

Linkage to care to reduce the gap in HIV treatment of people living with HIV/AIDS in Peru: 2016-2019 experience

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Abstract

Introduction: Time from identification as people living with HIV/AIDS (PLWHA) to a confirmatory test followed by antiretroviral therapy (ART) initiation is critical to any HIV prevention and control program. Gaps persist in identifying and linking PLWHA with health system, making it necessary to continue looking for strategies to close this breach.

Material and methods: AIDS Healthcare Foundation (AHF) has been working on linking recently diagnosed HIV patients in Peru, and this paper summarized the experiences and results obtained from our linkage to care program between 2016 and 2019. Methods utilized for linkage to care include telephone communication, accompaniment to health service, social support, multidisciplinary team assessment, and initiation of ART when indicated.

Results: During 2014-2019 we identified 9,991 PLWHA, in which 8,491 (84.98%) had an initial contact (initial linkage to care), and 6,899 (69.05%) received highly active antiretroviral therapy (effective link to care). We observed a consecutive increase in attention, as in the number of effective linkages, growing from 566 (80.17%) in 2016 to 3,237 (85.39%) in 2019. Among genders, males had the higher ratios of effective linkage to care (85.69%), while transgender women had the lower (79.14%).

Conclusions: We observed that linkage to care is a strategy that provides more opportunities for treatment of PLWHA, and it is helpful in low-income countries.

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Key words: HIV, linkage to care, retention in care, HIV care cascade.

Introduction

Human immunodeficiency virus (HIV) is a major global public health issue that killed 32 million people from its' discovery in the mid-1980s till now [1, 2]. Today, infection has become a chronic health issue thanks to effective prevention, diagnosis, treatment, and care of HIV and opportunistic infections, allowing people to live a long and healthy life [3, 4].

The World Health Organization (WHO) highlights the importance of ensuring proper linkage among screening-counseling programs, prevention, treatment, care, and support services since 2012 [5]. In 2013, guidelines for implementation of linkage to care were delivered, highlighting both the importance of promoting good practices and suggestions for incorporating screening and advisory services,

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and offering concomitant CD4+ results at the care center [6]. Peru was one of the last countries in Latin America to guarantee access to universal highly active antiretroviral therapy (HAART) for people living with HIV/AIDS (PLWHA) [7], with approximately 90,000 individuals identified as HIV-positive in 2020 [8, 9].

The importance of linkage to care has been identified in different realities by individuals and organizations who performed HIV screening [8-11], who have taken informal linking actions. That is the main reason for moving from these experiences and analysis, as we identified a chance to have a structured and formal healthcare of linkage in Peru. Time from identification as PLWHA to a confirmatory test followed by ART initiation is critical to any HIV prevention and control program [12]. The importance of link to care ensures an appropriate relationship between testing and prevention counselling programs in a correlation between care and support services [13]. The Mexican affiliate of AIDS Healthcare Foundation (AHF) developed linkage to care guidelines, diagnosing a single application of testing without linkage, which reduced the chances of connecting patients with medical care, since nearly 30% of cases reported as cases who did not return (data not published). In 2018, the Ministry of Health of Peru included the linkage within its' technical standards of care for PLWHA [14].

In April 2015, AHF trained the first linkers to care at its' head offices in Mexico, and by 2017, the first linking to care workshop started in Peru, where a linking form, phone tracking of demographic data, HAART, CD4+ count, and viral load control were defined as data collection base instruments.

At the end of the effective linking to care process, PLWHA acquired the skills to join the HIV care center, keep within the health services system, acknowledge their PLWHA status, and increase their self-care.

More recently, strategies such as 'test-and-treat' are proposed to improve the approach of treatment for recently diagnosed PLWHA, and should be also implemented as a strategy for better attention to PLWHA [15].

AHF has been working on linking recently diagnosed HIV-positive patients in Peru, and this paper summarized the experiences and results obtained from our linkage to care program between 2016 and 2019.

Material and methods

We evaluated data related to care to define the impact and factors associated with differences in the reduction of barriers from diagnosis to treatment among a population with recent diagnosis of HIV in Peru during 2016-2019.

All data related to the link strategies were recorded by AHF, and were the base for the current data analysis.

Methods used to link to care included telephone communication, accompaniment to health services, social support, multidisciplinary team assessment, and implementation of ART, if indicated (Figure 1). Initial link was defined as the time from the first HIV test to the consultation (4 weeks), and effective link was defined as the time to initiation HAART (usually another 4 weeks).

Linker to care's characteristics was also defined, such as having knowledge and experience in the management of HIV/AIDS and other sexually transmitted infections (STIs), health system, oral and written (assertive) communication skills, ability to solve problems and make decisions, negotiating skills, empathy, initiative, and entrepreneurial attitude, teamwork, transparency, professional ethics, ability to set limits, and being a nexus and generating inter-agency networks.

