

# RAPID (RAPID ART PROGRAM FOR INDIVIDUALS WITH AN HIV DIAGNOSIS)

Evidence-Informed for Linkage to HIV Care

Evidence-Informed for Viral Suppression

Evidence-Informed Structural Intervention

## INTERVENTION DESCRIPTION

### Goals of Intervention

- Increase linkage to HIV care
- Increase antiretroviral treatment (ART) initiation
- Reduce viral load

### Target Population

- Persons newly diagnosed with HIV

### Brief Description

*RAPID (Rapid ART Program for Individuals with an HIV Diagnosis)* is a health system intervention to facilitate ART initiation as soon as possible after diagnosis by addressing structural barriers. RAPID comprises several components: 1) a same-day appointment with an on-call HIV specialty physician or nurse practitioner and taxi vouchers for immediate transportation from the testing site to the clinic; 2) a same-day appointment that includes education efforts conducted by a prescribing health care professional regarding HIV infection, risk reduction and sexual health, and benefits of ART; an assessment for contraindications to ART; an explanation of options for a patient to decline treatment; and baseline lab work; 3) an accelerated insurance approval process; 4) pre-approved ART regimens that can be used without the results from genotyping or laboratory testing; 5) 5-day starter pack for each regimen to initiate ART provided to those without immediate insurance coverage; 6) an offer of the first dose to be given in the office with provider support; 7) and a telephone follow-up by a nurse within the first 7 days. The initial follow-up visit is scheduled between 1 to 7 days, depending on the provider assessment.

### Theoretical Basis

- None reported

### Intervention Duration

- 3-4 hours

### Intervention Settings

- Large urban HIV clinic

### Deliverer

- On-call prescribing HIV specialty physician or nurse practitioner

### Delivery Methods

- ART starter pack
- Counseling
- Discussion
- Risk-reduction plan
- Same-day appointments
- Transportation

### Structural Components

- Access
  - Provided same-day ART initiation and a 5-day starter pack (if needed) immediately following HIV diagnosis
  - Provided taxi vouchers for immediate transportation between the testing site and clinic
- Policy/Procedure—Institutional policy/procedure
  - Implemented health systems model to provide same day ART initiation and a 5-day starter pack (if needed) immediately following HIV diagnosis
- Social Determinants of Health—Survival
  - Provided taxi vouchers for immediate transportation between the testing site and clinic

## INTERVENTION PACKAGE INFORMATION

**An intervention package is not available at this time.** Please contact **Susa Coffey**, Department of Medicine, Division of HIV, Infectious Diseases and Global Medicine, UCSF, 995 Potrero Avenue, 4<sup>th</sup> Floor, San Francisco, CA 94110.

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## EVALUATION STUDY AND RESULTS

### Study Location Information

The original evaluation study was conducted in San Francisco between 2013 and 2014.

### Key Intervention Effects

- Increased linkage to HIV care
- Increased ART initiation
- Reduced viral load

### Recruitment Settings

- HIV clinic

### Eligibility Criteria

Patients who were 18 years and older were eligible if they were known at the time of referral to have acute or recent HIV infection (having an HIV negative test within 6 months of referral). Eligibility was expanded during the study to include newly diagnosed individuals who had a CD4<sup>+</sup> T-cell count <200 per cubic millimeter, an active opportunistic infection, or an HIV sero-negative sexual partner.

### Study Sample

The study sample of 39 RAPID patients is characterized by the following:

- 41.0% white, 46.2% Hispanic/Latino, 5.1% Black/African American, 7.7% Asian/Pacific Islander
- 100% male, 0% female
- Mean age of 31.6 years
- 53.9% had a major mental health disorder present
- 28.2% were homeless
- 46.2% reported substance use
- 25.0% were acute infections (RNA positive/Ab negative) and 75.0% were recent infections (Ab negative within 6 months)
- None had private health insurance
- 8.1% reported previously having a primary care provider at the time they were referred

### Assignment Method

Not applicable

### Comparison

There were 2 comparative analyses:

- The first comparison examined outcomes from the 39 RAPID participants (based on client-specific enrollment start dates in 2013 – 2014) to non-RAPID participants during the same time period. This comparison did not meet PRS evidence-based criteria (see Considerations).
- The second comparison included data from a historical cohort (n = 69) who were referred to San Francisco General Hospital in the pre-RAPID program period between 2010 – 2013. The pre-RAPID program is based on offering ART to all patients with HIV infection, regardless of CD4 cell count. The historical cohort was selected using blocks of randomly assigned patient identification numbers from relevant periods.

