

Perspective

Strategies for Linkage to and Engagement With Care: Focus on Intervention

Retention of HIV-infected patients in care is crucial to optimizing individual patient outcomes and reducing transmission of HIV. A number of strategies are available to improve linkage to care; among them, the Anti-Retroviral Treatment and Access Services intervention should be considered standard of care at the clinic level. With regard to retention in care, the Retention Through Enhanced Personal Contact intervention has been shown to improve retention rates and the Centers for Disease Control and Prevention Data to Care program has been successful in assisting public health authorities to locate and return to treatment patients presumed to be lost to follow-up. Patient satisfaction with initial physician and clinic encounters also improves retention. There are some data to support same-day or rapid start of antiretroviral therapy in the clinic setting as a method to immediately establish care and more data on this approach are needed. This article summarizes a presentation by Thomas P. Giordano, MD, MPH, at the Ryan White HIV/AIDS Program Clinical Conference held in San Antonio, Texas, in August 2017.

Keywords: HIV care, engagement, linkage, retention, cascade, ARTAS, REPC, Data to Care, same-day ART

The HIV care process is best viewed as a continuum running from ‘not engaged in care’ to ‘fully engaged in care’ (Figure 1).¹ HIV-infected patients can and do move back and forth along the continuum. The goal for clinicians is to keep patients as fully engaged as possible so that their clinical outcomes are optimized, which requires ongoing efforts. In essence, as many HIV-infected people as possible should get into care, be retained there, start, and remain on antiretroviral therapy (ART) with undetectable plasma HIV-RNA. This needs to be done for the health of individual patients, and because of the public health benefit of having patients fully engaged in care and fully virologically suppressed, and thus less likely to transmit infection. The Centers for Disease Control and Prevention (CDC) estimates that whereas approximately 30% of cases of HIV transmission are from persons who are unaware that they are infected, more than half are from persons who are aware of their HIV infection but not retained in care.

Linkage to Care

Linkage to care is defined as a completed visit with a practitioner who can prescribe ART. The goal is to establish linkage within 30 days of diagnosis. Linkage should be monitored

by the diagnosing site and by the clinical site once a patient “touches” the clinical site. Linkage to care efforts must be delivered with sensitivity and persistence.

Numerous factors affect linkage to care. Among patient factors, younger age, African American race, and injection drug use are associated with delayed linkage to care, as are other active substance use, mental health problems, and stigma. Greater disease severity is associated with higher likelihood of linkage. More limited socioeconomic resources, opportunity costs (eg, missing work days to obtain care), and unmet needs (eg, food, housing, money, transportation) are all barriers to linkage. Health system factors that can improve linkage include colocation of testing and treatment services, and minimizing the time gap between diagnosis and clinic intake. Active linkage services (eg, assisting the patient in setting up appointments, maintaining an active relationship with the patient until linked, and providing linkage case management) also greatly increase the likelihood of successful linkage compared with passive linkage (eg, only providing names and contact information for treatment centers). Copays and problems with insurance are barriers to linkage. More rapid access to treatment and ART after seeking care improves linkage. For example, linkage rates are higher when patients seeking care are given physician appointments within 1 or 2 weeks rather than 6 weeks.

The only randomized clinical trial that has examined an intervention to improve linkage to care is the ARTAS (Anti-Retroviral Treatment and Access to Services) trial, reported in 2005 and led by Gardner and colleagues from the CDC.^{2,3} The study involved 273 participants in 4 cities, with 78% diagnosed with HIV infection within the prior 6 months. Patients were randomly assigned to receive 90 days or 5 sessions of strength-based case management or to passive linkage (standard of care). The strength-based management was delivered by what would now be called patient navigators (not licensed practitioners), who were trained in the intervention. The navigators met the patients in the patients’ environment and helped them identify what life strengths they had and then guided the patients in formulating goals for their HIV treatment. The navigators used elements of motivational interviewing in working with the patients. Linkage rates for the intervention vs standard care groups were 78% and 60%, respectively, at 6 months and 64% and 49%, respectively, at 12 months. Based on this success, the CDC has formulated the ARTAS intervention for dissemination and training purposes and the program has been instituted in non-academic community settings, including county public health departments that train their disease intervention specialists in the intervention. The ARTAS linkage strategy should be the standard of care for HIV testing programs as well as for clinic staff who work with patients in linking to care.