Each link to care was responsible for a maximum of 20 PLWHA in follow-up after putting them in contact with

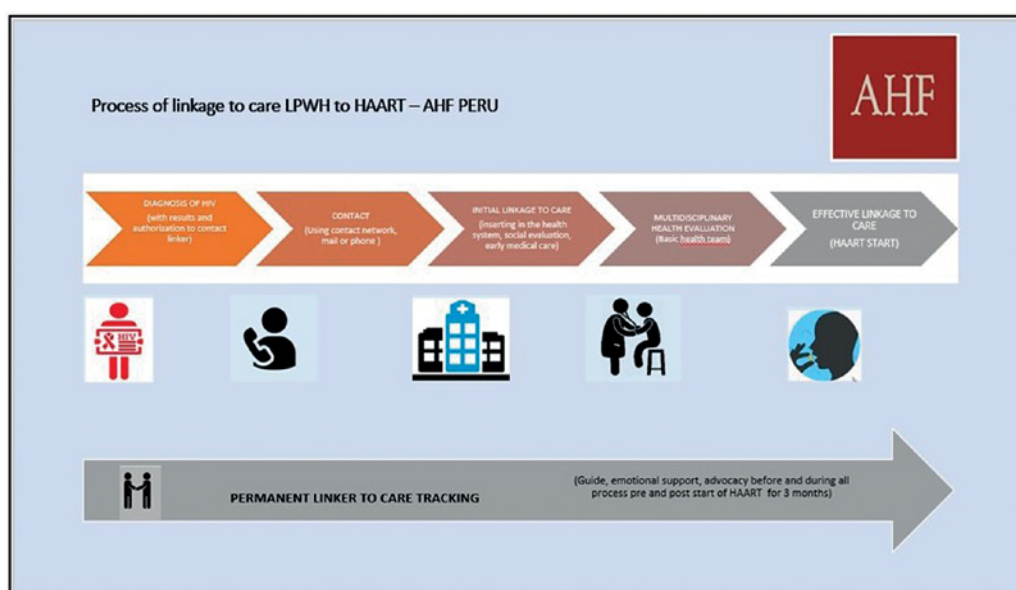


Figure 1. Diagram of the effective AHF linkage process in Peru

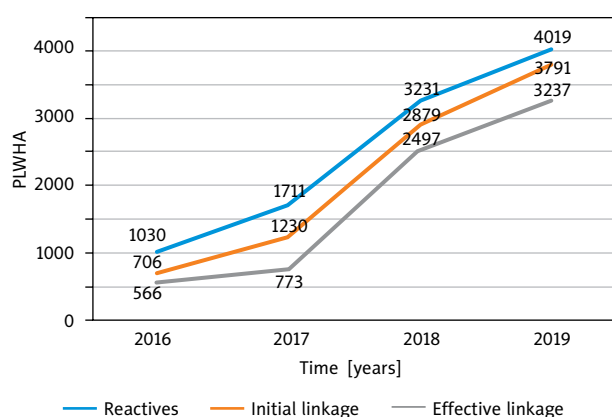


Figure 2. Evolution of link adoption in Peruvian PLWHA, 2016-2019

a healthcare center for three months. Patients diagnosed HIV-positive with rapid methods were included in AHF care facilities and in associated hospitals of the Ministry of Health.

Since 2016, AHF in Peru increased the interventions (initially occurring only in Lima) to other regions of the country, and expanded from 2 to 11 linkers, according to users demand. Also, the incorporation of peers has improved the linkage in a vulnerable population (e.g., transgender females). The annual monitoring allowed to evaluate the strategies, changes, and progress according to the country's regulations.

All patients signed informed consent, received their serologic status, and were followed by a 'link-to-care'.

Ethics review was conducted by the Continental University ethics board, and approved with a permission No. 035-2021-VI-UC.

Results

We identified a total of 9,991 PLWHA in the period of 2016-2019, out of which 8,606 had an initial link and 7,073 received ART (effective link) as a result of the implementation of linking strategies.

Gender data was collected starting in 2018 and evaluated based on the initial and effective linkage.

Figure 2 shows the evolution in the number of initial and effective linkage, as the relationship between declared gender and consecution of initial and effective linkage to care. In Table 1, data are entered in numbers and percentages, and p -value was calculated using χ^2 test, with a p -value of 0.001 considered significant.

The bivariate analysis found differences between gender categories and initial and actual linkage, and these differences were statistically significant based on χ^2 tests.

