the Clinical Research Review Committee at Jackson Memorial Hospital; a waiver of informed consent was obtained due to the retrospective nature of this study.

Setting

The TRRT program launched on March 1, 2016, as a collaborative initiative between the Florida Department of Health in Miami-Dade County (FLDOH), the South Florida AIDS Network (SFAN) at Jackson Memorial Hospital (JMH) Medical Center, and the University of Miami Miller School of Medicine Adult HIV Section. The University of Miami/JMH (UM/JMH) Adult HIV Outpatient Clinic, the TRRT clinical site, provides HIV care to approximately 3000 distinct patients annually. The majority of the patients seen in this clinic are from a racial/ethnic minority group (57.9% Black; 36.4% Hispanic/Latino), 49% are foreign born, and 38% are female. Uninsured individuals (Ryan White or no insurance) represent 43% of the clinic population, followed by those with Medicaid (32%). The clinic is the largest single-location HIV clinic provider in Florida and is a primary entry point for patients to obtain HIV care in Miami-Dade County. It is staffed by University of Miami faculty along with members of an interdisciplinary treatment team from both JMH and UM. SFAN, located proximally to our clinic site, performs the majority of the case management and assists with financial issues and enrollment into Ryan White Part A; SFAN is overseen by the County. Most case management interactions with patients are by appointment and are accessible on a daily basis for immediate interactions with patients as needed.

HIV Diagnosis and Engagement in Care via Traditional Processes Prior to the TRRT Program

Miami-Dade County has the highest HIV infection case rate (51.2 per 100,000) in the U.S. In 2017, only 64% of HIV diagnosed patients are retained in care and only 58% have achieved viral suppression [27]. Before implementation of the TRRT program, patients with a positive HIV rapid test routinely performed at the FLDOH STD Clinic in downtown Miami, were asked to return in 7–10 days for confirmatory results. At that time, they were referred to a provider agency; typically, a case management appointment was scheduled 2–4 weeks later. After the case manager assessed financial eligibility, the case manager generated a referral for a HIV practitioner and the initial appointment with the HIV care provider was scheduled for 2–3 weeks later. Subsequently, on the initial clinic visit, the physician ordered labs and the first follow-up appointment was scheduled for 2 weeks later. New patients received a script for ART either at the first appointment or at the subsequent follow-up appointment. A summary of the typical flow for new patients is presented in Fig. 1 alongside the timeline for patients in the TRRT program.

Description of the TRRT Program

The primary goal of the TRRT program was to engage and link those newly diagnosed with HIV into same-day care and treatment rapidly, within the first week of diagnosis. To accomplish this within the existing medical system framework, a collaborative team, consisting of a Disease Intervention Specialist (DIS), a bilingual (English and Spanish) Patient Navigator, a SFAN Case Manager, and a designated HIV Care Provider, worked together to provide in-person guidance for the newly diagnosed patient from the point of diagnosis to the provision of care. A process was established that included a direct, immediate referral from the FLDOH testing site to SFAN case managers and the UM/JMH HIV Clinic and ensured that newly diagnosed patients via rapid testing were escorted first to case management and then to the clinic accompanied by program personnel.

A standard operating procedure was established and followed for each new TRRT patient. First, after a positive rapid 4th generation rapid HIV test (Alere Determine™) at the FLDOH STD clinic, patients not previously reported to state surveillance and who were determined to be preliminarily newly diagnosed were offered participation in the TRRT program after appropriate counseling. Patients with known HIV infection were linked back to care if they were out of care. Once patients agreed to participate in the TRRT program, testing personnel at the FLDOH emailed the TRRT team through a HIPAA-compliant server to alert personnel of the new patient coming to the clinic later that day.

Next, the DIS accompanied the patient to the UM/JMH Adult HIV Outpatient Clinic, located approximately 0.6 miles from the FLDOH STD clinic, where the patient first met with a designated TRRT SFAN Case Manager. The SFAN Case Manager then arranged financial clearance and assigned a patient identification number. Subsequently, the TRRT patient navigator met with the patient and facilitated clinic registration and a clinic visit with a HIV care provider. Importantly, the Patient Navigator maintained constant contact with the patient throughout the course of their care during the first year. The Patient Navigator ensured patients were aware of their appointments and assisted in linking patients to their various care services as needed. During this initial meeting with the HIV care provider, a physical was performed, medical history was collected, baseline labs ordered/done, including a confirmatory test and HIV genotyping, and a prescription was given for a 30-day supply of ART. An appointment for a follow-up visit within 7 days was made to evaluate labs, address any patient concerns, and review any side effects from the ART.

