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FINAL **REPORT**

Biobehavioral Survey (BBS) among Venezuelan migrants living in Lima/Callao and Trujillo

IOM UN MIGRATION

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

Socios En Salud
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FINAL REPORT

Biobehavioral Survey (BBS) among Venezuelan migrants living in Lima/Callao and Trujillo

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A. PREFACE

Visit to temporal shelter in Comas Perú 2023 | ©OIM Perú

The persistent and serious economic and social crisis that Venezuela is experiencing has led more than 5.5 million Venezuelans to leave their country in search of a guarantee of the right to health and life, access to basic services and job opportunities. Peru, with more than 1.57 million Venezuelan migrants, is the second country in Latin America with the greatest reception. This situation represents one of the largest migratory movements, comparable to that seen in war situations, such as in Syria or Afghanistan. From 2018 to date, changes have been observed in the migratory dynamics, which could translate into the modification of the conditions faced by migrants and have an impact on their access to basic services.

Faced with this situation, different government entities and some NGOs have created different channels to offer support to Venezuelan migrants in Peru. Despite the commitment and effort of the Peruvian government to support the refugee and migrant population,91.5% of the Venezuelan population residing in the country does not have health insurance.[1] Many of them do not have the necessary legal and economic means to access these services and, since they do not have legal identification in the country, they do not have national health insurance or Comprehensive Health Insurance (SIS).

The number of Venezuelan migrants living with HIV and residing in Peru has been increasing. In 2021, according to USAID figures through the LHSS project (Local Health Systems Sustainability Project), more than 8,000 migrants were estimated to be living with HIV, of whom less than 50% received antiretroviral treatment. The large percentage of migrants who stopped receiving treatment when leaving their country or during their journey to Peru is worrisome, and who have encountered significant barriers to accessing comprehensive HIV services during their stay.

National regulations ensure universal access to antiretroviral treatment for all people with HIV in the national territory, regardless of the country of origin, but research carried out by cooperation agencies reports that only 2% of migrants with HIV have Comprehensive Health Insurance (SIS) and that 23% of them arrive with or develop advanced stages of HIV or AIDS.

This document reports an HIV prevalence of 1.01% in the Venezuelan migrant population in Lima/ Callao and Trujillo, which is higher than the prevalence of 0.4% in the adult Peruvian population (15-49 years) [ONUSIDA] and then the prevalence of 0.5% in the adult population in Venezuela (15-49 years) [ONUSIDA]. Like Peru, the HIV epidemic in the Venezuelan migrant population is concentrated in key populations (gay men and men who have sex with other men-MSM, transgender women-MT, sex workers-TS and intravenous drug users). as well as in the young population. However, a higher prevalence of HIV was found in the MSM population of Venezuelan

migrants (15.6%) than the Peruvian MSM population (10%) [ONUSIDA] and a higher prevalence in Venezuelan men SW (43.39%) than Peruvians (3%) [10].

The findings of the cascade of the continuum of care for migrants are worrisome with a confirmed HIV diagnosis that showed low levels of initiation of treatment, continuation of care and virological suppression: 25% had started antiretroviral treatment, 20.6% reported being receiving HIV care at the time of the study and 38.8% were in virological suppression. Virologic suppression was higher among those with an old diagnosis (85.7%) than in those with a new diagnosis (17.4%). Figures well below the 95-95-95 goals of the Global AIDS Strategy 2021-2026.

The migrant population with HIV has multiple basic needs and faces different forms of discrimination based on their origin (xenophobia), gender expression and identity (transphobia), sexual diversity (homophobia or lesbophobia), age, or living with HIV (serophobia). , which when superimposed determine an intersectional discrimination that, together with other social determinants, are barriers to access to health services, decent work, food and housing, and also present great difficulties to regularize their migratory status and access an identity card. immigration that would enable them to process the SIS. The main difficulties faced by the Venezuelan migrant population are financial (52.6%), food (21.6%) and housing (17.3%).

70.7% of the migrants participating in this study reported having had an experience of stigma or discrimination. Regarding the experiences of violence in the last 12 months during their stay in Peru, a total of 45.5% reported psychological violence, 47.7% physical violence, 48.7% reported having suffered forced sex, and 44.2% reported having been sexually exploited. in exchange for resources.

It is necessary to address these barriers through responses focused on and led by the affected communities, such as expanding the offer of HIV diagnostic and combination prevention services in the primary health care sector, including pre-exposure prophylaxis (PrEP). and self-testing in health services free of discrimination and with a gender equality approach.

The findings of this report provide solid evidence on the vulnerability factors and social and health determinants of the Venezuelan migrant community in Peru. It portrays the health situation of migrants in general and of migrants living with HIV and identifies gaps in access to education, work, health, justice and equality for all. It is a resource for the generation of focused and differentiated policies for combined prevention, early diagnosis and timely treatment of HIV, the elimination of discrimination, the efficiency of investments in HIV, and the strengthening of other programs that aim at social welfare, food security and the elimination of poverty.

It is a call to action to demand attention to the needs, inequalities, and barriers faced by migrants affected by HIV in order to access essential supplies and health services that allow them to achieve viral suppression and a decent quality of life.

From UNAIDS we salute the findings of this work that describes the HIV epidemic in this population in two of the Peruvian regions with the largest number of migrants and provides government decision makers with the necessary evidence to support inclusive and targeted public policies. to the elimination of barriers to access to services, generated by the inequalities faced by the migrant population, with HIV and belonging to key populations in Peru.

Joint United Nations Program on HIV/AIDS (UNAIDS) – Team Perú.

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ABBREVIATIONS

AIDS	Acquired Immune Deficiency Syndrome
BBS	Biobehavioral Survey (BBS)
CASI	Computer-Assisted Self-Administered Interviewing (CASI)
CBO	Community-based organization
CDC Perú	National Center for Epidemiology, Disease Prevention and Control
CITBM	Centro de Investigaciones Tecnológicas, Biomédicas y Medioambientales / Center for Technological, Biomedical, and Environmental Research of the Universidad Nacional Mayor de San Marcos
CLIA	Chemiluminescence Serological Test
DPVIH	Dirección de Prevención de VIH/SIDA, Infecciones de Transmisión Sexual y Hepatitis / Office for the Prevention of HIV/AIDS, Sexually Transmitted Infections and Hepatitis.
ESSALUD	Social Health Insurence
FG	Focus group
HAART	Highly active antiretroviral therapy
HF	Health Facilities
HIV	Human Immunodeficiency Virus
IDI	In-Depth Interview
IOM	International Organization for Migration
IEC/IRB	Independent Ethics Committee/Institutional Review Board(IEC/IRB)
MOH	Ministry of Health
MSM	Men who have sex with men
NGO	Non-governmental organization
PAHO	Pan American Health Organization
PEPFAR	President's Emergency Plan for AIDS Relief
PLWHA	People living with HIV
RDS	Respondent-driven sampling
RPR	Rapid plasma reagin
RRG	Research Reference Group
PIH	Partners in Health
STI	Sexually Transmitted Infection
SW	Sex workers
TPP	Temporary Permanence Permit
TW	Transgender women
UN	United Nations
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNHCR	UN Refugee Agency
U.S. CDC	Centers for Disease Control and Prevention
VL	Viral load
VLS	Viral load suppression

1. EXECUTIVE SUMMARY

INTRODUCTION

By July 2022, 1.57 million Venezuelan migrants had migrated to Peru as a result of the political, economic and social crisis in Venezuela. Faced with the massive influx Venezuelan migrants, the Peruvian government faces the great challenge of providing health, education, housing, and employment services to this population. To apply health policies with specific responses that benefit the Venezuelan migrant community in Peru, updated information is needed on their health situation on diseases with the greatest public health burden, such as HIV. Thus, the main objective of this survey was to estimate the prevalence of HIV among the adult population of Venezuelan migrants living in the cities of Lima/Callao and Trujillo, Peru. Secondary objectives were to evaluate the situation with respect to other health and social characteristics.

METHODS

A survey was conducted in Lima/Callao and Trujillo, the two cities with the largest number of Venezuelan inhabitants in Peru. Migrants were recruited using respondent-driven sampling (RDS), which is used to access populations with extensive social connections and when there is no sampling frame. Demographic information, migration history, health history, sexual behavior, access to health and HIV services, experiences of discrimination and stigma, and use of humanitarian services were collected. Dual rapid tests, confirmatory HIV and syphilis tests, and HIV viral load tests were used to screen for HIV and syphilis. The Giles sampling estimator was used to estimate the prevalence of the variables of interest from the sample, using RDS-Analyst software.

RESULTS

From November 2021 to July 2022, a total of 6200 participants aged 18 years and older were enrolled: 4650 (75%) in Lima/Callao, and 1550 (25%) in Trujillo. In total, 66.21% (CI: 64.19 - 68.23) were women, 33.79% (CI: 31.73 - 35.85) were men. In Lima/Callao, the number of male migrants was lower 33.40% (CI: 31.16 - 35.66) compared to Trujillo 38.90% (CI: 35.15 - 42.72), the number of female migrants was higher 66.60% (CI: 64.34 - 68.84) compared to Trujillo 61.10% (CI: 57.28 - 64.85). Of the Venezuelan migrants, 73.26% (CI: 71.27 - 75.25) were in regular migratory status (migrants that are legally in the country), which was more frequent in Trujillo 79.30% (CI: 75.80 - 2.80) than in Lima/Callao 72.80% (CI: 70.70 - 74.90).

Regarding sexual behavior, 29.51% (CI: 27.56 - 31.46) used a condom in their last sexual intercourse, 1.60% (CI: -0.60 - 3.79) had ever engaged in sex work, of which 32.74% (CI: 21.46 - 44.01) had engaged in sex work in the last week. Of the population, 40.05% (CI: 37.93 - 42.18) had not had an HIV test previously, noting a higher proportion of migrants without previous HIV tests in Trujillo 51.77% (CI: 47.7 - 55.79) compared to that of migrants in Lima/Callao 39.16% (CI: 36.89 - 41.42). Among those who did have a previous HIV test, only 16.51% (CI: 14.14 - 18.89) had done so in the last year.

A total of 49 (1.05%) and 19 (1.23%) migrants had a confirmed diagnosis of HIV in Lima/Callao and Trujillo, respectively, with an overall prevalence of 1.01% (CI: 0.56 - 1.45) in the Venezuelan adult population (Table 1). The estimated prevalence of HIV was 15.61% (CI: 10.04 - 21.18) in men who have sex with men (MSM), 43.39% (CI: 17.33 - 69.45) in the male population that performs sex work (no women with HIV were reported who perform sex work) and 8.20% (CI: 2.57 - 13.84) in the injecting drug user population. 36.76% of Venezuelan migrants diagnosed with HIV had coinfection with syphilis. Of the Venezuelans diagnosed with HIV, 30.9% knew their status, 22.1% were on ART and 19.1% were virally suppressed.

Table 1. HIV prevalence estimates among Venezuelan migrants living in Lima/Callao and Trujillo, Peru

	Sample	Proportion	Population estimate	
	n	%	%	CI 95%
HIV	*68//6200*	*1.10*	*1.01*	*0.56 - 1.45*
Site				
Lima	*49/4650*	*1.05*	*1.02*	*0.56 - 1.48*
Trujillo	*19/1550*	*1.23*	*0.85*	*0.24 - 1.46*
Age				
18 a 29	*26/2639*	*1.10*	*1.10*	*-1.64 3.88*
30 a 39	*26/2117*	*1.23*	*1.12*	*-1.64 - 3.88*
40 a 49	*14/1083*	*1.29*	*1.10*	*-2.29 - 4.48*
50+	*2/631*	*0.32*	*0.19*	*-1.45 - 1.82*
Gender				
Man	*54/2211*	*2.44*	*2.10*	*-0.69 - 4.88*
Woman	*14/3989*	*0.35*	*0.46*	*-1.61 - 2.53*
MSM (based on sex at birth)	*32/148*	*21.62*	*15.61*	*10.04 - 21.18*
Paid for sex	*5/68*	*7.35*	*12.28*	*1.58 - 22.97*
Transactional sex (men)	*9/37*	*24.32*	*43.39*	*17.33 - 69.45*
Ever injected drugs	*2/24*	*8.33*	*8.20*	*2.57 - 13.84*
General population	*30/5883*	*0.51*	*0.42*	*-1.35 - 2.20*

Notes: n: denominator for subgroup; N: total survey population; 95%CI: 95% Confidence Interval; ref: reference group not displayed; Paid for sex (people provide gift/money in change for sex);Transactional sex (people receive gift/money in change for sex)

With respect to other health and social characteristics of interest, of the women who reported having given birth, only 73.40% (CI: 69.10 - 77.77) in Lima/Callao and 77.50% (CI: 69.45 - 85.71) in Trujillo received prenatal care. About 15% of the women of childbearing age interviewed did not use any type of long-acting contraceptive method. In Lima/Callao, 14.09% (CI: 11.86 - 16.00) and in Trujillo, 8.3% (CI: 5.34 - 11.27) screened positive for depression and anxiety on the PHQ-4 questionnaire. 70.9% (CI: 68.83 - 73.0) in Lima/Callao and 68.5% (CI: 64.53 - 72.36) in Trujillo reported having had some experience of stigma or discrimination.

DISCUSSION

The HIV prevalence found in the adult population of migrants of Lima/Callao and Trujillo is higher than the prevalence of 0.4% (CI: 0.3 - 0.4) in the adult population (15-49 years) in Peru and the prevalence of 0.5% (CI: 0.40 - 0.60) in the adult population (15-49 years) in Venezuela.[10]A low percentage of migrants living with HIV were found to be on ART and with viral load suppression (VLS). There were also important gaps in access to other health services such as insufficient access to prenatal care and use of contraception, as well as high frequencies of mental disorders such as depression and anxiety compared to the Peruvian population, and a high frequency of experiences of stigma and discrimination.

CONCLUSIONS

Venezuelan migrants are affected by various social and health problems. After Colombia, Peru is the country that has received the largest number of Venezuelan migrants in the region. Increasing access to HIV and other STI services, prenatal care, family planning, mental health, and health services to the Venezuelan migrants population by the Government of Peru will help improve overall wellbeing.

2. CHAPTER 1: INTRODUCTION

The flow of refugees and migrants from the Bolivarian Republic of Venezuela is considered the largest migratory movement in the history of Latin America and the second largest worldwide. By July 2020, stemming from the political, economic, and social crisis in their country, more than 5 million Venezuelans had left their homes in search of a better life, including better access to health services. Of the 5 million, about 3.9 million migrated to other countries in Latin America and the Caribbean. [1] At the moment, Colombia and Peru have hosted the largest number of Venezuelans, estimating that by July 2022, 1.57 million Venezuelan migrants were residing in Peru. [2]

In Peru, the Venezuelan population is geographically concentrated in the capital, which is home to around 1.08 million migrants, especially in the northern and central areas of Lima. Other cities on the country's northern coast are home to another significant percentage of the population, with La Libertad standing out with 80,000 Venezuelan inhabitants. [2,3] The migrant community is mainly a young adult population (43.1% aged 20-29 and 28% aged 30-39) and with a slight male predominance (56.6% vs. 43.4%). [3] Nearly half have completed higher or technical education (46.4%); however, their occupation in the country is often far from their profession. Likewise, only 0.2% live in their own homes. [3] The condition of vulnerability in which most of this population lives was accentuated after the COVID-19 pandemic, where the restriction of free movement, quarantine and social distancing measures limited the opportunities of the migrant population to participate in economic activities, also impeding access to food, housing, and health care. [1]

Faced with the massive displacement of Venezuelan migrants and the conditions in which they live in the country, the Peruvian government implemented some public policies such as procedures for regularizing their migratory status with temporary permits, obtaining residency, and even obtaining residency on humanitarian grounds. However, in practice, the effect of these measures on the population is insufficient, at least from the perceptions of those who are part of this group. [4, 9] Thus, Peru still faces the great challenge of providing health services, education, housing, and work to this migrant and refugee population. [6]

To implement new health policies with specific responses that benefit the Venezuelan migrant community, updated information on their health situation is needed, particularly on diseases with the greatest public health burden. In this context, the Centers for Disease Control and Prevention (US CDC), the IOM, and PIH joined forces to carry out the present survey, which will provide information related to migrant health, including mental health, food security and sexual health, with emphasis on the health situation with respect to HIV. It is expected that the results of this survey will contribute to program development and evidence-based HIV and health policy decisions for Venezuelans residing in Peru.

3. CHAPTER 2: BACKGROUND

HIV status

Every day, 4,000 people, including 1,100 young people (aged 15-24), become infected with HIV in the world. If current trends continue, 1.2 million people will be infected with HIV by 2025, three times the 2025 target reducing new infections to 370,000. [7] In Latin America, which is home to about 1.8 million people living with HIV (PLWHA), [8] PLWHA are mainly concentrated in urban areas and are made up of so-called key populations such as men who have sex with men (MSM) and transgender women (TW) where HIV prevalence exceeds 10% and where 40-50% of new infections occur in these key populations and their sexual partners. [8]

The HIV epidemics affecting the general population in Venezuela and Peru, despite having different prevalence rates (0.56% and 0.4%, respectively) have similarities. In both cases, HIV is mainly sexually transmitted, with predominance in MSM, TW and sex workers (SW). The key population groups most affected are young people from the most impoverished sectors, with low educational levels and whose labor insertion only occurs in informal economies. It is noted that it is in this scenario of social marginalization that most Venezuelan migrants arrive and find employment. Likewise, the lack of formal work and the precariousness of informal work condition the search for survival alternatives, forcing them into sex work. [9]

In Venezuela, UNAIDS estimated a 24% increase in new HIV infections in 2016, in people older than 15 years compared to previous years, totaling around 120,000 people living with HIV in the country. [10] Among the reasons contributing to this increase were shortages of diagnostic tests, laboratory supplies, antiretroviral drugs, and health professionals. [10] In that same year, only 59% of people living with HIV/AIDS (PLWHA) in Venezuela had access to ART and only 7% had achieved viral suppression [10]. By 2019, an increase in PLWHA treated with third-line antiretroviral regimens was reported in the country due to therapeutic failure, and in that same year, approximately 8,000 people living with HIV in Venezuela had migrated out of the country. [9]

In Peru, by 2021, about 98,000 PLWHA older than 15 years and 5,500 new infections were estimated. [15] About 45% of diagnosed PLWH were reported in Metropolitan Lima and 50% were concentrated in people aged 20-34 years [20]. HIV prevalence in key populations is estimated at 10% for MSM and around 30% in TW. [15,20]. ART, available in Peru since 2004, is currently offered in about 2,000 facilities nationwide, reaching a total of 87,000 PLWHA since its inception. [15].