Dr Giordano is Associate Professor of Medicine at Baylor College of Medicine in Houston, Texas.

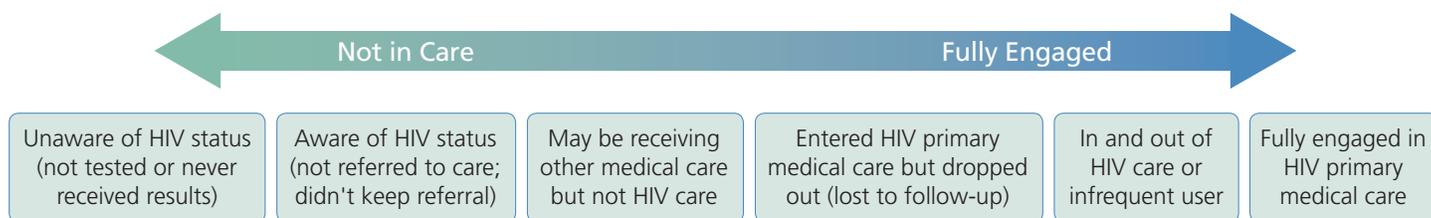


Figure 1. Health Resources and Services Administration HIV continuum of care. Adapted from Cheever, *CID*, 2007.¹

Retention in Care

Retention in care is defined by various measures, including constancy measures (eg, at least 2 visits in a year at least 90 days apart), visit adherence measures (eg, number or proportion of visits that are missed), or both. Each has been independently associated with survival. In addition, a simple clinically applicable measure is to ask “how long has it been since you saw this patient?”, because the duration of gap in attendance provides a useful idea of whether the patient is adhering to treatment. Retention should be monitored, especially for newer patients and patients with detectable HIV viral load. Retention efforts must be delivered with sensitivity and persistence.

Patient and health system factors affecting retention in care include all those affecting linkage. Recent incarceration is an additional patient factor shown to impede retention. Poorer patient-practitioner relationships and lower trust in practitioners are health system factors that impede retention. Flexible appointment schedules, expanded clinic hours, and copay, financial, or insurance assistance (eg, via the Ryan White HIV/AIDS program) improve the likelihood of uninterrupted access to and retention in care.

Only 1 randomized clinical trial has shown benefit of an intervention designed to improve retention in care in the general US clinical setting. The Retention Through Enhanced Personal Contact (REPC) intervention was assessed by Gardner et al in 6 US HIV clinics.⁴ Patients were randomly assigned to 1 of 3 arms consisting of usual care ($n = 613$), moderate intensity intervention (enhanced contact; $n = 615$), and higher intensity intervention (enhanced contact with skills; $n = 610$). Eligible patients were those appearing at a clinic visit who had past poor retention in care. Outcomes with the moderate intensity intervention were equivalent to those with the higher intensity intervention. The moderate intensity intervention included a 20-minute HIV education session with a “retention specialist” (an unlicensed patient navigator) and scheduling of a visit with the patient’s primary care physician. The patient received a telephone call from the retention specialist midway between the recruiting clinic visit and the next scheduled appointment checking on his or her status, reminding the patient of the upcoming visit, and querying whether the patient needed assistance in attending the visit. Telephone contact was repeated at 7 days and 2 days before the visit. At the visit, the retention specialist greeted the patient in person, asked about the patient’s status, and offered to assist in linking to other available services (eg,

substance use services and transportation assistance) available in the clinic outside the study. Patients missing the visit were immediately contacted by phone to reschedule, assess barriers to attendance, and offer linkage to services to overcome the barriers. The enhanced support was provided around all scheduled HIV primary care visits for 1 year. At the author’s clinic, 2 retention coordinators worked with more than 200 patients in this way.