### Relevant Outcomes Measured

- Linkage to care was measured as the mean time in days
  - from referral to the clinic intake visit with an on-call HIV specialty health care professional
  - from referral to the first visit with a primary care provider who conducted a medical evaluation and assessed readiness for ART
- Viral suppression was measured as the mean time in days
  - from referral to viral suppression < 200 copies per milliliter
  - from diagnosis to viral suppression < 200 copies per milliliter

### Participant Retention

Because participant retention is not a criterion for the Linkage to, Retention in and Re-engagement in HIV Care (LRC) chapter, the Prevention Research Synthesis project does not evaluate that information.

### Significant Findings on Relevant Outcomes

- Post-intervention participants reported
  - a significantly lower mean [min-max] time in days from referral to clinic intake visit than the pre-intervention participants (1 [0-5] vs. 13 [7-26],  $p < 0.001$ ).
  - a significantly lower mean [min-max] time in days from referral to viral suppression than pre-intervention participants (56 [40 - 87] vs. 132 [91-210],  $p < 0.001$ ).

- a significantly lower number of days [min-max] from diagnosis to viral suppression than pre-intervention participants (65 [52-119] vs. 190 [113 – 302],  $p < 0.001$ ).
- a significantly shorter time between clinic referral to viral suppression than pre-intervention participants (1.8 months vs. 4.3 months,  $p < 0.0001$ ).

### Strengths

- Linkage to care occurred at  $\leq 3$  months.

### Considerations

- The first comparison between RAPID and non-RAPID participants did not meet PRS evidence-based criteria because of probable biased allocation (most likely self-selection) of participants to RAPID and non-RAPID groups. The PRS team was unable to confirm the allocation method.
- Investigators did not report demographic differences between RAPID participants and historical cohort participants.

### *Additional significant positive findings on non-relevant outcomes*

- Post-intervention participants reported a significantly lower mean [min-max] time in days from referral to receiving an ART prescription than the pre-intervention participants (1 [0-7] vs. 37 [26-148],  $p < 0.001$ ).
- The mean time in days [min-max] from diagnosis to referral to the clinic was significantly shorter between RAPID participants and the historical cohort (6 [2-11] vs. 14 [4-48],  $p = 0.008$ ).

### *Non-significant findings on relevant outcomes*

- The mean time in days for a primary provider visit was not significantly different between the RAPID program and the historical comparison ( $p = 0.089$ ).

### *Negative findings*

- None reported

### *Other related findings*

- The study also meets evidence-informed criteria for the Structural Interventions (SI) chapter of the Compendium.
- A subsequent study on 225 patients referred to RAPID from 2013 to 2017 found that 95.8% participants achieved viral suppression ( $< 200$  copies/mL) one year after intake. Viral suppression rates were 92.1% at last recorded viral load. \*

### *Implementation-related findings*

- Thirty-five (89.7%) of 39 patients offered ART at their RAPID visit took the first dose in the clinic, and 37 (94.9%) had started ART within the first 24 hours following the visit.
- Starting ART immediately required additional time from all members of the multidisciplinary team.
- The addition of same-day ART into the first clinic visit increased the urgency of arranging health insurance and compressed the time available for social workers to begin the process of psychological and social stabilization.
- Because ART was begun without some baseline lab results being available, there were intensified demands on clinical providers to consider early regimen modifications.
- RAPID was found to be feasible, but additional work is needed to demonstrate optimal systems for implementation in different practice settings.

*Adverse events*

- Minor toxicity with the initial regimen occurred in 2 (5.1%) RAPID patients vs. none in non-RAPID patients. This finding is from the first comparison that did not meet PRS evidence-based criteria. It is unknown how many in the pre-intervention era reported an adverse event.
- ART regimen modifications were significantly more frequent among RAPID patients: ART changed because of rash (n = 2); ART changed for simplification (e.g., to single pill regimen) (n = 10).

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\*Information from Coffey et al., (2019).

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The researcher of the original study (Christopher D. Pilcher) has retired.

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