The number of Venezuelan PLWHA migrants in Peru has been increasing from January to June 2018, 622 Venezuelan PLWHA migrants were reported; by the end of May 2019, a total of 1,600 Venezuelan PLWHA were estimated to be living in Peru [10], while by December 2021, nearly 8,000 PLWHA were reported to be living in Peru. A significant percentage of these migrants would have stopped receiving medical treatment due to the crisis in their country of origin. [9]

Access to health and HIV services

According to a survey funded by the United States Agency for International Development (USAID), one third of refugees and migrants report having limited access to inclusive and quality healthcare, especially during the COVID-19 pandemic. Among the causes limiting this access are the lack of economic resources of the Venezuelan population, closure of health facilities at the first level of care and limited services at the second and third levels of care, as well as insufficient human and logistic resources in health facilities to meet the diverse health demands of the migrant population. Limited access to health services extends to areas such as sexual health, reproductive health, and mental health. Likewise, the lack of services and health professionals aware of the rights of migrants accentuates the unfavorable conditions for this population. [9]

On the other hand, according to a survey on factors associated with the non-use of health services among Venezuelan migrants in Lima, Trujillo, Arequipa, Cusco, and Tumbes, they found that more than 50% of migrants do not use formal health care institutions, and 64.5% do not have enough money to access these services. Additionally, young people who live in Lima and who do not have health insurance are less likely to have access to health services. In addition, people who have a chronic illness are the most likely to seek health services. [25]

Findings for a Venezuelan population survey in 2018 by INEI (ENPOVE 2018), only 26.5% of migrants were found to have accessed reproductive health and/or sexual health services. In addition, 66.8% of migrant women do not use a contraceptive method, and only 2.8% accessed a screening test for HIV/STI. Also, of women who are pregnant, 18.9% do not access prenatal care services. [26]

With respect to HIV, Peruvian law establishes free access to antiretroviral treatment in the public health system. [17] As part of this law, HIV counseling, HIV screening and confirmation tests, CD4 count and viral load tests, as well as antiretroviral drugs, are provided free of charge to all people living with HIV who receive care in HIV care programs in public facilities and in some nongovernmental organizations under agreement with the state, regardless of whether they have health insurance. [17] All other care, including additional examinations, medical consultations, or hospitalization expenses, are covered free of charge in public health facilities if the patient is affiliated with a government health insurance system. [17] In Peru, there are three sectors that provide health insurance, the main one being the SIS, which covers 70% of the Peruvian resident population, ESSALUD, covering 25%, with the remainder being taken care of by the private health insurance. Of those insured by the SIS, only 2% of Venezuelan migrants PLWHA are covered. [9]

Peru has adopted a policy of solidarity with Venezuelan migrants, with respect to health care, education, legalizing their migratory situation -such as expediting their Temporary Permanence Permit (TPP). Likewise, the civil society and UNAIDS in Peru convened a multisectoral group formed by the Ministry of Foreign Affairs, the Ministry of Health -through the DPVIH-, the Ministry of Justice and Human Rights, civil society organizations such as the association of Venezuelan doctors in Peru, the UN Refugee Agency (UNHCR) and PAHO, to implement a coordinated action called “La Ruta de la Salud” (” The Health Trail”) to improve the access of Venezuelan migrants living with HIV to health services and guarantee urgent access in cases requiring hospitalization due to HIV. [17] In addition, UNAIDS facilitated a coordinated action with the Ministry of Foreign Affairs to facilitate the

expeditious application for an alien registration card for migrants living with HIV referred by the association of Venezuelan doctors. [18]

The country has made progress in improving access to comprehensive HIV services and ART, but persistent hurdles, such as eligibility for the SIS, especially affect many Venezuelan migrant PLWHA, who are not eligible for the SIS because they do not have a "regular" migratory status. [15]

3.1. SURVEY OBJECTIVES

Main Objective:

• To generate estimates of HIV prevalence among the general adult population (> = 18 years) of Venezuelan migrants living in the cities of Lima/Callao and Trujillo, Peru.

Secondary Objectives:

• To generate preliminary estimates of knowledge about HIV status, antiretroviral therapy coverage and viral load suppression among the general population of Venezuelan people living with HIV/AIDS (PLWHA).

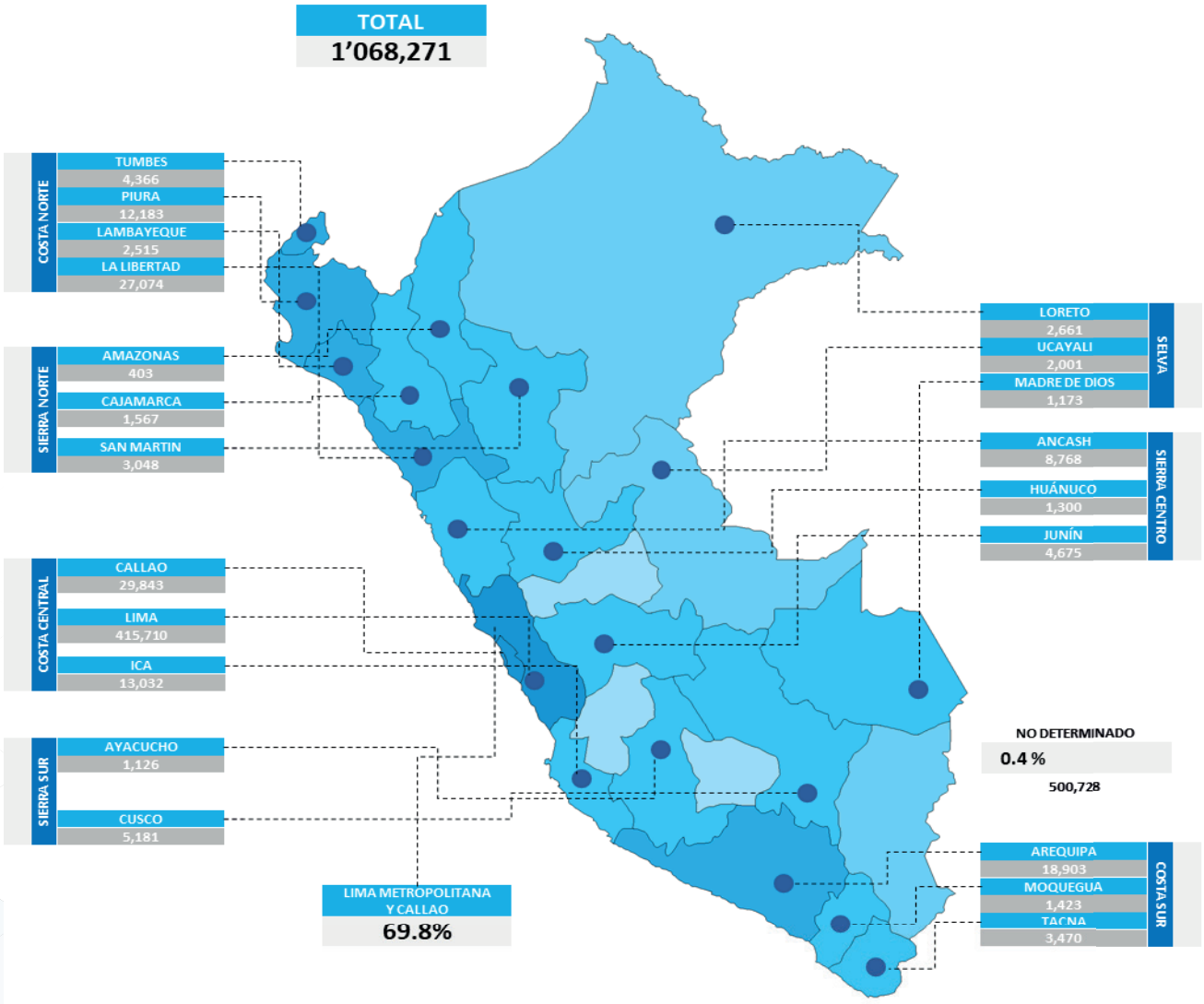
• To contribute to the improvement of HIV services provided to Venezuelan migrants in Peru.

4. CHAPTER 3: METHODOLOGY

The survey was conducted in the cities of Lima/Callao and Trujillo, Peru (see Fig. 1). These places were selected because they have received the largest number of Venezuelan migrants and report the highest HIV prevalence among the migrant and local population according to information provided by the National Migration Superintendence and prevalence data by region from the DPVIH (see Fig. 2).

Figure 1: Location of survey sites in Peru (2021-2022).

Figure 2. Geographic distribution of migrants in Peru (as of December 2021)



Source: National Migration Superintendence, Peru (December 2021).

4.1. SAMPLE

Formative assessment

The formative assessment sought to gather opinions, knowledge, perceptions, and attitudes of Venezuelan migrants. In addition, the evaluation aimed at obtaining information from service providers and Ministry of Health (MOH) authorities on health-related aspects of the Venezuelan migrant population, as well as on the current functioning of the health system, including challenges, difficulties, and opportunities.

A maximum of 5 to 8 focus groups (FG) were conducted, with 5 to 10 participants per group in each survey site, reaching a maximum of 160 participants. Likewise, a maximum of 5 in-depth interviews (IDI) were conducted at each survey site, i.e., a maximum of 10 participants interviewed. Both the FGs and IDI could be stopped before reaching the sample size if saturation in the responses had been reached. Interview guides were adapted for the FG and IDI following the guidelines according to the objectives set out in the protocol; these guides were approved by a local ethics committee.
The focus groups were made up of male and female migrants and vulnerable populations (PLWHA, sex workers, transgender women, and MSM). On the other hand, in-depth interviews were conducted with authorities representing the HIV/STI context and health providers directly related to the care of migrants.

Biobehavioral survey

The sample size was based on the following:

Assuming an HIV prevalence of 1% among the general population, based on local provider reports suggesting a prevalence range of 0.2-0.3% in prenatal care surveillance (MOH, Análisis de la Situación Epidemiológica del VIH/SIDA en Perú, 2013 – HIV/AIDS Epidemiological Situation Analysis in Peru - 2013) to 0.5% prevalence (UNAIDS), an alpha 0.05, margin of error of 0.005, and design effect of 2 that has been suggested for RDS, a sample size of 6200 was estimated to be required. This sample size provided a sufficiently small sampling fraction required by most RDS estimators, given that over 115,000 Venezuelan migrants are estimated to be Lima/Callao and Trujillo. Based on discussions held prior to the start of the survey with DPVIH, CDC Peru, PIH, IOM Peru, and non-governmental organizations, according to the most recent information on migrant population sizes in different localities in Peru by the National Migration Superintendence and data on HIV prevalence by region by DPVIH, 4,650 (75%) migrants and 1,550 (25%) migrants would be allocated to Lima/Callao and Trujillo, respectively, for a total of 6,200 migrants.

4.2. RECRUITMENT

Participants were recruited using the Respondent-driven Sampling (RDS) method. RDS is a chain referral sampling technique, by means of which a data tracking path is obtained consecutively from one person to another, based on the relationship between them. Thus, a chain that allows visualizing a relationship of the different individuals is established. This recruitment methodology is often useful for survey hidden or difficult-to-access populations studies, such as migrant groups or groups in which there is no sampling frame. [19]

The RDS advantages are: cheaper, quicker, and easier to implement than other methods commonly used to study hidden populations (Semaan, Lauby, and Liebman 2002). This is a significant advantage given amount of resources, RDS allows researchers to have more study sites or larger sample sizes than other methods.[47][48]

The RDS disadvantages are: The potential bias is related to implementation and analytical errors, the empirical evidence on how representative the results obtained by RDS is limited, the search to improve the methodology is still in progress and it is essential to guarantee transparency and accuracy in reporting studies using RDS to gain more confidence in using this method. [47][48]

In the survey, RDS recruitment involved two processes:

a) Seed selection: The seeds were members of the target population, who were responsible for initiating recruitment. Seeds were informed about the basic details of the survey, the meaning of their participation, and their role as a starting point for peer referral. Seeds were purposively selected according to the following eligibility criteria:

- Have a broad and close connection with their social networks.

- Be considered and viewed positively by their peers.

- Be willing to support the survey after knowing the survey objectives.

- Being on separate social networks (i.e., not knowing each other).

- Not be members of a community-based organization (CBO) or a nongovernmental organization (NGO), to avoid repeated sampling of networks in CBO/NGO members.

- Be diverse in terms of salient characteristics, such as age, educational level, marital status, socioeconomic status, area of residence, and known serostatus.

- Living in different areas of the city of residence.

In Lima, a total of 13 seeds were enrolled: 4 enrolled at baseline, 2 in the second month of enrollment, 2 in the third month of enrollment, and 5 in the fourth month; of these seeds, 10 were male and 3 were female. In Trujillo, a total of 11 seeds were enrolled: 6 enrolled at baseline, 2 in the third month and 3 between the fourth and fifth month; of these seeds, 6 were male and 5 female. Of the total of 24 seeds in both sites, 5 (20.1%) were PVV: 4 male and 1 female. The seeds were progressively increased according to the weekly analysis that technical team carried out of the speed at which recruitment occurred.

The seeds were summoned from three different sources:

1. The participants of focus groups of formative research in the study, who were considered community leaders.

2. Participants in interviews with community leaders for the need's joint analysis of the Venezuelan migrant population carried out by United Nations organizations such as the IOM and the Municipality of Metropolitan Lima

a). Reference for organizations such as PROSA in Lima and the Penitentiary Pastoral Center of the Trujillo´s Archdiocese-Department of women trafficking in persons and smuggling of migrants in Trujillo Participant enrollment: Potential participants received a coupon of seed ora peer who had already enrolled in the survey. These, in turn, after enrolling in the survey, received a minimum of three and a maximum of four coupons to give to new potential participants, and so on until the total survey sample was completed, thus forming the referral chain also called "waves".

During coupon delivery at the end of the enrollment visit at the survey site, participants were informed and given an informative guide about the referral process for Venezuelan peers, the characteristics of the people to be referred (age required, not being a family or couple, being residents of the city and not having previously participated in the project), the process of the enrollment visit and the reimbursement or incentive that would be received for each enrolled referral. The coupons were coded and had general information about the survey written on them (name, institution in charge, etc.), as well as the site's contact telephone number.

Participants were received at the site primarily by appointment via telephone call to the contact number on the coupon, but voluntary migrants who came to the sites without prior appointment were also served. In this way, the flow of daily visits, long wait times and capacity at the site was controlled to maintain preventive measures in the context of the COVID-19 pandemic.

The number of coupons delivered throughout the recruitment process followed the following structure:

- 3 coupons from the start of enrollment

- 4 coupons from the 4th month of enrollment onwards

- 3 coupons in the last month of enrollment of each site

The strategy of increasing the number of coupons was carried out with the objective of increasing the speed of enrollment in the survey and came along with the implementation of appointment follow-up methods through reminder calls of the day and time of the appointment, rescheduling calls for non-attendance, as well as the over-scheduling of a small number of daily appointments due to the inevitable non-attendance of people who had been scheduled. As of the fourth month of enrollment, the strategies described above made it possible to have a significant and sustained daily enrollment rate at each site.

Likewise, homophily analyzes were performed to assess the degree of heterogeneity of the people recruited and whether the participants had a tendency to recruit other participants with similar characteristics to them. Homophily consists of the social fact that people tend to build more relationships

with other people with similar social characteristics. Homophily can be demonstrated or objectified in any type of relationship. Homophily values range from -1 to +1. The value 0 corresponds to random recruitment; the value 1 corresponds to always recruiting from the group itself; the value -1 corresponds to never recruiting from your own group. A moderate homophily is not problematic. However, if the homophily is very large, the transition matrix may take a long time to converge, which may be a sign that the groups are not interconnected. Next, the description of the degrees of homophily:

- Homophily = 1: always recruit from own group;

- Homophily >0 to 1: preferential recruitment of the group with similar characteristics;

- Homophily = 0: no preferential recruitment;

- Homophily –1 to <0: preferential recruitment of groups with different characteristics; and

- Homophily = –1: always recruits from others than the groups themselves.

For the study, homophily analyzes were performed for the variables sex, HIV according to place.