Financially, the FLDOH reimbursed JMH for the first 30 days of medical management and the first month of medication. In general, within that time frame, patients would either be enrolled in Ryan White Part A, enrolled in an insurance exchange, or their insurance was engaged. A comparison of

this TRRT initiative to the previous traditional route of entry to care for new patients including the time elapsed between each step of the process is presented in Fig. 1.

TRRT Program Provision of Financial Support

During the first 30 days, insurance hurdles were resolved mainly through a dedicated TRRT Patient Navigator. Notably, patients were not given starter packs of ART but rather a standard 30-day supply of medication. Once the first 30 days elapsed, patients followed-up with regular treatment as any other new patient linked to care according to a treatment regimen designed by the patient's medical provider and the patient.

Data Collection, Statistical Analyses, and Evaluation Plan

Data were gathered from the FLDOH STD clinic, TRRT staff, and the electronic medical records (EMR) of TRRT patients. Number of HIV tests performed and acceptance or refusal of entry into TRRT were obtained from the FLDOH STD clinic and TRRT staff; patient demographics, clinic visits, laboratory data (CD4 T-cell count, HIV-1 RNA), and ART regimens were abstracted from the EMR. Time to first scheduled provider visit was defined as number of days from rapid test to clinic for first visit with a provider. Time to ART initiation was defined as time from initial clinic enrollment to date ART was prescribed. In line with prior publications, time to virological suppression was defined as time from initial clinic enrollment to the first HIV-1 RNA of < 200 copies/mL. Means and standard deviations were calculated for continuous data; proportions and their corresponding percentages were determined for categorical data.

Results

Testing, Entry into the TRRT Program, and Linkage to Care

Figure 2 presents the process flow diagram for patients in the TRRT program. For the first year of the program, from March 1, 2016, to February 28, 2017, 2337 clients were tested for HIV at the FLDOH STD Clinic. Of those tested, 74 (3.2%) had a reactive 4th generation rapid test result; of those 74 who tested positive, 46 (62.2%) were newly diagnosed (requiring a confirmatory test), while 28 (37.8%) were known positive through FLDOH surveillance. Of the 46 eligible to enter the TRRT program, 42 (91%) agreed to participate. Forty-one had a positive confirmatory test; 30 (73%) of the 41 patients were seen by an HIV medical provider on the same day of the reactive rapid HIV test result while another 8 (20%) were seen within 1 week of the positive rapid test. Prior to the initiation of the TRRT program, previous rates of kept appointments for new patients was approximately 50% for those scheduled as a first visit through the standard of care prior to program implementation, whereas all those in the TRRT program attended a first clinic visit with a provider. Notably, 91% of those receiving a positive HIV rapid test were willing to attend their first visit through this program, significantly mitigating linkage into care issues.

Confirmatory HIV Test, and Sociodemographic Characteristics

Of the 42 in the TRRT program, all but one patient had a positive confirmatory test; the patient with the negative confirmatory test was therefore omitted from the TRRT program. Table 1 provides patient demographics for the 41 patients with a positive confirmatory HIV test. The majority patients were males (76%; 24% female); 44% heterosexual and 70% of male were MSM. Fifty-four percent were Hispanic/Latino and 39% were black; 78% of the patients were foreign born (34% Cuba, 20% Haiti, 18% other Latin American and Caribbean countries). The age range was from 22 to 69; the mean age was 36.3 ± 10.8 years at entry into TRRT. One patient transferred to another clinic after the initial visit. Of the 40 initial patients, 29 subsequently received Ryan White Part A funding (< 135% Federal Poverty Level (FPL), 9 had Medicaid or entered in an Affordable Care Act Exchange Plan (between 138 and 400% FPL), one had commercial insurance and one had Medicare. The patient with commercial insurance subsequently transferred to a private provider within the first year.

ART Initiation

Of the 41 newly diagnosed patients, 25 (60%) began ART at the time of the first visit, 10 began between 1 and 8 days from the first visit, and six patients began ART between 8 and 14 days of their first visit. All but four patients were started on a single tablet treatment regimen of tenofovir alafenamide/emtricitabine/elvitegravir/cobicistat as recommended by the FLDOH; all patients tolerated their medication well with no reported side effects within the first three visits.