During the 2010 to 2012 study period, visit constancy (% of patients with a visit in each of 3 consecutive 4-month intervals) was 45.7% in the usual care group and 55.8% in the moderate intensity group (risk ratio [RR], 1.22; 95% confidence interval [CI], 1.09-1.36), and 55.8% in the higher intensity group (RR, 1.22; 95% CI, 1.09-1.36). Visit adherence (kept visits divided by scheduled appointments, excluding canceled appointments) was 67.2% in the usual care group and 72.5% in the moderate intensity group (RR, 1.08; 95% CI, 1.05-1.11), and 70.9% in the higher intensity group (RR, 1.06; 95% CI, 1.02-1.09). The intervention improved retention in most subgroups examined, including among patients with detectable viral load, those with low CD4+ cell count, younger patients, patients in a racial or ethnic minority group, and those with public or no insurance. Efficacy was not observed among active substance users or patients with a severe unmet need such as food or housing. The CDC is currently formulating the REPC intervention for dissemination and training, as it did with the ARTAS intervention.

Other measures that have been reported to improve retention in care include in-clinic opioid replacement therapy for opioid users and use of electronic medical records to alert practitioners when patients have suboptimal follow-up or high viral load. Data from non-randomized studies support such measures as clinic-wide marketing (eg, posters, brochures, and customer service training) to promote attendance and provide patients a welcoming and courteous experience, stepped case management, social work, and outreach services. There have been mixed data on use of patient navigators, supporters, and peers, and provision of financial incentives. A 12-session peer navigation intervention that started pre-release did achieve higher rates of HIV suppression than in the control group 1 year after persons were released from jail in Los Angeles.⁵

The CDC Data to Care program is designed to assist public health authorities in identifying, locating, and reengaging patients who have been lost to care. Public health authorities such as city, county, or state health departments have access

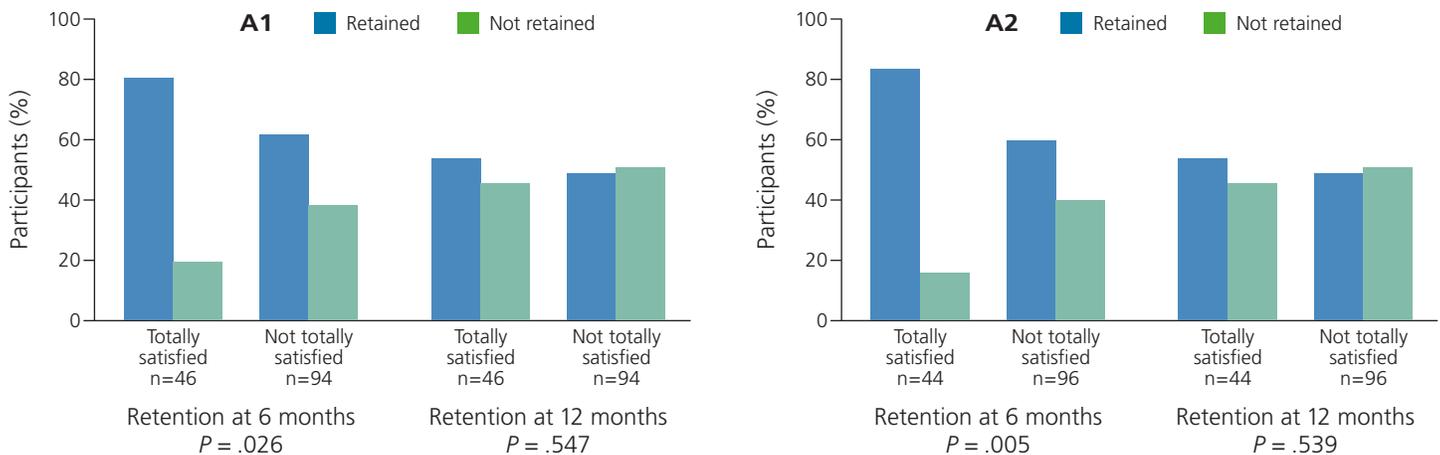


Figure 2. Retention in care according to patient satisfaction with initial HIV practitioner experience (A1) and initial HIV clinic experience (A2). Adapted from Dang, *AIDS Behav*, 2016.⁷

to information that may not be available to local clinics, including viral load and CD4+ cell count data from other clinics, current contact information, and information on whether a patient is alive or deceased, has moved to another geographic area, or has been incarcerated. In a study in New York City in 2008 to 2010, public health efforts to reengage HIV-infected patients located 684 (87%) of 797 patients presumed to be lost to follow-up in HIV care.⁶ Of these, 409 (60%) were confirmed as lost to follow-up; among those lost to follow-up, 315 (77%) were relinked to care and 94 (23%) refused linkage. Of the 315 linked to care, 240 (76%) returned to care. Results of such public health efforts in other locales have been mixed.