Lima

Homophily according to Sex

Homophily = 1.067981

Population Homophily Estimate for sexo 1.042312

Differential activity according to Sex: The mean degree of those with value 1 divided by the mean degree of those without is 0.993766

Homophily by HIV Status

Homophily = 1.000275

Population Homophily Estimate for vih 1.029418

Differential activity according to HIV: The mean degree of those with value 1 divided by the mean degree of those without is 1.030782

Homophily according to Migration Status

Homophily = 1.048019

Population Homophily Estimate for Migration Status 1.033202

Differential activity according to Migration Status: The mean degree of those with value 1 divided by the mean degree of those without is 1.125596

Trujillo

Homophily according to Sex

Homophily = 1.171717

Population Homophily Estimate for dem_sexo 1.227327

Differential activity according to Sex: The mean degree of those with value 1 divided by the mean degree of those without is 1.15977

Homophily by HIV Status

Homophily = 1.00247

Population Homophily Estimate for vihconf 0.9530962

Differential activity according to HIV: The mean degree of those with value 1 divided by the mean degree of those without is 1.292354

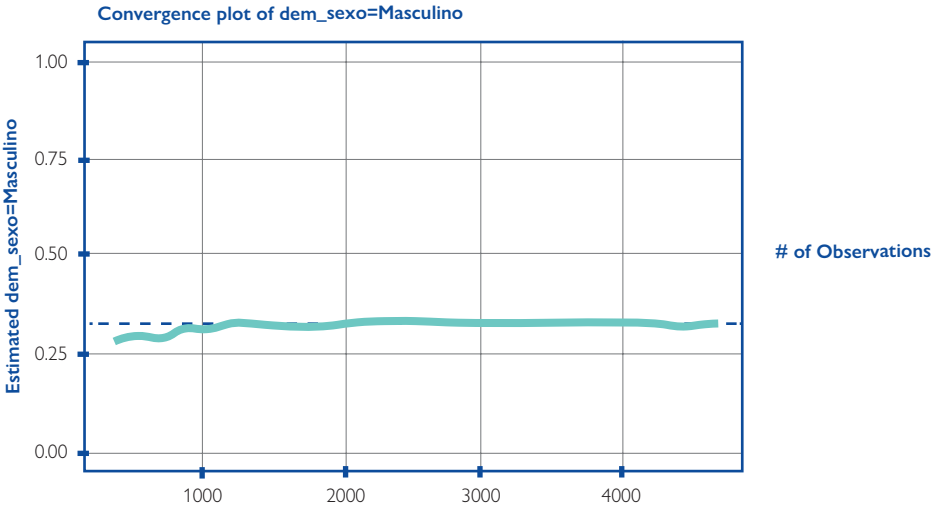
Homophily according to Immigration Status

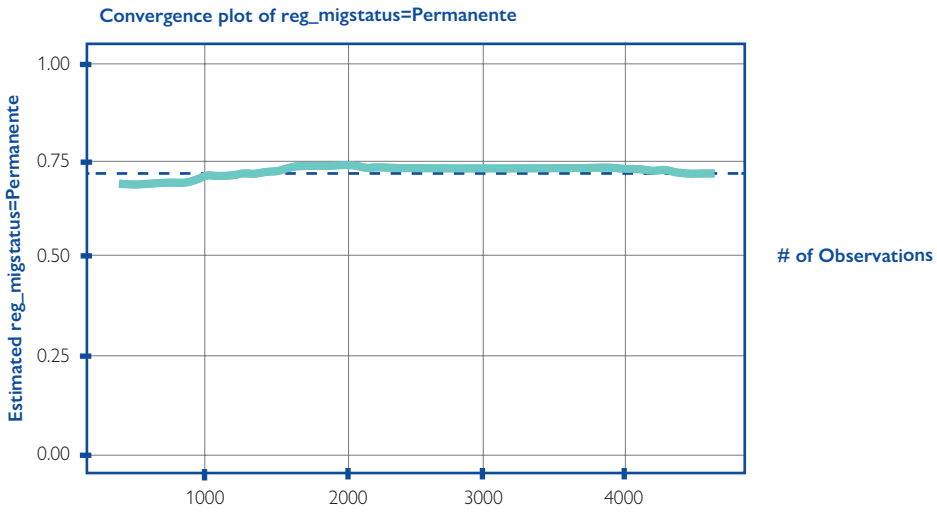
Homophily = 1.029989

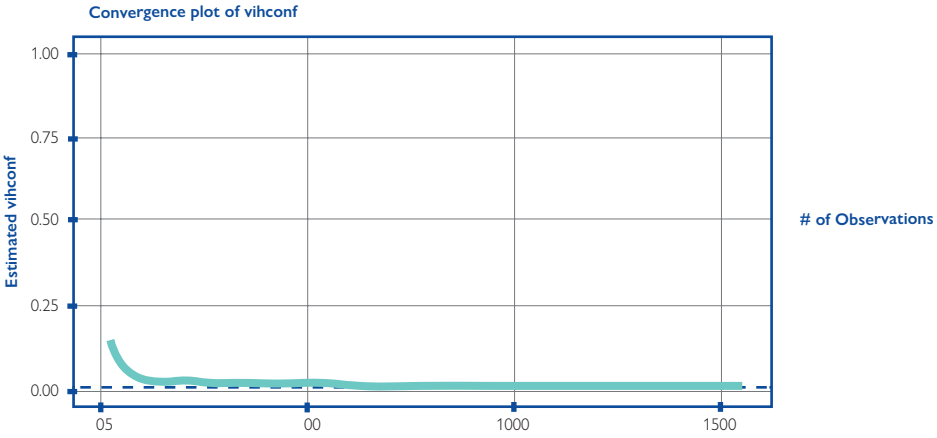
Population Homophily Estimate for reg_migstatus 0.6599782

Differential activity according to Immigration Status: The mean degree of those with value 1 divided by the mean degree of those without is 1.027078

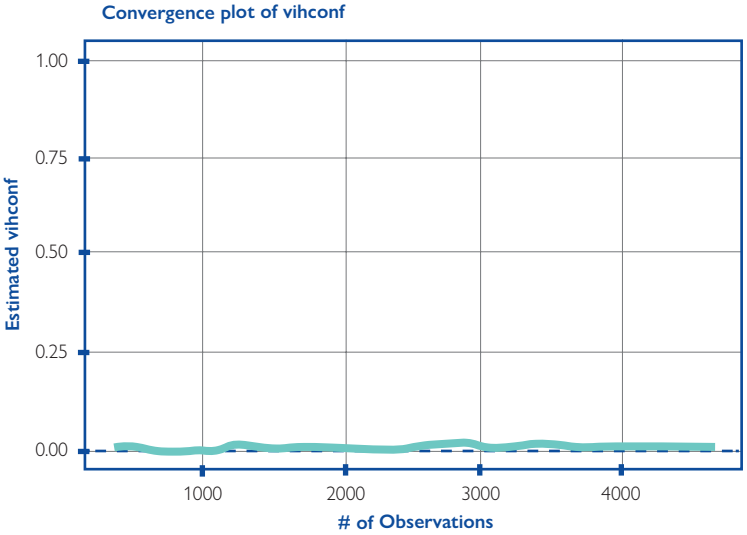
Análisis de Convergencia Lima

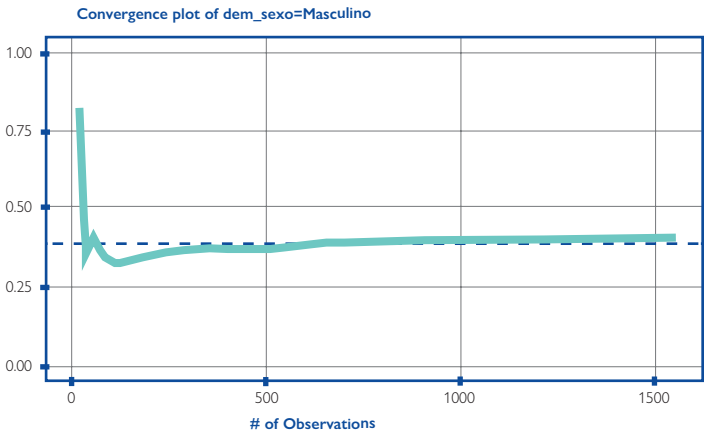


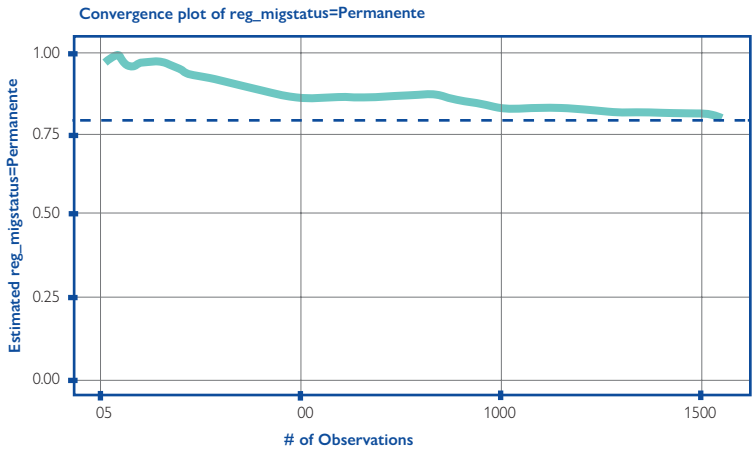




Convergence Analysis Trujillo





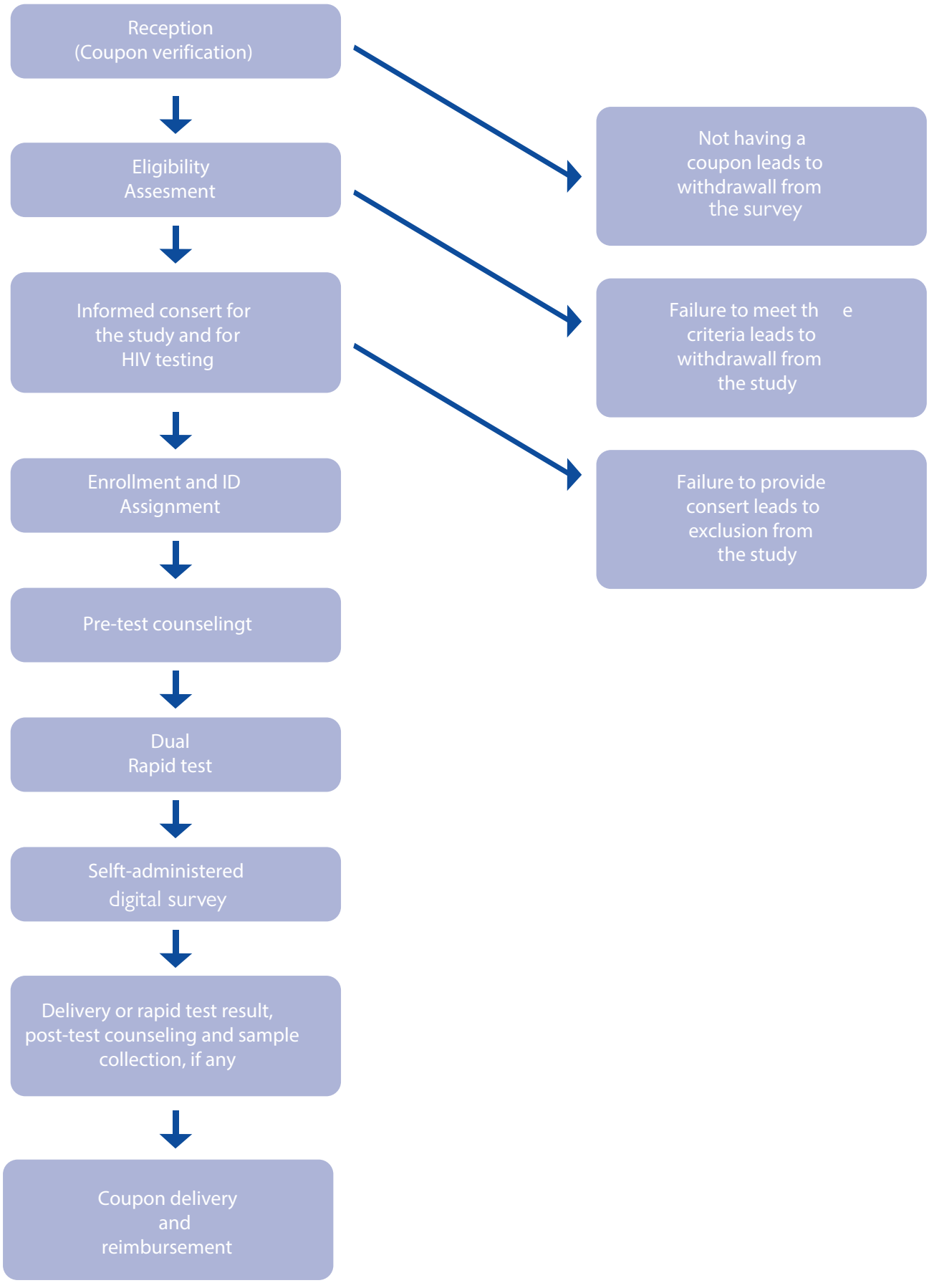


4.3. SURVEY VISITS

4.3.1 Visit 1: Enrollment

The purpose of the first participant visit was to enroll the participant in the survey. Several processes were applied starting with the verification of being a valid coupon holder and the assessment of the participant's eligibility. The figure below summarizes the flow of the survey procedures during the first visit:

Figure 3. Enrollment visit flowchart



Participants were chosen according to the following eligibility criteria:

- Being a Venezuelan migrant
- Aged 18 or older
- Migrated to Peru in 2015 or later
- Residing in Perú
- Be able to communicate in Spanish
- Be able to provide verbal informed consent
- Have and present a valid peer recruitment coupon (excluding seeds)

Pre-test counseling for HIV/syphilis dual testing followed the national regulation prioritizing information on risk behaviors, STI/HIV testing, and general prevention measures.

For the rapid test screening, the Bioline™ HIV/Syphilis Duo dual rapid test was used, which uses a drop of capillary blood which combined with a buffer provides results in 15-20 minutes. Following the rapid test, while participants waited for test results, they completed the self-applied digital survey via an electronic tablet that collected information on demographics and social information, sexual risk behaviors, alcohol and drug use, mental health, stigma, discrimination, and violence, as well as health service use, COVID-19 symptoms, and HIV testing history. Migratory status was self-reported. The average time participants took to complete the questionnaire was 30 minutes, and all were able to consult with the staff in charge during the questionnaire if they had any questions.

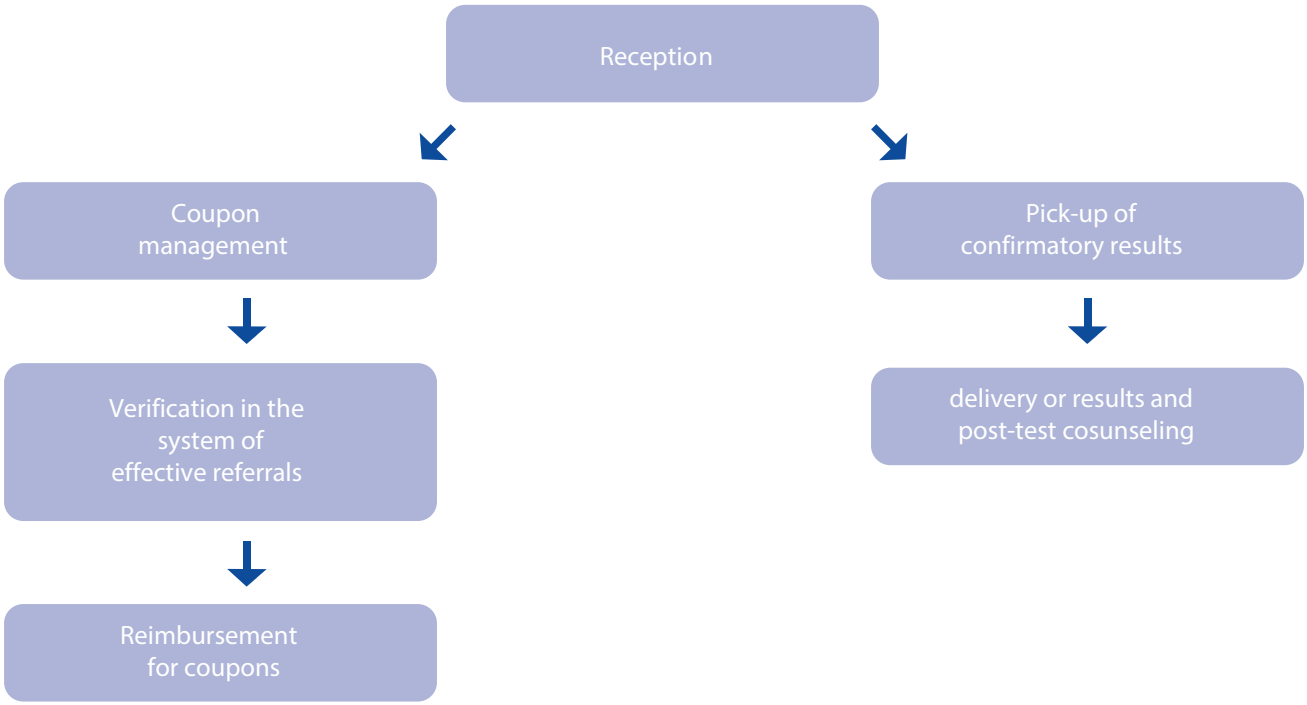
Once the questionnaire was completed by the participant, the next step was the delivery of rapid test results and post-test counseling. Participants with positive rapid tests for HIV and/or syphilis had venous blood samples taken for confirmatory testing, using Geenius™ HIV ½ confirmatory assay for HIV, and ARCHITECT Syphilis TP test for syphilis, which results were delivered at visit 2. Moreover, the RPR test (non-treponemal serological test) was also performed for syphilis, while viral load was processed and the Xpert® HIV-1 Viral Load test was used for HIV. Visit 1 lasted an average of 90 minutes.

At the end of the visit, each participant received S/.25.00 (approximately 6.5 USD) as an incentive for participating in the survey and S/.10.00 for transportation, as well as the number of coupons to give to new potential participants, in addition to specific instructions on who to give them to.

4.3.2 VISIT 2: DELIVERY OF CONFIRMATORY RESULTS AND/OR COUPON MANAGEMENT

The second visit of the survey was oriented to the management of coupons for effective referrals, as well as to the pick-up of confirmatory results for HIV and/or syphilis and post-test counseling in case a sample for a confirmatory test had been taken at visit 1. To this end, at visit 1, each migrant was advised to return to the site after approximately 15 days to allow sufficient time for their referrals to be enrolled; however, they were informed that confirmatory results would be available in 7 days and that they could come in earlier than the scheduled date if they wished. In addition, migrants with confirmatory HIV-positive results were telephoned to inform them that the results were ready to be picked-up.