Discussion

Several alternatives improve access to treatment among the HIV-positive population in Latin America, including Peru

Table 1. Composition of the participating population according to reported gender in 2018-2019

Factor	Reactive, n (%)	Effective linkage, n (%)		p-value*
		Yes	No	
Gender**				
Male	5,928 (81.77)			
Female	866 (11.94)			
Transgender female	456 (6.29)			
Transgender male	0 (0.00)			
Total	7,250 (100.00)			
Initial linkage				
Male	5,982 (81.77)	5,519 (93.10)	409 (6.90)	≤ 0.001*
Female	866 (11.94)	789 (91.11)	77 (8.89)	
Transgender female	456 (6.29)	362 (79.93)	94 (25.97)	
Transgender male	0 (0.00)	0 (0.00)	0 (0.00)	
Total	7,250 (100.00)	6,670 (100.00)	580 (8.70)	
Effective linkage				
Male	5,982 (81.77)	4,768 (93.10)	1,160 (6.90)	≤ 0.001*
Female	866 (11.94)	687 (91.11)	179 (8.89)	
Transgender female	456 (6.29)	279 (79.39)	177 (38.81)	
Transgender male	0 (0.00)	0 (0.00)		
Total	7,250 (100.00)	5,734 (92.00)		

* χ^2 test. **Self-reported gender

[16-18]. Cessation of treatment of newly diagnosed PLWHA in Peru is still high, especially considering the transgender population and MSM, who represent about 70% of newly diagnosed cases [19]. Recent publications show the impact of linking to care strategies in Peru and other Latin American countries, with different outcomes [20-22]. Linkage to care was tested in different regions of the world with varying results due to factors, such as user acceptance, environment, in which the user develops, support of health system, defined as the first appointment for HIV care completed within 30 days of study enrollment [23].

Several recent articles have shown that the application of linkage also makes it possible to improve follow-up of antiretroviral treatment, reduce stigma, and improve self-esteem of people receiving the bond, especially in low-income countries, where minority populations are neglected by health systems [24, 25].

Gaps in treatment can be covered with strategies, such as linkage to care, or with more recently proposed 'test-and-treat', which seek to reduce the existing gap in Peru that prevent the expansion of ART coverage until reaching universal access due to unequal conditions of access in various regions of the country and low immediate availability of medication after HIV diagnosis [19-21, 26, 27].

Additional advantages of having an adequate linking strategy are related to a significant benefit of human and financial resources of health systems due to better evolution of the patients linked, their adherence to antiretroviral treatment, and low rate of desertion to attention [22-25, 28-31].

We considered the community context and Ministry of Health system during the intervention to ensure continuity and compromise with health services; the approach must consider the different vulnerable populations and set the proper link to care for individuals according to their profile [26, 27, 32, 33].

Within the Ministry of Health hospitals, differentiated care does not take into account vulnerable populations. However, the ongoing training of personnel could potentially decrease the gap on the one hand and increase care in this population on the other. However, the identification of vulnerable populations varies according to reality of each country, which should lead to an individualized study on the existence of each society to establish populations at greatest risk [10, 28-30, 34-36].

Transgender females show a slower process among all the vulnerable populations to achieve percentages more significant than 80% of effective linkage. Therefore, this population needs to be closely followed to improve the strategies and increase an individual linker care percentage by 2019. The population of transgender women, in general, requires particular attention for the link to care [31, 32, 37, 38]. Women are the population that achieves the highest ratio of effective linking, which corresponds to the fact that they care most about their attention, once they are in a health system. Research indicate that women are the last to have access to health services in the community, given that they prioritize the attention to their partners and children. The link to care plays an essential role in integrating women into the health system [33, 34, 39, 40].

It is also essential to perform leadership with empathy, flexibility, and accompaniment to other linkers to care, and incorporate professionals for their emotional discharge. These necessary tools make it easier to achieve effective indicators for the benefit of PLWHA [31, 32, 36, 41].

Limitations for our evaluation include the lack of information in our work database, which did not allow us to obtain better details of risk factors and outcomes. Moreover, we did not assess data on factors associated with the apparent lower link of men who have sex with men (MSM) and transgender patients, which is a challenge for future data collection, and a need for a study on this specific population in future research.

The continuing work between non-governmental organizations (NGOs) and Ministry of Health in linking PLWHA has improved the possibility of receiving ART for this population through a strengthened network and high confidence in Peru's health system. Ministry of Health included the linkage to care as a national strategy since 2018, but it has not yet been implemented as a strategy at the national level, although several experiences have recently been reported.

Continuous monitoring of ART adoption process ensures effective linkage of more than 80% of PLWHA. The participation of linker to care with similar gender characteristics and sexual orientation, in addition to being empathetic towards PLWHA, results in a good accompaniment for their insertion into the health system.

As a final consideration, we are evaluating pre-ART desertions, especially in vulnerable populations, with the intention of an effective link to care of at least 90%, as suggested by current international standards.

Conflict of interests

The authors declare no conflict of interest.

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