Retention in Care and Virological Suppression Over Time

Thirty-six of the 41 consented participants (87.8%) remained in continued care over the subsequent 12 months; two patients transferred to another clinic. In that 64% of patients were retained in care in Miami-Dade County in 2017 according to the FLDOH HIV care continuum [18], the TRRT program conferred a higher retention rate.

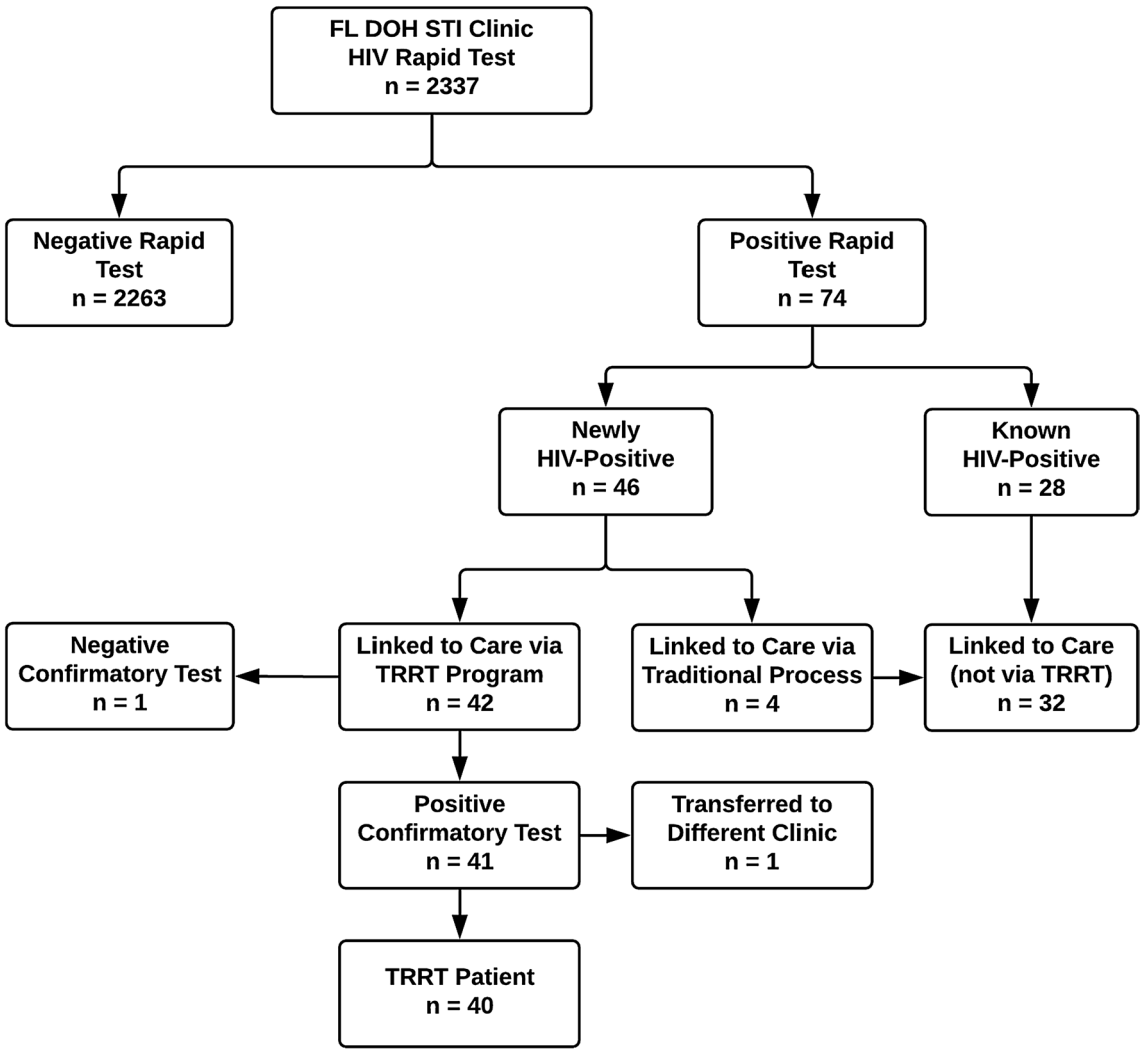

Fig. 2 Summary of TRRT program enrollment

Using lab data from patients' first blood draw, the initial mean viral load was 482,205 copies/mL and the median viral load (VL) was 23,236 copies/ml (range: 23–6,875,997 c/mL). Four patients had an initial viral load between 4,000,000 and 5,000,000 c/mL and managed to achieve viral loads less than 200 c/mL within the first year. A 50% suppression rate (< 200 copies/mL) was achieved within 38 days. The suppression rate surpassed 90% by 70 days of ART initiation; with 33 out of 36 patients (91.7%) with more than one VL data point achieved suppression. By 1 year, 97% of TRRT were virologically suppressed. Importantly, seven of the nine patients presenting with AIDS based on CD4 T cell count upon entry into the TRRT program achieved an undetectable viral load. The two patients who had transferred to another clinic were undetectable at the time of transfer.

CD4 T-Cell Improvement Over Time

The mean starting CD4 count for the TRRT cohort was 452 cells/mm^3 ($\pm$ 266 cells/mm^3) and a median CD4 count of 459 cells/mm^3. In general, there was a robust increase in the CD4 T cell count during the first year after immediate initiation of ART, to 597 $\pm$ 322 cells/mm^3. Eight of the nine subjects that presented with AIDS upon entry into the TRRT program achieved an increase of CD4 T cells over 200 cells/mm^3. The patient remaining below 200 cells/mm^3, who had an initial CD4 T cell count of 2 cells/mm^3 has been non-detectable for more than 1 year and has had an increase in their CD4 T cell count from 101 to 189 cells/ml; this patient may be an immunologic non-responder.

Table 1 Demographics and summaries of labs for TRRT patients

Sociodemographic characteristics (n = 41)	Mean ± SD/n (%)
Age	36.3 ± 10.8 years
Gender	
Female	10 (24.0%)
Male	31 (76.0%)
Race	
Black	16 (39.0%)
White	25 (61.0%)
Ethnicity	
Hispanic/Latino	22 (54%)
Not Hispanic/Latino	19 (46%)
Country of origin	
Cuba	14 (34.0%)
Haiti	8 (20%)
USA	9 (22.0%)
Other	10 (24.4%)