Figure 4. Flowchart of the confirmatory results delivery and/or coupon management visit

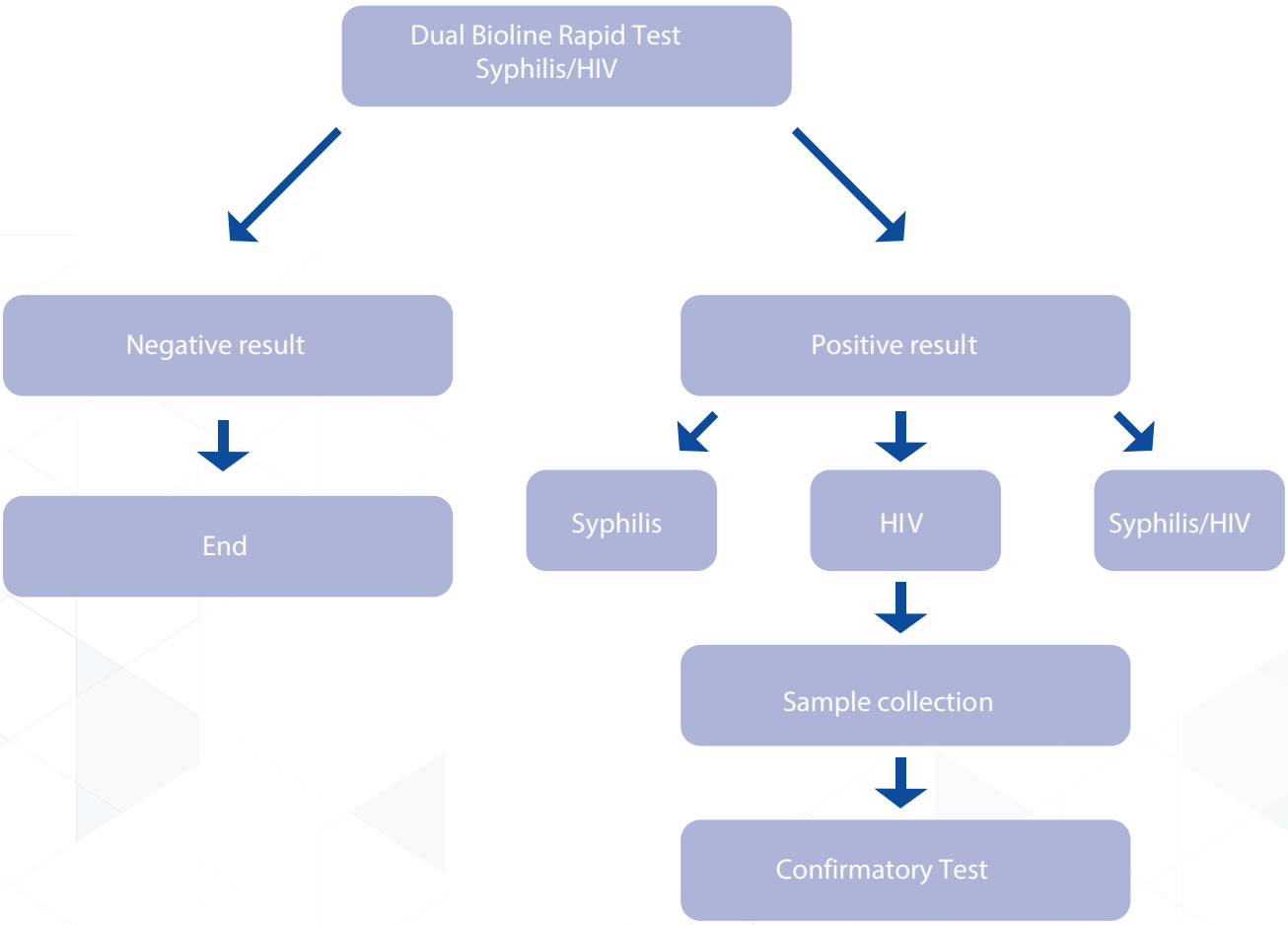


During the post-test counseling, the results of the confirmatory tests were given. The messages about the meaning of a negative or positive test, the health care related to the result, and the importance of treatment in case of a confirmed diagnosis were emphasized. Each migrant was given 10 condoms and 5 lubricants, as well as a copy of their laboratory results.

At the end of the visit, compensation of S/. 25.00 was provided for each coupon effectively referred and S/. 10.00 for transportation. In addition, participants were informed that they could return on subsequent occasions to receive the missing compensation for coupons referred if they had not been effective in previous visits but would no longer be subject to compensation for transportation.

4.4. BIOLOGICAL TESTS

Figure 5. Algorithm for the diagnosis of HIV/syphilis



4.4.1 Specimen collection

Table 2. Sampling procedure and types of specimens collected

Sample type	Marker	Test assay	Test site	Return of results / referral
Capillary blood	*HIV*	*Bioline HIV/Syphilis Duo*	*Survey site*	*1st visit*
Capillary blood	*Treponema pallidum (syphilis)*	*Bioline HIV/Sífilis Dúo*	*Survey site*	*1st visit*
Venous Blood	*HIV Confirmatory Test*	*Geenius HIV 1/2 supplemental assay*	*CITBM (External Lab)*	*2nd visit*
Venous Blood	*Viral load*	*Xpert HIV -1VL*	*CITBM (External Lab)*	*2nd visit*
Venous Blood	*Dilutions*	*RPR*	*CITBM (External Lab)*	*2nd visit*
Venous Blood	*Confirmatory test for syphilis*	*ARCHITEC Syphilis TP*	*CITBM (External Lab)*	*2nd visit*

4.4.2 Rapid HIV/Syphilis test

The BIOLINE HIV/Syphilis Duo brand dual rapid test was used to detect HIV and syphilis at the enrollment visit. This test has a sensitivity of 99.8% and specificity of 100% for the detection of anti-HIV antibodies and a sensitivity of 90% and specificity of 99.9% for the detection of anti-Treponema Pallidum antibodies. The sample was collected and read in the laboratory rooms at each site. The result was read 15-20 minutes after sample collection.

4.4.3 HIV and Syphilis confirmatory tests

The confirmatory tests were performed in an external laboratory, the Centro de Investigaciones Tecnológicas, Biomédicas y Medioambiental - CITBM. For HIV confirmation, the Geenius™ HIV 1/2 Confirmatory Assay was used: a single-use, immunochromatographic test for the confirmation and differentiation of individual antibodies to human immunodeficiency virus types 1 and 2 (HIV-1 and HIV-2) in whole blood, whole venous blood, serum, or plasma, intended for use as an additional test to confirm the presence of antibodies to HIV-1 and HIV-2 for samples repeatedly identified as reactive in screening procedures. The Bio-Rad Geenius™ HIV 1/2 Confirmatory Assay utilizes immobilized antigens for the detection of antibodies to HIV-1 and HIV-2.

The Xpert® HIV-1 Viral Load assay is an in vitro reverse transcriptase polymerase chain reaction (RT-PCR) assay for the detection and quantification of human immunodeficiency virus type 1 (HIV-1) RNA in human plasma from HIV-1 infected individuals, quantifying HIV-1 RNA in the range of 40 to 10,000,000 copies/mL. The Xpert HIV-1 VL assay is validated for the quantification of HIV-1 group M RNA (subtypes A, B, C, D, F, F,

G, G, H, J, K, CRF01_AE, CRF02_AG and CRF03_AB), group N, and Group O. The GeneXpert instrument systems are automated kits using cartridges that integrate sample preparation, nucleic acid extraction and amplification, and detection of the target sequence in the sample by real-time reverse transcriptase PCR (RT-PCR). All reagents necessary for the detection of HIV-1 RNA in samples and two internal controls used for the quantification of HIV-1 RNA are contained in the cartridge.

The ARCHITECT Syphilis TP assay is a chemiluminescent microparticle immunoassay (CMIA) for the qualitative detection of antibodies to Treponema palladium (TP) in human serum and plasma on the ARCHITECT i 1000 system for the diagnosis of syphilis. The ARCHITECT Syphilis TP Assay is a two-step immunoassay for the qualitative detection of antibodies to TP. In the first step, the sample, microparticles coated with recombinant TP antigens (TpN15, TpN17 and TpN47) and the assay diluent are combined. The anti-TP antibodies present in the sample bind to the TP-coated microparticles. After washing, the acridine-labeled anti-human IgG and IgM conjugate is added in the second step. After another wash cycle, the pre-activation and activation solutions are added to the reaction mixture. The resulting chemiluminescent reaction is measured as relative light units (RLU). There is a direct relationship between the amount of anti-TP antibody in the sample and the RLU detected by the ARCHITECT optical system. The presence or absence of anti-TP antibodies in the sample is determined by comparing the chemiluminescent signal in the reaction with the cutoff signal determined from a previous ARCHITECT Syphilis TP calibration. If the chemiluminescent signal in the sample is greater than or equal to the cutoff signal, the sample is considered reactive for anti-TP, likewise for syphilis the Rapid Plasma Reagin (RPR) test was performed, which is a non-treponemal test used to measure antibodies (IgG, IgM) in serum.

At the survey site, the collected samples were centrifuged, aliquoted and stored in properly labeled microvials, under refrigeration.

4.4.4. Sample transport

The samples were transported once a week, in a thermal box that ensured up to a maximum of 4°C, to the reference laboratory of the Centro de Investigaciones Tecnológicas, Biomédicas y Medioambiental - CITBM of the Universidad Nacional Mayor de San Marcos - UNMSM, according to a schedule coordinated between the sites. Once received by CITBM laboratory personnel, the samples were processed following CITBM laboratory guidelines. All transport events (number of samples, transfers, and transport times) were recorded on specific forms to guarantee the chain of custody.

4.4.5. Laboratory data management

Samples were recorded using the participant's identification number and the sample identification number. The results of the sites' rapid tests were recorded in physical format and digitally on the survey forms. Confirmatory test results were sent by CITBM to the survey site via e-mail to the technical team leaders for printing, recording of the data in the survey's electronic system, and physical document filing in each file. None of the laboratory tests involved personal identification of the participant.

4.5. Linking migrants to positive results

In accordance with the ethical considerations of the survey and MOH regulations, participants with positive results for syphilis and confirmatory results for HIV were referred to a patient navigator, who provided support for linkage to care for the start of syphilis and/or HIV treatment. ICAP Global Health, based at Columbia University in New York, is developing a project targeting Venezuelan migrants in Colombia and Peru in collaboration with the Ministries of Health of Peru and Colombia, with funding from PEPFAR (U.S. President's Emergency Plan for AIDS Relief) through the U.S. Centers for Disease Control and Prevention (CDC). The objective is to increase access to HIV prevention, diagnosis and comprehensive care for Venezuelan migrants and refugees, favoring the national response to HIV in geographic areas prioritized by the Ministries of Health. The field implementation of the project is being carried out by AFA, ICAP's subcontracted party.

In coordination with CDC and IOM and according to the Biobehavioral Survey (BBS) protocol for Venezuelan migrants living in Lima/Callao and Trujillo (implemented by IOM, PIH and CDC) ICAP provided support from the project in coordination with AFA, DIRIS of Metropolitan Lima and GERESA of La Libertad, facilitating linkage actions, admission to antiretroviral treatment (ART) and syphilis treatment, as well as follow-up to promote adherence to treatment and monitoring of Venezuelan migrant affected by HIV and syphilis. The processes followed for the linkage of people living with HIV/AIDS (PLWHA) were carried out according to the flows established in NTS No. 169/MOH/2020/DGIESP - Technical Standard for comprehensive care of adults with HIV infection. Consequently, AFA provided support during the process of entering the ART program provided by the health services of the Ministry of Health, covered the fees related to tests prior to entering ART, in addition to the additional tests requested by the treating physician, provided food support, patient transportation and regularization of the immigration status in Peru of the Venezuelan migrants so that they can later join the Comprehensive Health Insurance (SIS) provided by the Peruvian state.
In the case of syphilis, people were linked to the project's outsourced health services for the application of

treatment and post-treatment laboratory control, in accordance with NTS No. 077/MOH/DGIESP-Technical Health Standard for the management of sexually transmitted infections in Peru.

The result at the end of the survey was that 92% of PLWHA diagnosed in the Biobehavioral Survey (BBS) of Venezuelan migrants living in Lima/Callao and Trujillo were admitted to the ART program of the Ministry of Health and 89% of people with active syphilis were treated according to the national technical standard.

The main difficulty for the success of the linkage was that some migrants traveled outside the country and the high rotation of their cell phones made it difficult to communicate to complete the antiretroviral treatment or complete the syphilis treatment.

4.6. CASE FOLLOW-UP

The follow-up of migrants with rapid test syphilis results was led by the site's patient navigator and was carried out through telephone contact and, on occasion, through face-to-face linkage to the health facility.

For participants with a confirmatory HIV test, the survey team initially made a telephone contact to inform them that confirmatory HIV results were available for pick up. After test pick-up and post-test counseling, the patient navigator continued following-up the participant. This process also included telephone follow-up and, in some cases, face-to-face follow-up.

4.7. DATA ANALYSIS

Pre-processing and descriptive analysis of the sample by site was performed with Stata V.15 statistical software (StataCorp, Texas). For the respondent-driven sampling (RDS) analysis, the Giles sampling estimator was used with Bootstrap to estimate the prevalence of the variables of interest from the RDS sample. The software used was RDS-Analyst (htt://hpmrg.org/). The population estimate is reported in the tables.

4.8. ETHICS

The protocol was sent for review and approval to the SIB (Science Integrity Branch) of the DGHT (Director of the Division of Global HIV & TB) of the US CDC and locally to the Institutional Bioethics Committee of Asociación Vía Libre. All migrants voluntarily provided written informed consent to participate in the survey. Due to the social and migratory vulnerability of the survey population, no personally identifiable information was collected. For the formative phase, verbal informed consents and interview guides for the FG and IDI were added and approved by the Institutional Bioethics Committee of Asociación Vía Libre.

5. CHAPTER 4: RESULTS

SAMPLE

A total of 6663 (100%) people were approached to participate in the survey: 5003 (75.08%) in Lima/Callao and 1661 (24.92%) in Trujillo. Of a total of 463 (100%) ineligible persons, 352 (76.03%) were from Lima/Callao and 111 (23.97%) from Trujillo. The main reasons for ineligibility were being a relative of a previously enrolled migrant (68.19%) and insufficient time spent in the city of the survey site (22.46%). A total of 6200 (100%) migrants were enrolled from November 2021 to July 2022, 4650 (75%) migrants were enrolled in Lima/Callao, while from November 2021 to April 2022, 1550 (25%) migrants were enrolled in Trujillo.

DEMOGRAPHIC CHARACTERISTICS

Table 3. Demographic characteristics of Venezuelan migrants by survey site, Peru

	Lima/Callao (n=4650)				Trujillo (n=1550)				Total (N=6200)			
	n	Sample proportion %	Population estimate %	CI 95%	n	Sample proportion %	Population estimate %	CI 95%	n	Sample proportion %	Population estimate %	CI 95%
Median age (IQR)	33 (14)				31 (13)				32 (15)			
Gender												
Man	1539/4650	33.1	32.69	30.42 - 34.96	650/1550	41.94	37.45	33.42 - 41.50	2189/6200	35.31	33.03	30.90 - 35.16
Woman	3053/4650	65.65	65.85	63.58 - 68.13	874/1550	56.39	60.78	56.61 - 64.94	3927/6200	63.34	65.49	63.36 - 67.63
City												
Lima	4077/4650	87.68	88.49	86.40 - 90.59					4077/6200	65.76		
Callao	569/4650	12.24	11.43	9.33 - 13.54					569/6200	9.18		
Trujillo					1550	100			1550/6200	25		
Other	4/4650	0.09	0.06	-0.07 - 0.20					4/6200	0.06		
Education												
No formal education	28/4650	0.6	0.8	0.30 - 1.30	10/1550	0.65	0.64	0.12 - 1.15	38/6200	0.61	0.79	0.32 - 1.25
Primary	281/4650	6.04	5.94	4.91 - 6.95	68/1550	4.39	5.42	3.52 - 7.31	349/6200	5.63	5.9	4.95 - 6.86
Secondary	2461/4650	52.92	53.97	51.57 - 56.35	774/1550	49.94	50.22	46.13 - 54.37	3235/6200	52.18	53.7	51.46 - 55.94
Higher	1816/4650	39.05	37.61	35.26 - 39.96	677/1550	43.67	42.58	38.41 - 46.70	2493/6200	40.21	37.96	35.76 - 40.17
Other	64/4650	1.38	1.68	1.10 - 2.26	21/1550	1.35	1.12	0.54 - 1.70	85/6200	1.37	1.64	1.10 - 2.18
Employment												
Formal full-time	396/4650	8.52	8.4	7.23 - 9.56	190/1550	12.26	14.45	11.48 - 17.43	586/6200	9.45	8.83	7.73 - 9.93
Formal part-time	127/4650	2.73	2.21	1.58 - 2.85	76/1550	4.9	5.78	3.84 - 7.73	203/6200	3.27	2.46	1.86 - 3.07
Informal	1190/4650	25.59	26.29	24.19 - 28.38	507/1550	32.71	29.07	25.45 - 32.64	1697/6200	27.37	26.49	24.52 - 28.45
Street vendor	1413/4650	30.39	29.2	27.05 - 31.35	415/1550	26.77	23.99	20.17 - 27.81	1828/6200	29.48	28.83	26.82 - 30.85
Full-time student	21/4650	0.45	0.71	0.29 - 1.13	11/1550	0.71	1.13	0.20 - 2.07	32/6200	0.52	0.74	0.34 - 1.14
Retired	23/4650	0.49	0.53	0.20 - 0.88	6/1550	0.39	0.67	-0.09 - 1.44	29/6200	0.47	0.54	0.22 - 0.86
Unemployed	1315/4650	28.28	28.44	26.41 - 30.47	281/1550	18.13	21.48	20.17 - 27.81	1596/6200	25.74	27.95	26.04 - 29.85
Other	165/4650	3.55	4.19	3.25 - 5.14	64/1550	4.13	3.4	1.95 - 4.83	229/6200	3.69	4.13	3.25 - 5.02
Income												
Less than minimum wage (930 PEN)	2965/4650	63.76	63.81	61.49 - 66.12	985/1550	63.55	64.01	60.3 - 67.7	3950/6200	63.71	63.82	61.66 - 65.99
Minimum wage (930 PEN)	1215/4650	26.13	27.54	25.45 - 9.63	416/1550	26.84	27.8	24.22 - 31.39	1631/6200	26.31	27.56	25.60 - 29.52
Between 930 -1500 PEN	427/4650	9.18	7.84	6.61 - 9.06	126/1550	8.13	7.14	5.25 - 9.01	553/6200	8.92	7.79	6.64 - 8.94
More than 1500 PEN	43/4650	0.92	0.8	0.45 - 1.15	23/1550	1.48	1.05	0.45 - 1.65	66/6200	1.06	0.82	0.49 - 1.15
Marital status												
Never married	1865/4650	40.11	42.01	39.71 - 44.31	662/1550	42.71	45.13	41.19 - 49.06	2527/6200	40.76	42.23	40.08 - 44.39
Married or cohabitating	2075/4650	44.62	43.56	41.28 - 45.84	687/1550	44.32	42.08	37.96 - 46.21	2762/6200	44.55	43.46	41.32 - 45.59
Divorced or separated	626/4650	13.46	13.29	11.7 - 14.87	181/1550	11.68	11.65	8.92 - 14.35	807/6200	13.02	13.17	11.69 - 14.66
Widowed	84/4650	1.81	1.13	0.72 - 1.53	20/1550	1.29	1.14	0.26 - 2.02	104/6200	1.68	1.13	0.75 - 1.51
Mediana del número de dependientes (RIQ)	3 (2)				3 (2)				3 (2)			