A more recent study has shown that patients' satisfaction with their initial HIV practitioner encounter and initial HIV clinic encounter has a substantial effect on retention in care rates.⁷ As shown in Figure 2, the difference in retention and non-retention rates between patients reporting total satisfaction or less than total satisfaction was statistically significant at 6 months for practitioner experience and for clinic experience. Greater retention rates were observed at 12 months, although the differences fell short of statistical significance. All clinic personnel should support retention by providing an optimal patient care experience, constructively affirming attendance rather than criticizing non-attendance, and to collaborative to solve problems with patients to overcome barriers.

Rapid or Same-Day Treatment

Time from initial HIV diagnosis to starting ART can be weeks to months, with the typical process involving confirmatory testing, visit to the treatment site, determination of financial eligibility for care, pre-care (eg, laboratory testing for genotyping, viral load, CD4+ count, and other laboratory values, as well as counseling, etc), clinician visit including prescription of ART, and dispensing of ART.

Rapid or same-day treatment could eliminate the potential for patients being lost to care along this path by engaging them in care earlier. Patients may have better clinical outcomes

resulting from less time off ART, and risk of HIV transmission from the patient is reduced if the patient is on suppressive ART. In addition, shorter time to treatment may result in less patient anxiety and more trust, because something is immediately being done to help the newly diagnosed patient. On the other hand, it is unlikely that a 2-month delay, for example, in starting ART will make a difference in clinical outcome; data on delayed therapy from the START (Strategic Timing of Antiretroviral Treatment), TEMPRANO, and HPTN (HIV Prevention Trials Network) trials suggest that such a delay is unlikely to substantially alter outcome. Starting ART immediately runs the risk of using antiretroviral drugs that laboratory work-up would show should not be used in a particular patient and also runs the risk of missing tuberculosis or another opportunistic infection that may require deferral of ART. Starting immediately also leaves less time to address barriers to ART and adherence. Being lost to follow-up prior to ART does not risk resistance, whereas emergence of resistance is an issue in patients lost to care after starting treatment. The strategy also adds logistical complexity (eg, paying for ART, appointment scheduling).

Evidence in favor of same-day or rapid ART has been provided by a small number of studies. The randomized RapIT trial South Africa⁸ compressed pre-ART care into 1 visit and started ART on the same day. A randomized same-day ART study in Haiti⁹ shifted the start of ART from the end of pre-ART care to the same day that the patient entered the clinic. The START-ART trial in Uganda,¹⁰ which was randomized at the clinic level, reduced pre-ART care and started ART on same day as clinic entry. These studies provided consistent results, showing that starting ART immediately resulted in greater and faster HIV suppression, similar or better patient retention, and similar or better survival and that pre-ART care can be dramatically simplified. However, a high proportion of patients lost to follow-up had started ART. Further, the studies thus far have provided no data beyond 12 months, limited resistance data, and no patient-reported outcomes or mental health data.

Thus far, there appears to be only 1 published US study on rapid ART, the nonrandomized RAPID trial performed by Pilcher and colleagues at University of California San Francisco.¹¹ In the study, patients who had acute or recent HIV or very low CD4+ cell count were routed to rapid treatment (RAPID group), with other patients continuing in standard clinic care (non-RAPID group). Patients receiving rapid treatment could receive taxi vouchers for transportation to the clinic and had a first-day visit of 3 to 4 hours that included pre-ART care, rapid financial assistance, provision of a 5-day ART starter pack, and directly observed therapy of the first dose; nurse follow-up was performed within several days and a clinician visit occurred in 1 to 2 weeks. Overall, 90% of patients received an integrase strand transfer inhibitor (INSTI)-based regimen. Among 39 patients in the RAPID group and 47 in the non-RAPID group, ART was started on the day of the clinic visit in 35 vs 17; by 1 day in 37 vs 17; by day 7 in 38 vs 20; and by day 30 in 39 vs 32. There were 36 of 47 patients in the non-RAPID group who were on ART by day 90. The RAPID group had greater and more rapid viral suppression. Over limited follow-up, no safety or resistance issues were identified.