Risk	
Heterosexual	18 (43.9%)
MSM	23 (56.1%)

Discussion

Along with retention in care, virological suppression is critical in prevention of HIV transmission [4]. Recently, there have been increasing efforts in the United States to bring people with HIV into care rapidly and begin ART, thereby mitigating their risk of becoming lost to follow-up and reducing new infections through unsafe sexual activity [7–9]. In Miami-Dade County, the importance of bringing individuals into care early is underlined by the fact that around one-third of the approximately 1500 new HIV diagnoses in 2016 had AIDS defined by CD4 T-cell count. A second advantage is to improve patients' CD4 counts, thereby reducing associated disease progression, decreasing AIDS associated diseases, improving quality of life, and reducing associated healthcare costs [3, 5, 28].

The goal of the work described herein was to operationalize a rapid response effort that brings newly HIV diagnosed individuals from the FLDOH STD clinic in Miami into care at a large academic clinic that serves primarily a diverse and lower socioeconomic group with HIV in the Southern U.S. The challenges faced in this effort focused on coordination of diverse resources and services to reduce the usual barriers to care such as financial classification, insurance issues and receipt of medication. The use of a care navigator to assist patients from diagnosis into care, and remain engaged with the patients during the first year in care, was driven by numerous studies demonstrating improvements in linkage to care and care outcomes from continued involvement [29–33]. This work demonstrated that an expedited linkage program can help mitigate barriers to HIV for new patients, particularly those barriers that place a larger burden for patients in the U.S. South, stemming from limited resources devoted to HIV care in this region [19, 25].

Importantly, the current work looked at a demographically diverse patient group of which the majority of patients were poor having a financial status below the 135% FPL and living in Miami, a large metropolitan city with the highest annual incidence of HIV in the U.S. This study compliments work from other large cities that have examined the effects of bringing newly diagnosed patients into immediate HIV care; this study expands upon previous work by examining linkage, retention in care, and labs over a 1-year follow-up period.