Table 3. Demographic characteristics of Venezuelan migrants by survey site, Peru

	Lima/Callao (n=4650)				Trujillo (n=1550)				Total (N=6200)			
	n	Sample proportion %	Population estimate %	CI 95%	n	Sample proportion %	Population estimate %	CI 95%	n	Sample proportion %	Population estimate %	CI 95%
Mediana de la edad (RIQ)	33 (14)				31 (13)				32 (15)			
Rent												
home/apartment/ room	4361/4650	93.78	92.15	90.85 -93.45	1455/1550	93.87	92.98	91.01 - 94.95	5816/6200	93.81	92.21	90.99 - 93.42
Own home/apart-ment	7/4650	0.15	0.39	0.01 - 0.77	10/1550	0.65	0.81	0.02 - 1.61	17/6200	0.27	0.42	0.06 - 0.78
Stay at someone else's place	208/4650	4.47	5.48	4.47 - 6.49	61/1550	3.94	4.54	2.94 - 6.15	269/6200	4.34	5.41	4.47 - 6.36
Street	15/4650	0.32	0.42	0.09 - 0.75	6/1550	0.39	0.33	0.07 - 0.60	21/6200	0.34	0.41	0.11 - 0.72
Other (shelter, abandoned building, car, other)	59/4650	1.27	1.53	0.85 - 2.20	18/1550	1.16	1.32	0.43 - 2.19	77/6200	1.24	1.51	0.88 - 2.14
Number of unsafe sleep nights												
None	3439/4650	73.96	74.09	72.08 - 6.10	1400/1550	90.32	89.3	86.73 - 91.86	4839/6200	78.05	75.17	73.29 - 77.04
1-10	577/4650	12.41	12.05	10.58 -13.52	108/1550	6.97	7.37	5.37 - 9.37	685/6200	11.05	11.72	10.35 - 13.09
11-30	177/4650	3.81	3.72	2.80 - 4.63	24/1550	1.55	1.87	0.63 - 3.11	201/6200	3.24	3.59	2.73 - 4.44
31-60	90/4650	1.94	2.25	1.56 - 2.94	8/1550	0.52	0.86	0.01 - 1.69	98/6200	1.58	2.15	1.51 - 2.80
More than 60	367/4650	7.89	7.89	6.71 - 9.08	10/1550	0.65	0.59	0.12 - 1.05	377/6200	6.08	7.37	6.27 - 8.47
Food security (USDA measure; past 12mo)												
Secure	500/4650	10.75	10.8	9.31 - 12.29	219/1550	14.13	13.8	11.09 - 16.42	719/6200	11.6	11.01	9.62 - 12.41
Low	1072/4650	23.05	24.5	22.56 - 26.36	509/1550	32.84	36.3	32.36 - 40.15	1581/6200	25.5	25.34	23.55 - 27.12
Very Low	3078/4650	66.19	64.7	62.53 - 66.94	822/1550	53.03	50	45.88 - 54.11	3900/6200	62.9	63.66	61.59 - 65.73

Table 3 presents the demographic characteristics of the participating Venezuelan migrants in total and according to the study site. The overall median age was 32 years (Interquartile Range - IQR: 15); being 33 years old (IQR: 14) in Lima/Callao and 31 years old (IQR: 13) in Trujillo. In total, 66.21% (CI: 64.19 - 68.23) were women, 33.79% (CI: 31.73 - 35.85) were men. In Lima/Callao, the number of male migrants was lower 33.40% (CI: 31.16 - 35.66) compared to Trujillo 38.90% (CI: 35.15 - 42.72), the number of female migrants was higher 66.60% (CI: 64.34 - 68.84) compared to Trujillo 61.10% (CI: 57.28 - 64.85). Formal employment was scarce, but more frequent in Trujillo: in Lima/Callao, 8.4% (CI: 7.23 - 9.56) had formal full-time work and 2.21% (CI: 1.58 - 2.85) formal part-time work; while, in Trujillo, 14.45% (CI: 11.48 - 17.43) had formal full-time work and 5.78% (CI: 3.84 - 7.73) formal part-time work. Unemployment was more frequent in Lima/Callao 28.44% (CI: 26.41 - 30.47) than in Trujillo 21.48% (CI: 20.17 - 27.81). In both cities, low income predominated: in Lima/Callao, 63.81% (CI: 61.49 - 66.12) had an income below the minimum wage (930 PEN = 245 USD) and 27.54% (25.45 - 29.63) an income equivalent to the minimum wage, while in Trujillo 64.01% (CI: 60.3 - 67.7) had an income below the minimum wage and 27.8% (CI: 24.22 - 31.39) an income equivalent to the minimum wage. Most Venezuelans were single 42.23% (CI: 40.08 - 44.39) or married/cohabitating 43.46% (CI: 41.32 - 45.59). Regarding housing status, the majority 92.21% (CI: 90.99 - 93.42) of migrants lived in a house, apartment or rented room; while 0.41% (CI: 0.11 - 0.72) lived on the street and 1.51% (CI: 0.88 - 2.14) lived in other spaces such as shelters, abandoned buildings, cars, among others.

NETWORK GRAPHICS

Figure 6 Network graph of recruitment in Lima/Callao, Peru

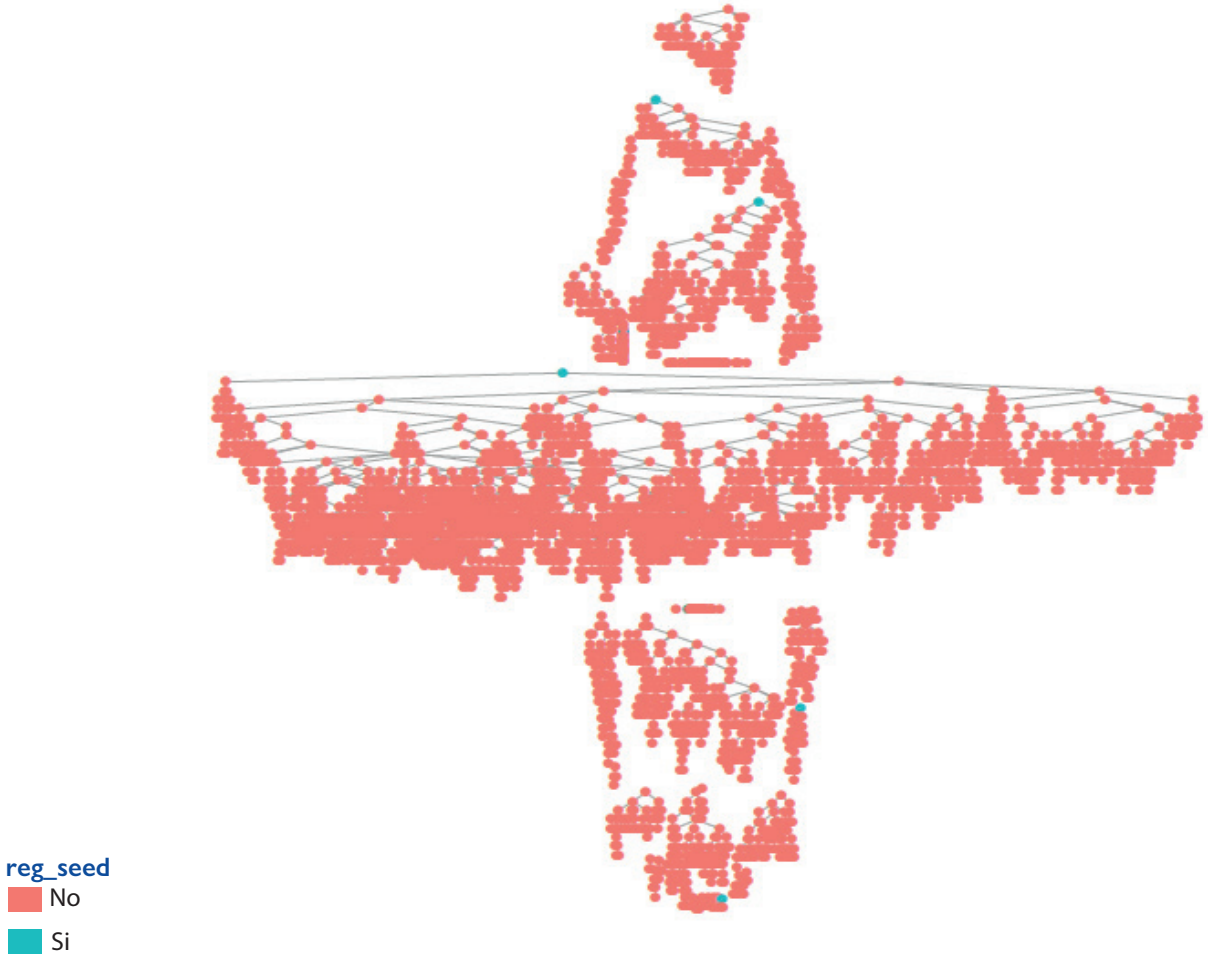
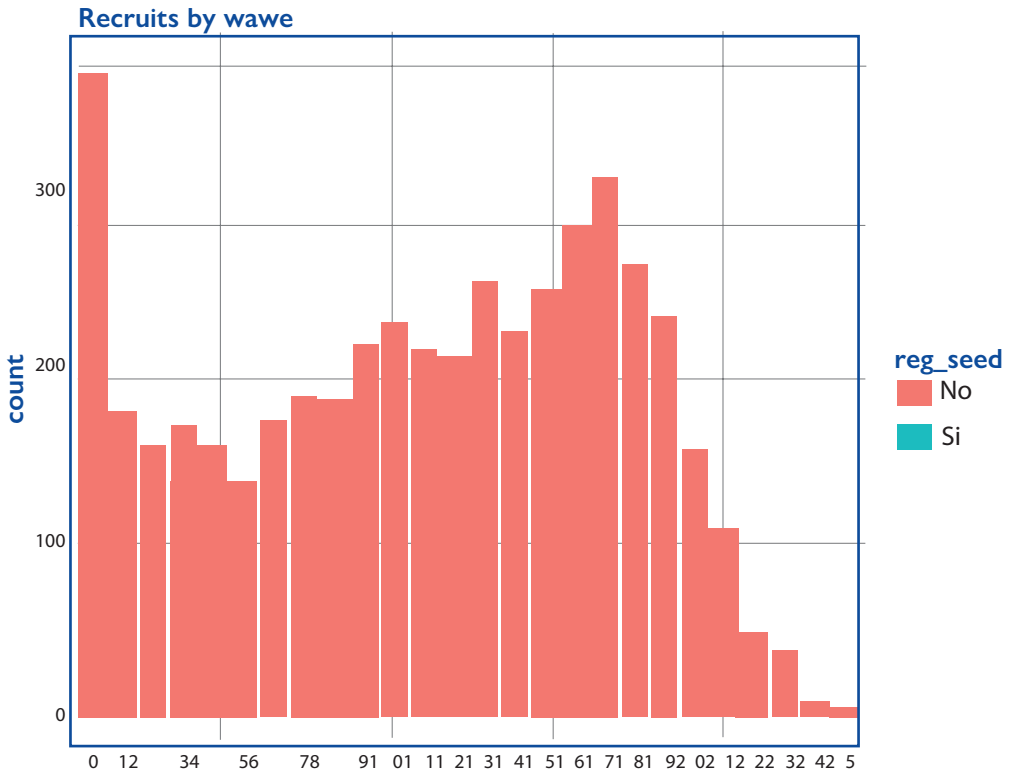


Figure 6 shows the network graph resulting from recruitment in Lima/Callao using the RDS methodology. Of the 13 seeds, 1 resulted in the largest number of participants, while 4 others played an important but minor role, and the rest produced an even smaller number of recruited participants or no recruits at all.