Summary

It is important to measure linkage and retention for clinic and practitioner populations and to expand efforts to find individuals in the gaps. There is no magic bullet for ensuring patient engagement in care, but a number of strategies will help to improve linkage and retention. Patient and clinic barriers to consistent care should be compassionately and constructively identified and addressed. Linkage can be improved by using the ARTAS linkage to care protocol, active linkage protocols, and good post-test counseling. Retention can be improved by using reminders and personal contact, addressing unmet needs, and minimizing clinic barriers, as well as by improving patient experience and patient satisfaction and building trust. Clinics should participate in data-to-care efforts and should attempt to minimize delays in treatment. More complete evaluations of rapid treatment strategies are needed. 

Presented by Dr Giordano in August 2017. First draft prepared from transcripts by Matthew Stenger. Reviewed and edited by Dr Giordano in May 2018.

Financial affiliations with commercial entities in the past 12 months: Dr Giordano has no relevant financial affiliations to disclose.

References

1. Cheever LW. Engaging HIV-infected patients in care: their lives depend on it. *Clin Infect Dis*. 2007;44(11):1500-1502.
2. Gardner LI, Metsch LR, Anderson-Mahoney P, et al. Efficacy of a brief case management intervention to link recently diagnosed HIV-infected persons to care. *AIDS*. 2005;19(4):423-431.
3. Gardner LI, Marks G, Metsch LR, et al. Psychological and behavioral correlates of entering care for HIV infection: the Antiretroviral Treatment Access Study (ARTAS). *AIDS Patient Care STDs*. 2007;21(6):418-425.
4. Gardner LI, Giordano TP, Marks G, et al. Enhanced personal contact with HIV patients improves retention in primary care: a randomized trial in 6 US HIV clinics. *Clin Infect Dis*. 2014;59(5):725-734.
5. Cunningham WE, Weiss RE, Nakazono T, et al. Effectiveness of a Peer Navigation Intervention to Sustain Viral Suppression Among HIV-Positive Men and Transgender Women Released From Jail: The LINK LA Randomized Clinical Trial. *JAMA Intern Med*. 2018;178(4):542-553.
6. Udeagu CC, Webster TR, Bocour A, Michel P, Shepard CW. Lost - or just not following up?: Public health effort to re-engage HIV-infected persons lost to follow-up into HIV medical care: 108 (120). *AIDS*. 2013;27(14):2271-2279.
7. Dang BN, Westbrook RA, Hartman CM, Giordano TP. Retaining HIV patients in care: the role of initial patient care experiences. *AIDS Behav*. 2016;20(10):2477-2487.
8. Rosen S, Maskew M, Fox MP, et al. Initiating Antiretroviral Therapy for HIV at a Patient's First Clinic Visit: The RapIT Randomized Controlled Trial. *PLoS Med*. 2016;13(5):e1002015.
9. Koenig SP, Dorvil N, Devieux JG, et al. Same-day HIV testing with initiation of antiretroviral therapy versus standard care for persons living with HIV: A randomized unblinded trial. *PLoS Med*. 2017;14(7):e1002357.
10. Amanyire G, Semitala FC, Namusobya J, et al. Effects of a multicomponent intervention to streamline initiation of antiretroviral therapy in Africa: a stepped-wedge cluster-randomised trial. *Lancet HIV*. 2016;3(11):e539-e548.
11. Pilcher CD, Ospina-Norvell C, Dasgupta A, et al. The effect of same-day observed initiation of antiretroviral therapy on HIV viral load and treatment outcomes in a US public health setting. *J Acquir Immune Defic Syndr*. 2017;74(1):44-51.

Top Antivir Med. 2018;26(2):62-65. ©2018, IAS–USA. All rights reserved