The population described in this work contributes information to the other rapid ART initiation studies by evaluating a linkage into care program for all individuals testing positive at an active STD clinic. The number of individuals that agreed to be linked into care and begin ART through this program was 91%, similar to previous studies that also used a linkage navigator [8]. This linkage rate reflects an improvement compared to traditional referral processes [34, 35]. Notably, the population demographics were different than the other studies and more reflective of the racial and ethnic composition of the local Miami community. Similar to other studies, the majority of the diagnosed individuals were MSM. Almost 80% of the patients in the TRRT program were foreign born; this proportion is higher than the 2010 U.S. census data for Miami-Dade County and is driven by the relatively high numbers of TRRT patients from Caribbean countries such as Cuba and Haiti. Future research is warranted to understand the impact of migration to Miami and HIV acquisition and if sociocultural factors such as stigma, acculturation, or social networks might be involved.

Retention in care also improved; 88% were retained over the year. In an earlier study at our clinic [30], retention in care was evaluated for people with HIV brought into care through standard of care means or a case-management intervention. Across all participating sites, 64% were retained in care at both 6 and 12 months. However, in Miami, at 12 months, retention was only 52%. Notably, in New York City, a care coordination program involving multiple agencies had a 91% one-year retention in care for newly diagnosed individuals [31]. Furthermore, a multisite U.S. cohort study looking at retention in care found that those patients receiving Ryan White funding had a 1-year retention of approximately 85%; the Black or Hispanic 1-year retention in care rate was 82%, in line with our population demographics and findings [36].

Numerous studies in the U.S. [7–10] and abroad [15–17] have demonstrated that patients entering care shortly after diagnosis achieve viral load suppression rapidly. Our study reported similar findings, with rates of 50% within 38 days,

92% within 70 days, and 97% achieving suppression within 12 months. Although these data are derived from a small number of patients, the clinical outcomes for TRRT patients is markedly better in comparison to newly diagnosed patients entering care via traditional routes [31].

In contrast to other U.S.-based rapid treatment studies, all individuals were followed for at least 1 year after entry into care and treatment. As such, the impact of treatment on CD4 count and retention in care could be studied. Improvements in CD4 count were robust and, importantly, all but one of the individuals with AIDS recovered their CD4 counts above 200 cells/mm^3. Genotypes were performed on all entering patients, but no modification of the regimen was needed. Additionally, in our study, patients were new to therapy but may not have had any previous testing done in a timely or routine manner after infection and were then identified by FLDOH surveillance; the time since HIV infection could not be determined based on the data collected for our study. Patients were newly diagnosed upon entry into the study, but may have varying lengths of time since they acquired HIV.

Similar to previous studies, this intervention specifically was aimed at implementing a linkage intervention that used best practices to engage patients. The relatively small number of patients brought into care may not represent other diagnosed populations owing to place of testing as well as social and fiscal demographics. In particular, the population tested was at an STD clinic and whether this impacted their interest in entering into care was not evaluated. However, the results highlight the importance of support mechanisms to ensure linkage and also retention in HIV care. Collaborations among health departments, academic institutions, outpatient clinics, and funding organizations are essential for the establishment of successful TRRT programs to decrease HIV prevalence. The findings from this study can be applied to settings with high rates of HIV in the U.S. with limited resources where HIV services are not fully integrated in attempts to curb the HIV epidemic. Existing HIV prevention and treatment efforts in the U.S. South are not currently sufficient to curb the increase in new HIV cases in this region. Despite implementation challenges, our work suggests that TRRT initiatives that are specifically designed to overcome administrative, structural-level barriers that pose a greater threat to linkage would increase its potential benefit to the U.S. South that currently has to function with fewer HIV resources compared to other U.S. jurisdictions [19, 25, 26]. Rural communities in the South share similar barriers as those in the Miami urban area, such as getting people financially qualified quickly and engaging local stakeholders. In addition to improving patient outcomes, it is worthwhile for jurisdictions to introduce rapid linkage programs in that expanding linkage efforts using existing frameworks can offer a cost-effective means of increasing linkage to care; initiatives with an ideal cost/benefit ratio can help local departments of health, federally qualified health centers, and community partners to secure additional resources for newly diagnosed HIV patients. As with the Miami TRRT program, jurisdictions must tailor their specific expedited linkage programs in collaboration with local stakeholders to most effectively address the local needs of newly diagnosed patients.

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Compliance with Ethical Standards

Conflict of interest None of the authors have any conflict of interest or financial relationships to disclose.

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