Gráfico de redes del reclutamiento en Lima/Callao, Perú



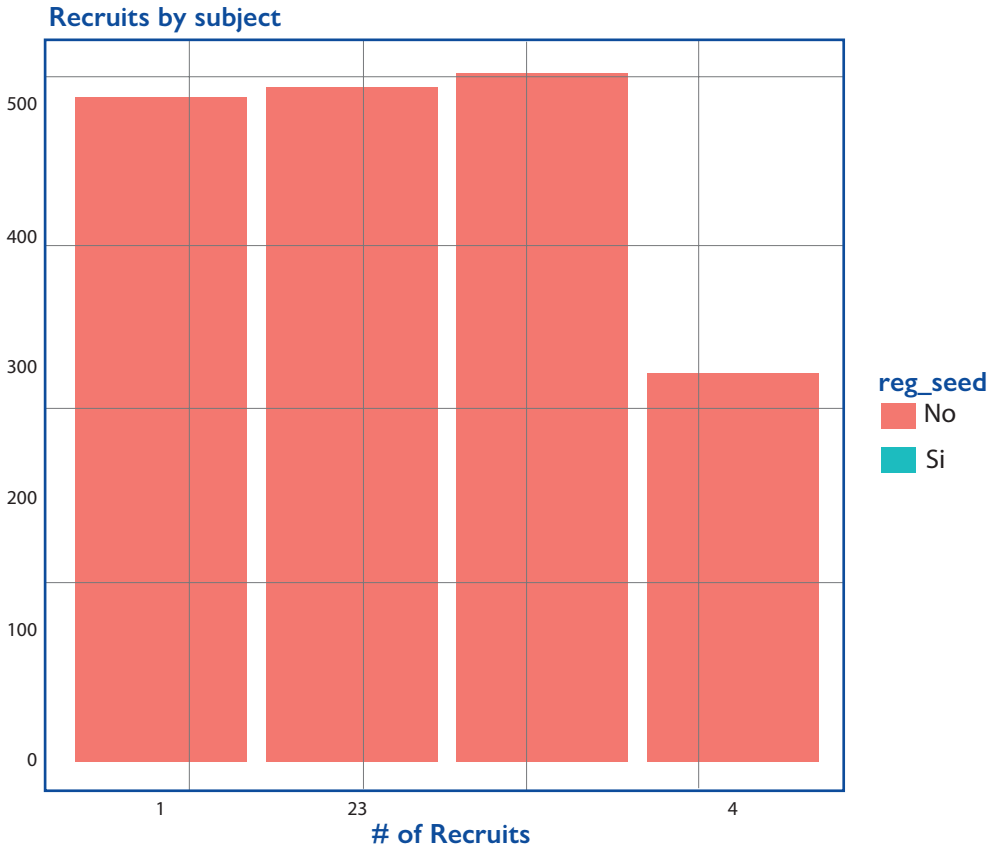


Fig 7 Recruitment network graph in Trujillo, Peru

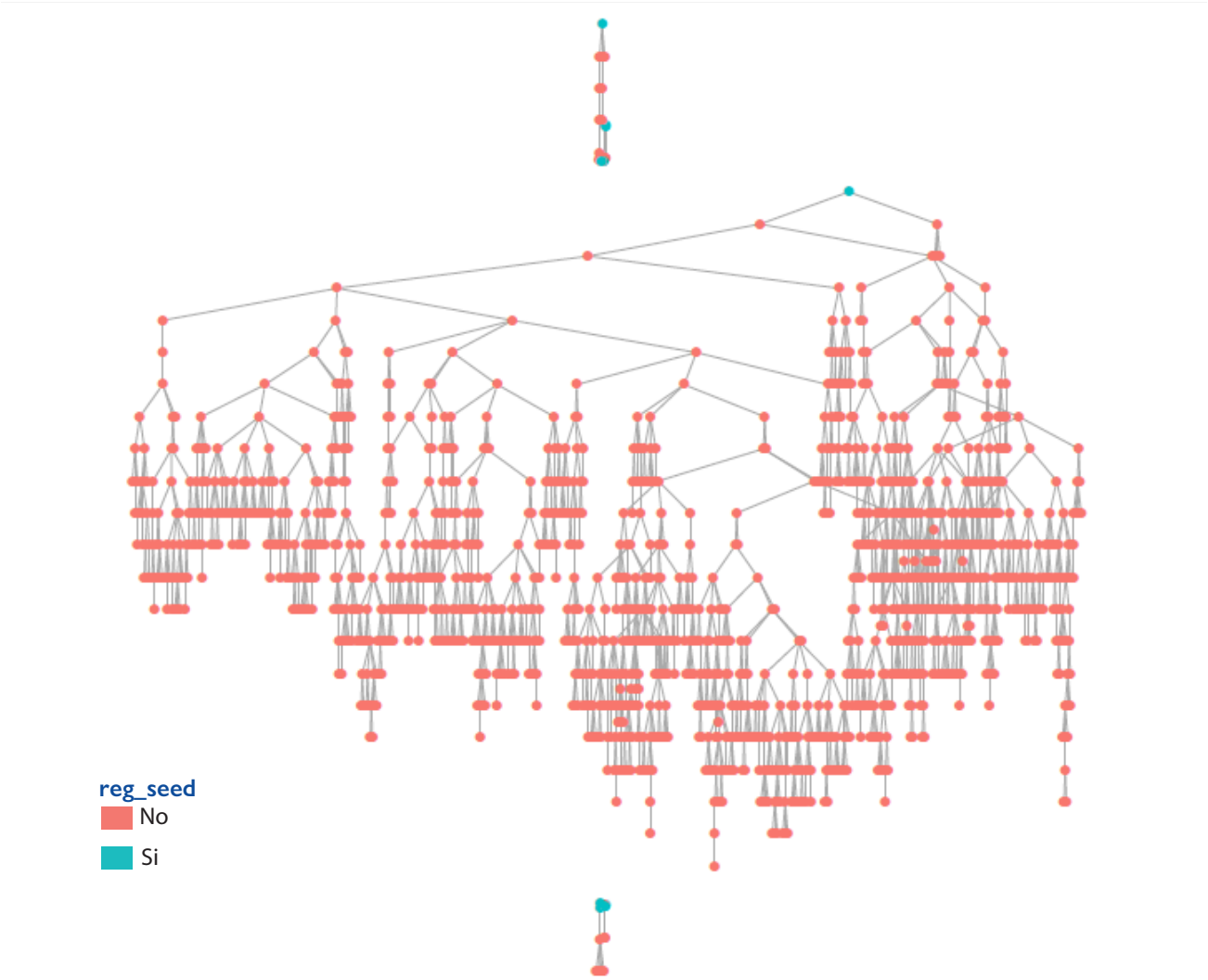
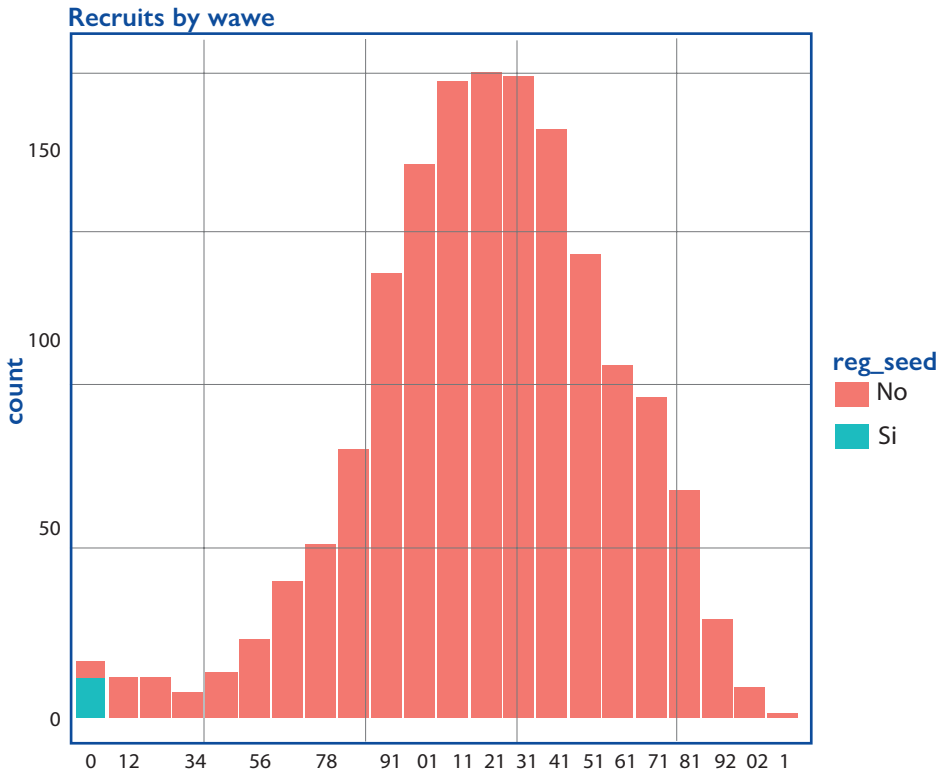
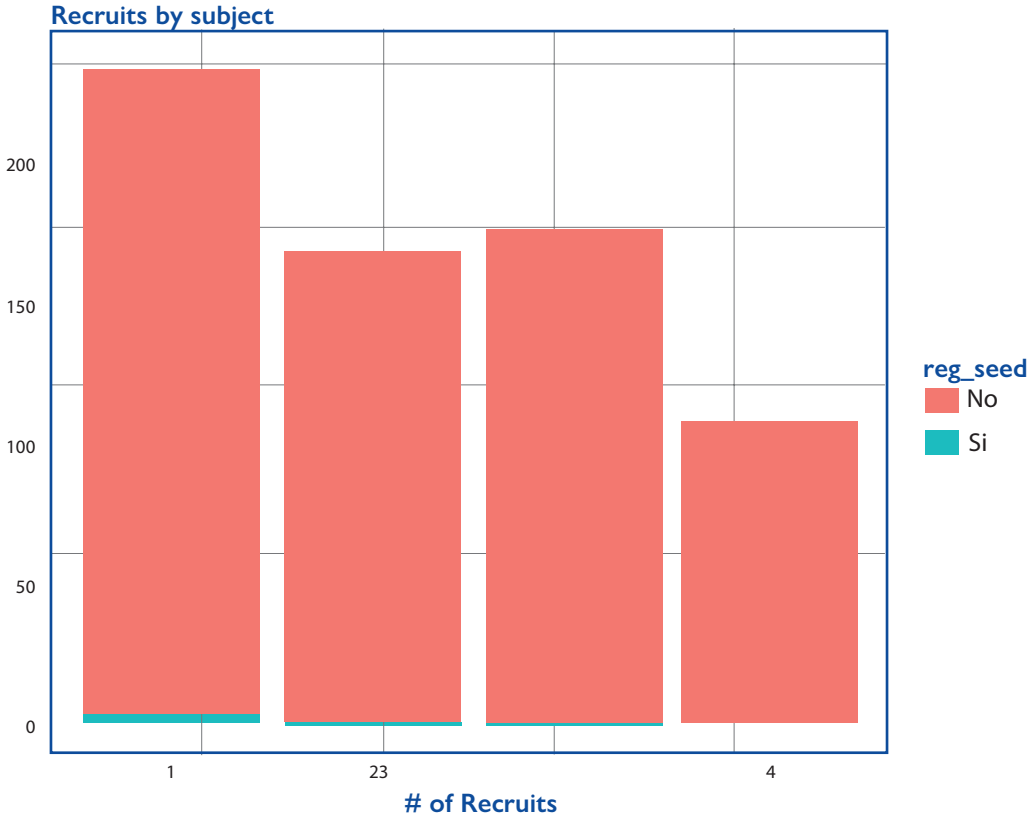


Figure 7 shows the network graph resulting from recruitment in Trujillo. Of the 11 seeds, 1 resulted in the great majority of participants, while 2 others had a minor role, and the rest did not produce any participants.


Recruits by wawe
count
150
100
50
0
0 12 34 56 78 91 01 11 21 31 41 51 61 71 81 92 02 1
reg_seed
No
Si

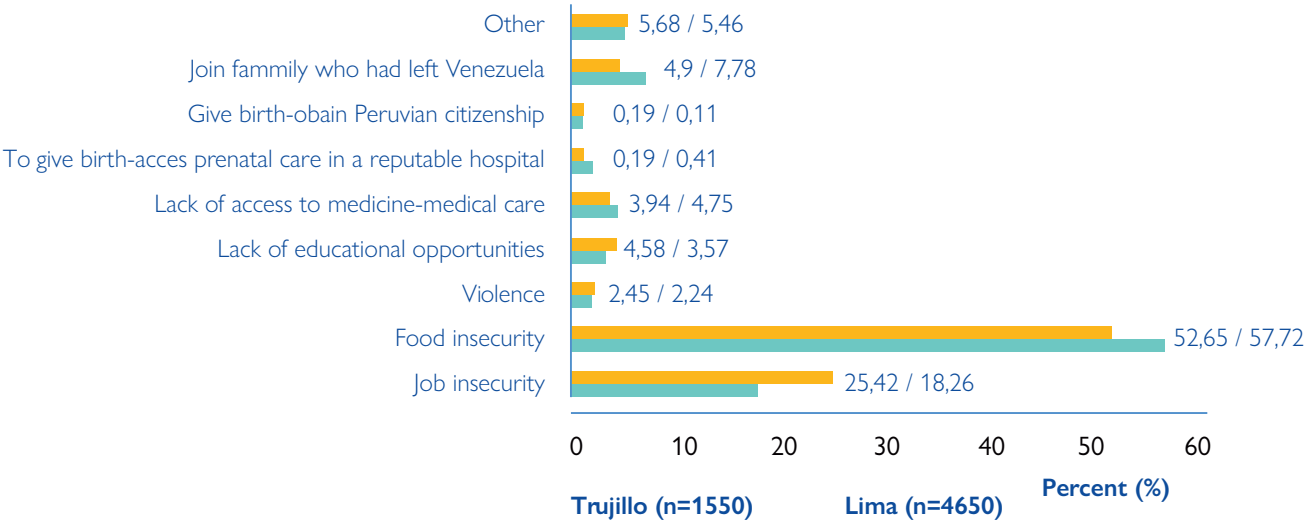

Recruits by subject
200
150
100
50
0
1
23
4
# of Recruits
reg_seed
No
Si

MIGRATION HISTORY AND CHARACTERISTICS

The reasons why the Venezuelan population migrated were diverse.

Figure 8 shows the main reasons according to the survey site. In both cities, the two main reasons for migrating were food insecurity and job insecurity in Venezuela, with significant differences between the two cities: In migrants residing in Lima/Callao, food insecurity as a reason for migrating from Venezuela was more frequent than in Trujillo (57.72% vs 52.65%, $p<0.05$), while in Trujillo, job insecurity was a more frequent reason for migrating from their native country compared to Lima/Callao (25.42% vs 18.26%, $p<0.05$). Another important group of Venezuelans migrated outside their country because their family had previously migrated, with significant differences between survey sites, this reason being more frequent in Lima/Callao than in Trujillo (7.48% vs. 4.90%, $p<0.05$). Other less frequent reasons included lack of access to medical care, migrating to receive prenatal care in another country, migrating so that their child could be born in Peru, lack of educational opportunities, and violence in Venezuela.

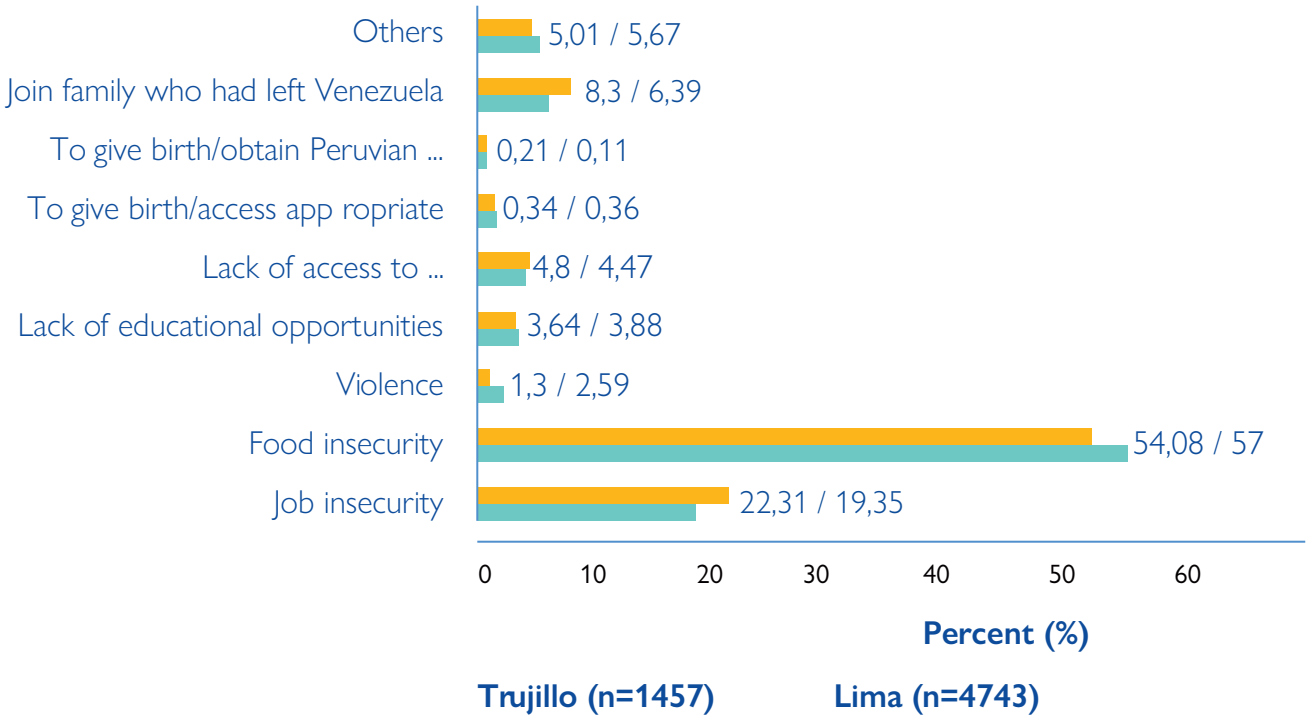
Figure 8. Reported primary motivation for migration to Peru, by site.



**Site status difference at *p<0.05 for job insecurity, food insecurity and join family who had left Venezuela.*

**Job insecurity, food insecurity and join family who had left Venezuela*

Figure 9. Primary motivation for migration, by migration status

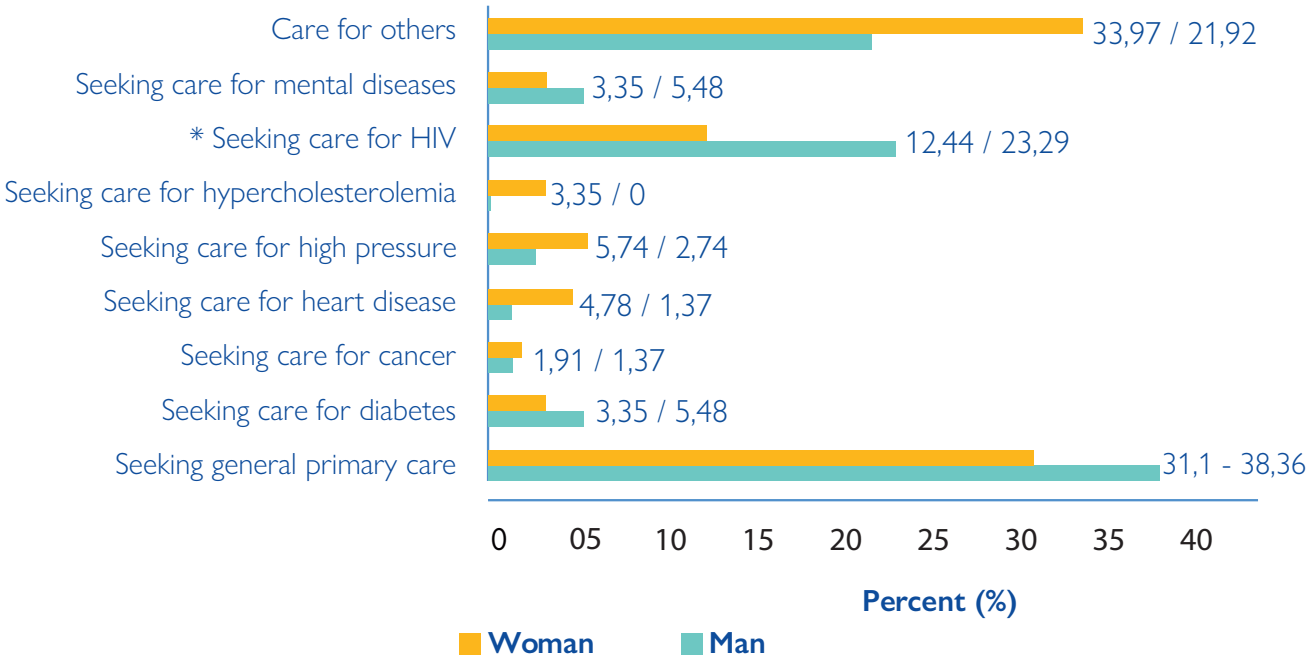


**Migration status difference at *p<0.05 for job insecurity, food insecurity, violence and join family who had left Venezuela*

Figure made unadjusted data

Figure 9 shows the reasons for migrating according to migratory status, defining a regular migrant as a person who moves or has moved across an international border and has been authorized to enter or remain in a State in accordance with the laws of that State and the international agreements to which that State is a party, and in the case of a migrant in an irregular situation is defined as a person who moves or has moved across an international border and has not been authorized to enter or remain in a State in accordance with the laws of that State and the international agreements to which that State is a party [26]. Regarding the most frequent reasons, among those who migrated, food insecurity in their country is the common reason motivating Venezuelans to migrate outside their country. 54.08% of them were in an irregular situation and 57.00% in a regular situation. Among those who migrated due to job insecurity, 23.31% were in irregular status and 19.35% in regular status. Among those who migrated following family members, 8.30% were in irregular migratory status and 6.39% in regular migratory status. No significant differences were observed according to migratory status for any of the reasons analyzed.

Figure 10 Primary health motives for migration among those reporting health as primary factor by sex



**Sex difference at *p<0.05 for Seeking care for HIV*

Figure 10 shows the medical reasons for migrating among those Venezuelans who reported having migrated to receive medical care, according to sex. The largest number of migrants reported migrating in search of primary medical care, with a frequency of 38.36% in men and 31.10% in women. An important group of people reported having migrated in search of HIV healthcare, with a higher percentage in men than in women and with a significant difference (23.29% vs. 12.44%, p<0.05).

Table 4. Displacement history and experiences among migrants by survey site, Peru

	Lima/Callao (n=4650)				Trujillo (n=1550)				Total (N=6200)			
	n	Sample proportion %	Population estimate %	CI 95%	n	Sample proportion %	Population estimate %	CI 95%	n	Sample proportion %	Population estimate %	CI 95%
Migration status												
Regular	3491/4650	75.08	72.8	70.7-4.90	1252/1550	80.77	79.30	75.80-82.80	4743/6200	76.50	73.26	71.27-75.25
Irregular	3491/4650	24.92	27.2	25.1-29.30	298/1550	19.23	20.70	17.20-24.15	1457/6200	23.50	26.74	24.77-28.70
Country of citizenship (select all)												
Venezuela	4650	100			1550	100.00			6200	100.00		
Peru	2654/4650	57.08	54.70	52.20-57.12	172/1550	11.10	10.60	7.88-13.33	2826/6200	45.58	51.58	49.28-53.87
Other (1 Chile, 9 Colombia, 1 Italy, 1 Spain)	8/465	0.17	0.18	0.02-0.34	4/1550	0.26	0.157	-0.02-0.33	12	0.19	0.18	0.03-0.33
Year of migration												
2015	8/4650	0.17	0.15	0.001-0.3	24/1550	1.55	1.54	0.004-3.06	32/6200	0.52	0.25	0.07-0.42
2016	41/4650	0.88	0.88	0.44-1.31	15/1550	0.97	0.83	0.18-1.48	56/6200	0.9	0.88	0.47-1.28
2017	368/4650	7.91	8.31	6.92-9.69	103/1550	6.65	5.57	3.96-7.17	471/6200	7.6	8.12	6.82-9.41
2018	1998/4650	42.97	40.7	38.38-43.01	686/1550	44.26	40.38	36.17-44.61	2684/6200	43.29	40.68	38.51-42.85
2019	1139/4650	24.49	23.65	21.78-25.52	396/1550	25.55	25.66	22.31-29.01	1535/6200	24.76	23.79	22.04-25.55
2020	366/4650	7.87	8.23	6.95-9.5	104/1550	6.71	8.29	5.79-10.79	470/6200	7.58	8.23	7.04-9.43
2021	621/4650	13.35	14.31	12.6-16.01	204/1550	13.16	16.5	13.29-19.73	825/6200	13.31	14.47	12.86-16.07
2022	109/4650	2.34	3.77	2.66-4.87	18/1550	1.16	1.19	0.49-1.88	127/6200	2.05	3.59	2.56-4.62
Arrival method												
Formal border crossing	2880/4650	61.94	59.76	57.42-62.11	984/1550	63.48	57.85	53.73-61.94	3864/6200	62.32	59.62	57.43-61.82
Informal border crossing	1240/4650	26.67	27.9	25.69-30.12	447/1550	28.84	34.59	30.63-38.57	1687/6200	27.21	28.37	26.3-30.45
Plane/ boat/bus/ truck/ car/ walking	511/4650	10.99	11.83	10.37-13.29	114/1550	7.35	6.89	4.91-8.86	625/6200	10.08	11.48	10.12-12.84
Other	19/4650	0.41	0.49	0.14-0.84	5/1550	0.32	0.661	-0.13-1.45	24/6200	0.39	0.5	0.18-0.83
Traveled to Peru with												
Alone	1640/4641	35.34	37.1	35.18-38.94	600/1547	38.78	39.6	36.34-42.84	2240/6188	36.2	37.28	35.52-39.04
Family	2231/4641	48.07	45.9	43.87-47.88	677/1547	43.76	42.9	39.66-46.12	2908/6188	46.99	45.69	43.81-47.56
Extended family	126/4641	2.71	2.21	-0.08-4.49	44/1547	2.84	2.38	-3.66-8.42	170/6188	2.75	2.22	0.06-4.39
Friends	547/4641	11.79	12.1	9.83-14.32	219/1547	14.16	13.9	9.42-18.47	766/6188	12.38	12.23	10.12-14.34
Group who did not know well	215/4641	4.63	5.31	2.92-7.71	36/1547	2.33	2.17	-3.1 -7.49	251/6188	4.06	5.09	2.83-7.34
All family members travel with migrant (if travelled with family)												
No	1139/2219	51.33	51.2	48.27-54.13	350/676	51.78	50.6	45.16-55.97	1489/2895	51.43	51.16	48.41-53.91
Yes	1080/2219	48.67	48.8	45.87-51.73	326/676	48.22	49.4	44.03-54.84	1406/2895	48.57	48.84	46.09 -51.59

Tabla 4. Displacement history and experiences among migrants by survey site, Peru

	Lima/Callao (n=4650)				Trujillo (n=1550)				Total (N=6200)			
	n	Sample proportion %	Population estimate %	CI 95%	n	Sample proportion %	Population estimate %	CI 95%	n	Sample proportion %	Population estimate %	CI 95%
Immediate family members joined at different time (ref: no	*1714/3511*	*48.82*	*46.9*	*44.36-49.4*	*514/1207*	*42.58*	*38*	*33.66-42.38*	*2228/4718*	*47.22*	*46.27*	*43.91-48.63*
Plan to remain in current city (ref: no)	*4279/4650*	*92.02*	*92.95*	*91.78-94.11*	*1468/1550*	*94.71*	*93.55*	*91.59-95.51*	*5747/6200*	*92.69*	*92.99*	*91.9-94.08*
Time plan to remain in city before leaving												
Less than 1 month	*6/367*	*1.63*				*3/78*	*3.85*			*9/445*	*2.02*	
1 month - 6 months	*46/367*	*12.53*				*10/78*	*0.65*			*56/445*	*12.58*	
7 months - 1 year	*97/367*	*26.43*				*14/78*	*0.9*			*111/445*	*24.94*	
More than 1 year	*219/367*	*59.4*				*51/78*	*3.29*			*269/445*	*60.45*	
Destination city if planning to leave												
Lima	*247/367*	*74.66*				*5/78*	*6.41*			*279/445*	*62.7*	
Arequipa	*1/367*	*0.27*				*0*	*0*			*1/445*	*0.22*	
Trujillo	*0*	*0*				*40/78*	*51.28*			*40/445*	*8.99*	
Piura	*2/367*	*0.54*				*0*	*0*			*2/445*	*0.45*	
Tumbes	*3/367*	*0.82*				*0*	*0*			*3/445*	*0.67*	
Otro	*87/367*	*23.71*				*33/78*	*42.31*			*120/445*	*26.97*	
Ever detained in Peru because of migration status (ref: no)	*234/4650*	*5.03*	*5.00*	*3.78-5.69*	*128/1550*	*8.26*	*7.95*	*5.96-9.94*	*362/6200*	*5.84*	*5.21*	*4.31-6.11*

Tabla 4. Displacement history and experiences among migrants by survey site, Peru

	Lima/Callao (n=4650)				Trujillo (n=550)				Total (N=6200)			
	n	Sample proportion %	Population estimate %	CI 95%	n	Sample proportion %	Population estimate %	CI 95%	n	Sample proportion %	Population estimate %	CI 95%
Current documentation in possession												
Temporary stay permit	*432/3488*	*12.39*			*231/1252*	*18.45*			*663/4740*	*13.99*		
Immigration card	*1721/3488*	*49.34*			*371/1252*	*29.63*			*2092/4740*	*44.14*		
Refugee applicant card	*242/3488*	*6.94*			*65/1252*	*5.19*			*307/4740*	*6.48*		
Temporary resident permit card	*524/3488*	*15.02*			*196/1252*	*15.65*			*720/4740*	*15.19*		
dentity card (cédula de identidad)	*1526/3488*	*43.75*			*633/1252*	*50.56*			*2159/4740*	*45.55*		
Venezuelan passport	*841/3488*	*24.11*			*274/1252*	*21.88*			*1115/4740*	*23.52*		
Other	*61/3488*	*1.75*			*36/1252*	*2.88*			*97/ 4740*	*2.05*		

The characteristics and migratory experience of the Venezuelan participants according to the survey site are shown in Table 4. 73.26% (CI: 71.27 - 75.25) of the Venezuelan migrants had regular migratory status (they had an identity document and/or entered Peru by official means), being more frequent in Trujillo 79.30% (CI: 75.80 - 2.80) than in Lima/Callao 72.80% (CI: 70.70 - 74.90). Among 3,491 Venezuelan participants with regular migratory status in Lima/Callao, 49.34% of the participants had a Venezuelan identity card, while in Trujillo only 29.63% had such a document. The largest number of Venezuelans migrated to Peru in 2018 40.68% (CI: 38.51 - 42.85) and in 2019 23.79% (CI: 22.04 - 25.55). 45.69% (CI: 43.81 - 47.56) of Venezuelans arrived in Peru with family members, and 12.23% (CI: 10.12 - 14.34) arrived in Peru with friends; however, 37.28% (CI: 35.22 - 39.04) arrived alone and 5.09% (CI: 2.83 - 7.34) arrived accompanied by strangers. 5.21% (CI: 4.31 - 6.11) of Venezuelans have been detained at some point in the country due to their migratory status, this being more frequent in Trujillo 7.95% (CI: 5.96 - 9.94) than in Lima/Callao 5.0% (CI: 3.78 - 5.69).

Table 5. Displacement history and experiences among migrants by migration status, Peru

	Regular Status				Irregular Status				Total (N=6200)			
	n	Sample proportion %	Population estimate %	CI 95%	n	Sample proportion %	Population estimate %	CI 95%	n	Sample proportion %	Population estimate %	CI 95%
Country of citizenship												
Venezuela	4743	100			1457	100			6200	100		
Peru	2479/4743	52.27	62.63	60.25-65.01	347/1457	23.82	21.71	18.77 - 24.66	2826/6200	45.58	51.58	49.28 - 53.87
Other (1 Chile, 9 Colombia, 1 Spain, 1 Italy)	11/4743	0.23	0.18	-0.82-1.19	1/1457	0.07			12/6200	0.19		
Year of migration												
2015	27/4743	0.57	0.25	0.03 - 0.46	5/1457	0.34	0.23	0.12 - 0.34	32/6200	0.52	0.25	0.07 - 0.42
2016	49/4743	1.03	0.93	0.48 - 1.38	7/1457	0.48	0.73	0 - 1.45	56/6200	0.9	0.88	0.47 - 1.28
2017	397/4743	8.37	9	7.59 -10.4	74/1457	5.08	5.68	3.39 - 7.96	471/6200	7.6	8.12	6.82 - 9.41
2018	2280/4743	48.07	47.22	44.68 - 49.75	404/1457	27.73	22.81	19.3 - 26.32	2684/6200	43.29	40.68	38.51 - 42.85
2019	1145/4743	24.14	23.07	20.9 - 25.25	390/1457	26.77	25.76	22.04 - 29.48	1535/6200	24.76	23.79	22.04 - 25.55
2020	307/4743	6.47	7.13	5.81 - 8.46	163/1457	11.19	11.32	8.19 - 14.44	470/6200	7.58	8.23	7.04 - 9.43
2021	494/4743	10.42	10.52	8.92 - 12.12	331/1457	22.72	25.23	21.24 - 29.23	825/6200	13.31	14.47	12.86 - 16.07
2022	44/4743	0.93	1.88	1.23 - 2.54	83/1457	5.7	8.24	5.04 - 11.44	127/6200	2.05	3.59	2.56 - 4.62
Arrival method												
Formal border crossing	3160/4743	66.6	65.14	62.63 - 67.64	704/1457	48.3	44.65	41.46 - 47.84	3864/6200	62.3	59.62	57.43 - 61.82
Informal border crossing	1080/4743	22.8	22.55	21.14 - 23.95	607/1457	41.7	44.28	41.23 - 47.33	1687/6200	27.2	28.37	26.3 - 30.45
Airplane/boat/ bus/truck/car/ walking	490/4743	10.3		10.41 - 13.54	135/1457	9.3	10.09	8.17 - 12.02	625/6200	10.1	11.48	10.12 - 12.84
Other	13/4743	0.3	0.34	-1.68 - 2.36	11/1457	0.8	0.98	-2.43 - 4.4	24/6200	0.4	0.5	0.18 - 0.83
Traveled to Peru with												
Alone	1742/4737	36.8	38.66	1.2 - 36.29	498/1451	34.3	33.43	29.76 - 37.1	2240/6188	36.2	37.28	35.52 - 39.04
Family	2187/4737	46.2	44.5	1.21 - 42.12	721/1451	46.7	48.77	45.14 - 52.4	2908/6188	47	45.69	43.81 - 47.56
Extended family	129/4737	2.7	1.98	0.47 - 1.06	41/1451	2.8	2.87	1.39 - 4.36	170/6188	2.8	2.22	0.06 - 4.39
Friends	602/4737	12.7	12.23	1.05 - 10.18	164/1451	11.3	12.06	9.61 - 14.52	766/6188	12.4	12.23	10.12 - 14.34
With group who did not know well	187/4737	4	4.91	1.17 - 2.63	64/1451	4.4	5.56	1.79 - 9.33	251/6188	4.1	5.09	2.83 - 7.34
All family members travel with migrant (if travelled with family)	1053/2181	48.3	47.94	44.38 - 51.5	353/714	49.4	50.97	45.64 - 56.29	1406/2895	48.6	48.84	46.09 - 51.59
Immediate family members joined at different time (ref: no)	1778/3647	48.8	48	45.31 - 50.69	450/1071	42	41.05	35.9 - 46.2	2228/4718	47.2	46.27	43.91 - 48.63
Plan to remain in current city (ref: no)	4531/4743	95.5	95.31	93.89 - 96.73	1216/1457	83.5	86.66	84.38 - 88.93	5747/6200	92.7	92.99	91.9 - 94.08

Table 5. Displacement history and experiences among migrants by migration status, Peru

	Regular Status				Irregular Status				Total (N=6200)			
	n	Sample proportion %	Population estimate %	CI 95%	n	Sample proportion %	Population estimate %	CI 95%	n	Sample proportion %	Population estimate %	CI 95%
Time remain in site												
Less than 1 month	*5/205*	*2.4*			*4/240*	*1.7*			*9/445*	*2*		
1 month - 6 months	*32/205*	*15.6*			*24/240*	*10*			*56/445*	*12.6*		
7 meses - 1 año	*40/205*	*19.5*			*71/240*	*29.6*			*111/445*	*24.9*		
More than 1 year	*128/205*	*62.4*			*141/240*	*58.8*			*269/445*	*60.4*		
Destination city if planning to leave												
Lima	*118/205*	*57.6*			*161/240*	*67.1*			*1/445*	*0.2*		
Arequipa	*1/205*	*0.5*			*0*	*0*			*40/445*	*9*		
Trujillo	*25/205*	*12.2*			*15/240*	*6.3*			*2/445*	*0.4*		
Piura	*1/205*	*0.5*			*1/240*	*0.4*			*3/445*	*0.7*		
Tumbes	*1/205*	*0.5*			*2/240*	*0.8*			*120/445*	*27*		
Other	*59/205*	*28.8*			*61/240*	*25.4*						
Ever detained in Peru because Or migration status (ref:no)	*274/4743*	*5.8*	*4.4*	*3.11 - 5.69*	*88/1457*	*6*	*6.52*	*4.28 - 8.76*	*362/6200*	*5.8*	*5.21*	*4.31 - 6.11*
Current documentation in possession												
Temporary stay permit	*663/4740*	*13.99*										
Immigration card	*2092/4740*	*44.14*										
Refugee applicant card	*307/4740*	*6.48*										
Temporary residence permit card	*720/4740*	*15.19*										
Indetify card (céddula de indetidad)	*2159/4740*	*45.55*										
Venezuelan Passport	*1115/4740*	*23.52*										
Other	*94/4740*	*2.05*										

The characteristics and migration experience of Venezuelan migrants by migration status are shown in Table 5. Among Venezuelans with regular migratory status, the highest percentage of them arrived in the country in 2018 47.22% (CI: 44.68 - 49.75) and 2019 23.07%, (CI: 20.90 - 25.25), while those with irregular migratory status arrived more frequently in the following 3 years: year 2018 22.81% (CI: 19.30 - 26.32), 2019 25.76% (CI: 22.04 - 29.48) and 2021 25.23% (CI: 21.24 - 29.23). Among 4740 Venezuelans with regular migratory status, 44.14% had an alien registration card, 15.19% had a temporary residence permit card and 13.99% had a temporary permanence permit. There was no difference in having been detained by the police according to migratory status: 4.39% (CI: 3.10 - 5.68) in those with regular status and 6.52% (CI: 4.28 - 8.76) in those with irregular status.

Table 6. Health characteristics of migrants by site, Peru

	Lima/Callao (n=4650)				Trujillo (n=1550)				Total (N=6200)			
	n	Sample proportion %	Population estimate %	CI 95%	n	Sample proportion %	Population estimate %	CI 95%	n	Sample proportion %	Population estimate %	CI 95%
Health status (self-report)												
Excellent	599/4650	12.88	13.9	12.36 - 15	308/1550	19.87	20.13	17.01 - 23.23	907/6200	14.63	14.34	12.89 - 15.79
Very good	883/4650	18.99	18.35	16.70 - 20	330/1550	21.29	21	17.84 - 24.16	1213/6200	19.56	18.54	16.99 - 20.09
Good	1778/4650	38.24	38.11	35.95 - 40	580/1550	37.42	37.16	33.45 - 40.88	2358/6200	38.03	38.04	36.01 - 40.07
Fair	1328/4650	28.56	28.61	26.54 - 31	324/1550	20.9	21.32	18.20 - 24.45	1652/6200	26.65	28.09	26.16 - 30.03
Poor	62/4650	1.33	1.01	0.59 - 1.4	8/1550	0.52	0.37	0.07 - 0.66	70/6200	1.13	0.96	0.57 - 1.36
Body mass index												
Underweight (<18.5)	166/4650	3.57	4.37	3.37 - 5.4	39/1550	2.52	3.31	1.63 - 5.01	205/6200	3.31	4.29	3.36 - 5.23
Normal weight (18.5-24.9)	1765/4650	37.96	38.57	36.28 - 41	566/1550	36.52	40.47	36.79 - 44.15	2331/6200	37.6	38.7	36.57 - 40.84
Overweight (25.0-29.9)	1531/4650	32.92	32.25	30.12 - 34	578/1550	37.29	33.37	29.85 - 36.88	2109/6200	34.02	32.33	30.34 - 34.32
Obesity (>=30)	1188/4650	25.55	24.81	22.77 - 27	367/1500	23.68	22.85	19.79 - 25.91	1555/6200	25.08	24.67	22.76 - 26.58
"Anxiety in male (PHQ-4) (ref: no)"	188/1547	12.2	10.5	8.37 - 12.67	58/664	8.7	9.3	5.76 - 12.85	246/2211	11.13	10.4	8.4 - 12.4
"Anxiety in female (PHQ-4) (ref: no)"	644/3103	20.8	20	17,80 - 22.1	110/886	12.4	11.4	8.52 - 14.32	754/3989	18.9	19.4	17.4 - 21.4
"Depression in male (PHQ-4) (ref: no)"	184/1547	11.9	9.42	6.63 - 21.21	68/664	10.2	11.7	5.81 - 17.54	252/2211	11.4	9.6	2.8 - 16.4
"Depression in female (PHQ-4) (ref: no)"	545/3103	17.6	17.5	15.07 - 19.98	98/886	11.1	10.7	6.37 - 15.03	643/3989	16.12	17	14.7 - 19.3
"Monthly alcohol intake in male (ref: no)"	1027/1547	66.4	65.7	61.97 - 69.43	434/664	65.4	63.5	57.81 - 69.28	1461/2211	66.08	65.5	62.1 - 69
Monthly alcohol intake in female (ref: no)	1217/3103	39.2	38.2	35.48 - 40.83	379/886	42.8	41.7	36.50 - 46.8	1596/3989	40.01	38.4	35.9 - 41
Ever used drugs (ref: no)	235/4650	5.05	4.9	3.85 - 6	86/1550	5.55	5.49	3.73 - 7.25	321/6200	5.18	4.94	3.96 - 5.93
Drug use in past 12 months	113/237	48.09	46	36.89 - 55	39/86	45.35	37.9	27.18 - 48.32	152/321	47.35	45.43	36.91 - 53.94
Ever injected drugs (ref: no)	13/4650	0.28	0.45	0.07 - 0.8	11/1550	0.71	0.63	0.12 - 1.11	24/6200	0.39	0.46	0.11 - 0.8
Injected in past 12 months (among lifetime)	3/13	23.08	9.81	4.26 - 15	3/11	27.27	12.6	12.30 - 12.3	6/24	25	10.01	4.86 - 15.16
Ever blood transfusion in Venezuela	416/4650	8.95	8.91	4.26 - 15	118/1550	7.61	7.28	5.30 - 9.25	534/6200	8.61	8.79	3.64 - 13.95
Ever surgery in Venezuela	2127/4650	45.74	44	41.74 - 9.4	576/1550	37.16	34.2	30.60 - 7.77	2703/6200	43.6	43.31	41.23 -45.38

Table 6. Health characteristics of migrants by site, Peru

Ever TB test	414/4650	8.9	8.26	7.11 - 9.4	109/1550	7.03	6.97	4.71 - 9.23	523/6200	8.44	8.17	7.09 -9.25
Ever diagnosed with TB (among tested)	22/414	5.31	4.53	1.18 - 7.9	9/109	8.26	9.23	-0.94 - 19.46	31/523	5.93	4.86	1.67 -8.06
Country of TB diagnosis												
Venezuela	16/22	72.73			5/9	55.56			21/31	67.74		
Peru	6/22	27.27			4/9	44.44			10/31	32.26		
Ever treated for TB	20/22	90.91			6/9	66.67			26/31	83.87		
Finished TB treatment	20/20	100			6/6	100			26/26	100		
Treated for TB in Venezuela	15/20	75			3/6	50			18/26	69.23		
Treated for TB in Peru	5/20	25			3/6	50			8/26	30.77		
COVID-19												
"Believed had COVID-19 based on symptoms (ref: no)"	2066/4548	45.43	43.9	41.93 - 46	578/1499	38.56	36	32.65 - 39.43	2644/6047	43.72	43.34	41.48 - 45.2
"Tested (COVID-19) among those who believed to have COVID-19"	1073/2066	51.94	51.6	48.26 - 55	286/578	49.48	48.9	42.96 - 54.85	1359/2644	51.4	51.41	48.29 - 54.53
Results (COVID-19)												
Negative	525/1073	48.93	53.97	50.45 - 57	159/286	55.59	56.32	49.10 - 63.53	684/1359	50.33	54.14	50.84 - 57.44
Positive	527/1073	49.11	44.6	41.22 - 48	124/286	43.36	43	36.04 - 49.99	651/1359	47.9	44.49	41.31 - 47.66
Does not know	21/1073	1.96	1.43	0.06 - 2.8	3/286	1.05	0.68	-1.03 - 2.37	24/1359	1.77	1.38	0.1 - 2.66

Table 6 presents the health characteristics of migrants according to the survey site. According to self-reporting, only 0.96% (CI: 0.57 - 1.36) of Venezuelans perceived to have a poor state of health, however, differences were observed in the population estimates by city: in Lima/Callao, 13.9% (CI: 12.36 - 15.44) had an excellent state of health, while in Trujillo, it was 20.13% (CI: 17.01 - 23.23). Likewise, 28.61% (CI: 26.54 - 30.67) of Venezuelans in Lima/Callao have a regular health status, while in Trujillo it was 21.32% (CI: 18.20 - 24.45). More than half of Venezuelans have a BMI higher than recommended: 32.33% (CI: 30.34 - 34.32) are overweight and 24.67% (CI: 22.76 - 26.58) are obese. According to the results of the PHQ-4, in Lima/Callao, the prevalence of anxiety in women is twice as much as in men, being 20.00% (CI: 17.80 - 22.10) vs. 10.50% (CI: 8.37-12.67) respectively, while in Trujillo the prevalence of anxiety between men and women showed few differences, being 9.30% (CI: 5.76 - 12.85) vs. 11.40% (CI: 8.52-14.32) respectively.

The prevalence of depression was similarly distributed in Lima/Callao with 9.42% (CI: 6.63-21.21) vs. 17.50% (CI: 15.07-19.98) for men and women, respectively. In Trujillo, the prevalence of depression in males was slightly higher, 11.70% (CI: 5.81 - 17.54) vs. 10.70% (CI: 6.37-15.03). 65.5% (CI: 62.10 - 69.00) of men consumed alcohol monthly, while 38.4% (CI: 35.9 - 41.0) of women did. 4.94% (CI: 3.96 - 5.93) had consumed drugs at some time in their lives, 45.43% (CI: 36.91 - 53.94) in the last 12 months; while injecting drug use was infrequent 0.46% (CI: 0.11 - 0.80). Only 8.17% (CI: 7.09 - 9.25) of Venezuelans had ever been screened for TB, of which 4.86% (CI: 1.67 - 8.06) were diagnosed with TB. In addition to this, of those who had a history of TB, 83.87% received treatment and 100% of them were able to complete it. 43.34% (CI: 41.48 - 45.30) believed they had COVID-19, with a slight difference between Lima/Callao 43.9% (CI: 41.93 - 45.90) and Trujillo 36%, (CI: 32.65 - 39.43). Among those who thought they had COVID-19, 51.41% (CI: 48.29 - 54.53) had a screening test, where 44.49% (CI: 41.31 - 47.66) had a positive result.

Table 7. Health characteristics of migrants by migration status, Peru

	Regular Status				Irregular Status				Total (N=6200)			
	n	Sample proportion %	Population estimate %	CI 95%	n	Sample proportion %	Population estimate %	CI 95%	n	Sample proportion %	Population estimate %	CI 95%
Health status (self-report)												
Excellent	688/4743	14.51	14.7	12.83 - 16.57	219/1457	15.03	13.49	11.1 - 15.88	907/6200	14.63	14.34	12.89 - 15.79
Very good	952/4743	20.07	20.16	18.71 - 21.6	261/1457	17.91	17.25	15.06 - 19.44	1213/6200	19.56	18.54	16.99 - 20.09
Good	1796/4743	37.87	37.37	34.9 - 39.85	562/1457	38.57	39.78	35.75 - 43.81	2358/6200	38.03	38.04	36.01 - 40.07
Fair	1251/4743	26.38	27.92	25.66 - 30.18	401/1457	27.52	28.63	25.22 - 32.04	1652/6200	26.65	28.09	26.16 - 30.03
Poor	56/4743	1.18	1.01	-0.53 - 2.56	14/1457	0.96	0.85	-3.68 - 5.37	70/6200	1.13	0.96	0.57 - 1.36
Body mass index												
Underweight (<18.5)	141/4743	2.97	3.63	1.82 - 5.45	64/1457	4.39	6.07	3.5 - 8.65	205/6200	3.31	4.29	3.36 - 5.23
Normal weight (18.5-24.9)	1747/4743	36.83	38.16	35.77 - 40.55	584/1457	40.08	40.31	36.73 - 43.9	2331/6200	37.6	38.7	36.57 - 40.84
Overweight (25.0-29.9)	1639/4743	34.56	33.72	31.52 - 35.92	470/1457	32.26	28.54	25.44 - 31.63	2109/6200	34.02	32.33	30.34 - 34.32
Obesity (>=30)	1216/4743	25.64	24.49	22.48 - 26.5	339/1457	23.27	25.08	21.09 - 29.07	1555/6200	25.08	24.67	22.76 - 26.58
Anxiety (PHQ-4) (ref: no)	750/4743	15.81	16.6	14.3 - 17.9	239/1457	16.4	16.9	13.4 - 20.5	989/6200	15.95	15.95	15.06 - 16.88
Depresion (PHQ-4) (ref: no)	657/4743	13.85	13.8	11.6 - 16.1	228/1457	15.65	16.6	13.1 - 20.1	885/6200	14.27	14.27	13.43 - 15.17
Monthly alcohol intake (ref: no)	2352/4743	49.59	48.3	46 - 50.5	752/1457	46.26	45.7	42.2 - 49.3	3026/6200	48.81	49.31	48.06 - 50.55
Ever used drugs (ref: no)	227/4743	4.79	4.97	3.35 - 6.58	94/1457	6.45	4.88	3.18 - 6.57	321/6200	5.18	4.94	3.96 - 5.93
Drug use in past 12 months	109/227	48.02			43/94	45.74			125/321	47.35	45.43	36.91- 53.94
Ever injected drugs (ref: no)	13/4743	0.27	0.13	-0.01 - 0.27	11/1457	0.75	1.33	0.48 - 2.18	24/6200	0.39	0.46	0.11 - 0.8
Injected in past 12 months	3/13	23.08			3/11	27.27			6/24	25	10.01	4.86 - 15.16
Ever blood transfusion in Venezuela (ref: no)	401/4743	8.45	8.13	6.52 - 9.74	133/1457	9.13	10.48	8.25 - 12.71	534/6200	8.61	8.79	3.64 - 13.95
Ever surgery in Venezuela (ref: no)	2113/4743	44.55	43.96	41.54 - 46.38	590/1457	40.44	41.24	37.51 - 44.98	2703/6200	43.6	43.31	41.23 - 45.38
Ever TB Test (ref: no)	412/4743	8.69	8.04	5.81 - 10.27	111/1457	7.62	8.48	5.28 - 11.69	523/6200	8.44	8.17	7.09 - 9.25
Ever diagnosed with TB (among tested; ref: no)	21/412	5.1			10/111	9.01			31/523	5.93	4.86	1.67 - 8.06

Table 7. Health characteristics of migrants by migration status, Peru

	Regular Status				Irregular Status				Total (N=6200)			
	n	Sample proportion %	Population estimate %	CI 95%	n	Sample proportion %	Population estimate %	CI 95%	n	Sample proportion %	Population estimate %	CI 95%
Country of diagnosis												
Venezuela	*13/21*	*61.9*			*8/10*	*80*			*21/31*	*67.74*		
Peru	*8/21*	*38.1*			*2/10*	*20*			*10/31*	*32.26*		
Ever TB treatment	*18/21*	*85.7*			*8/10*	*80*			*26/31*	*83.87*		
Ever TB treatment	*18/18*	*100*			*8/8*	*100*			*26/26*	*100*		
Treatet for TB in Venezuela	*11/18*	*61.11*			*7/8*	*87.5*			*18/26*	*69.23*		
Treatet for TB in Venezuela	*7/18*	*38.89*			*1/8*	*12.5*			*8/26*	*30.77*		
COVID-19												
"Believed had COVID-19 based on symptoms (ref: no)"	*2073/4594*	*45.12*	*45.67*	*43.13 - 48.21*	*571/1453*	*39.3*	*37.13*	*33.87 - 40.38*	*2644/6047*	*43.72*	*43.34*	*41.48 - 45.2*
"Tested (COVID-19) among those believed to have COVID -19"	*1075/2073*	*51.86*	*52.39*	*48.92 - 55.85*	*284/571*	*49.74*	*48.11*	*42.84 - 53.38*	*1359/2644*	*51.4*	*51.41*	*48.29 - 54.53*
Results (COVID-19)												
Negative	*522/1075*	*48.56*	*50.02*	*45.57 - 54.46*	*162/284*	*57.04*	*69.1*	*63.6 - 74.61*	*684/1359*	*50.33*	*54.14*	*50.84 - 57.44*
Positive	*535/1075*	*49.77*	*48.6*	*44.18 - 53.03*	*116/284*	*40.85*	*29.82*	*24.35 - 35.3*	*651/1359*	*47.9*	*44.49*	*41.31 - 47.66*
Does not know	*18/1075*	*1.67*	*1.38*	*0.69 - 2.07*	*6/284*	*2.11*	*1.07*	*0.38 - 1.76*	*2471359*	*1.77*	*1.38*	*0.1 - 2.66*

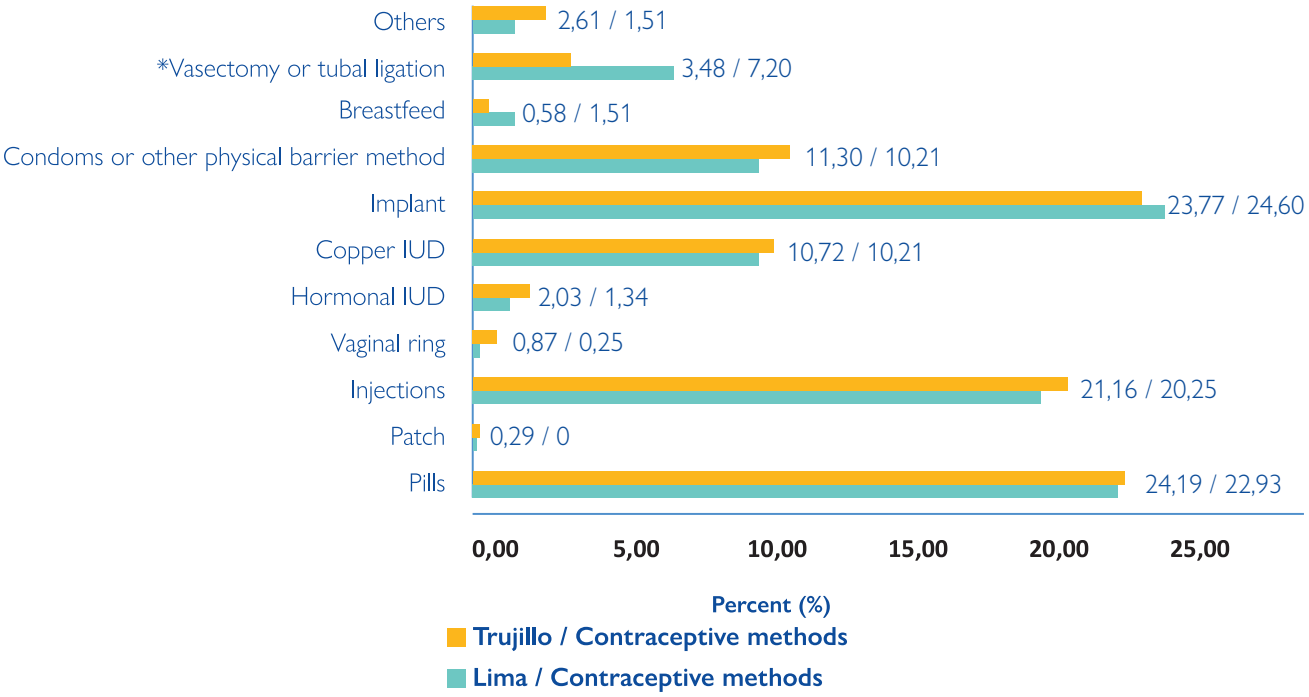
The health characteristics of migrants according to their migratory status are shown in Table 7. No significant differences were observed according to the migratory status for any health characteristic, except that, among migrants with a COVID-19 test, it was more common to obtain a positive result in those with regular migratory status 48.6% (CI: 44.18 - 53.03) than in those with irregular status 29.82% (CI: 29.82% - 35.30), apart from finding a slightly higher prevalence of depression in Venezuelans with irregular migratory status, 13.80% (CI: 11.60 - 16.10) vs. 16.60% (CI: 13.10 - 20.10).

Table 8. Access to and use of prenatal care among women by site, Peru

	Lima/Callao (n=4743)				Trujillo (n=1457)				Total (N=6200)			
	n	Sample proportion %	Population estimate %	CI 95%	n	Sample proportion %	Population estimate %	CI 95%	n	Sample proportion %	Popula-tion estimate %	CI 95%
Ever sexually active (ref: no)	4275/4650	91.94	91.12	89.7 - 92.51	1372/1550	88.52	86.7	83.94 - 89.48	5647/6200	91.08	90.81	89.5 - 92.11
Using contraception	1211/2868	42.22	42	39.1 - 44.81	350/798	43.86	44	39.33 - 48.73	1561/3666	42.58	42.14	39.49 - 44.8
Pregnant participant/ partner since arriving in Peru (ref: no)	1062/4650	22.84	22.2	20.1 - 24.2	265/1550	17.1	16.1	13.02 - 19.22	1327/6200	21.4	21.77	19.85 - 23.69
Number of births in Peru (among those who report pregnancy since arrival)												
0	156/1062	14.69	13.15	9.91 - 16.39	46/265	17.36	13.27	2.813 - 23.61	202/1327	15.22	13.16	10.12 - 16.19
1	853/1062	80.32	81.26	77.2 - 85.33	214/265	80.75	85.68	74.89 - 96.63	1067/1327	80.41	81.57	77.88 - 85.25
2	50/1062	4.71	5.55	2.91 - 8.2	4/265	1.51	0.61	-0.44 - 1.63	54/1327	4.07	5.2	2.58 - 7.83
4 or more	3/1062	0.28	0.04	-0.09 - 0.17	1/265	0.38	0.44	0.36 - 0.52	4/1327	0.3	0.07	-0.05 - 0.19
Received prenatal care (among those reporting live births)	790/1062	74.39	73.4	69.1 - 77.77	196/265	73.96	77.5	69.45 - 85.71	986/1327	74.3	73.69	69.61 - 77.77
Number of prenatal visits (among those pregnant since arrival)												
0	180/1062	16.95	15.71	12.3 - 19.15	45/265	16.98	12.37	5.61 - 18.98	225/1327	16.96	15.47	12.24 - 18.71
1	74/1062	6.97	8.77	6.04 - 11.51	11/265	4.15	4.21	2.31 - 6.12	85/1327	6.41	8.45	5.9 - 10.99
2	75/1062	7.06	6.79	4.12 - 9.46	34/265	12.83	15.57	7.2 - 24.01	109/1327	8.21	7.41	4.86 - 9.96
3	98/1062	9.23	11.53	8.46 - 14.59	11/265	4.15	5.34	0.18 - 10.53	109/1327	8.21	11.09	8.22 - 13.96
4 or more	635/1062	59.79	57.2	52.4 - 62.02	164/265	61.89	62.51	50.93 - 74.12	799/1327	60.21	57.58	53.02 - 62.13

Table 8 shows access to and use of prenatal care services among women by site. Overall, 42.14% (CI: 39.49 - 44.80) of the female migrant population uses some contraceptive method. Among women who had a pregnancy at some point since their arrival in Peru, the majority 81.57% (CI: 77.88 - 85.25) had only one child, and 73.69% (CI: 69.61 - 77.77) received some type of prenatal care, only 57.58% (CI: 53.02 - 62.12) had 4 or more prenatal care visits. No other significant differences were observed according to site.

Figure 11 Contraceptive methods used by migrant women in each site, Peru



**Contraceptive methods difference at *p<0.05 for vasectomy or tubal ligation*

Figure 11 shows the types of contraceptive methods used by site in 1195 Venezuelan women in Lima/Callao and 345 in Trujillo. The main methods used were implants (24.60% in Lima/Callao and 23.77% in Trujillo), oral contraceptives (22.93% in Lima/Callao and 23.19% in Trujillo) and injectables (20.25% in Lima/Callao and 21.16% in Trujillo). Although tubal ligation or vasectomy were not used as frequently, a significant difference was observed between cities, being more frequent in Lima/Callao than in Trujillo (7.20% vs. 3.48%, p<0.05).

Figure 12 Reasons for no contraceptive use among women in each site

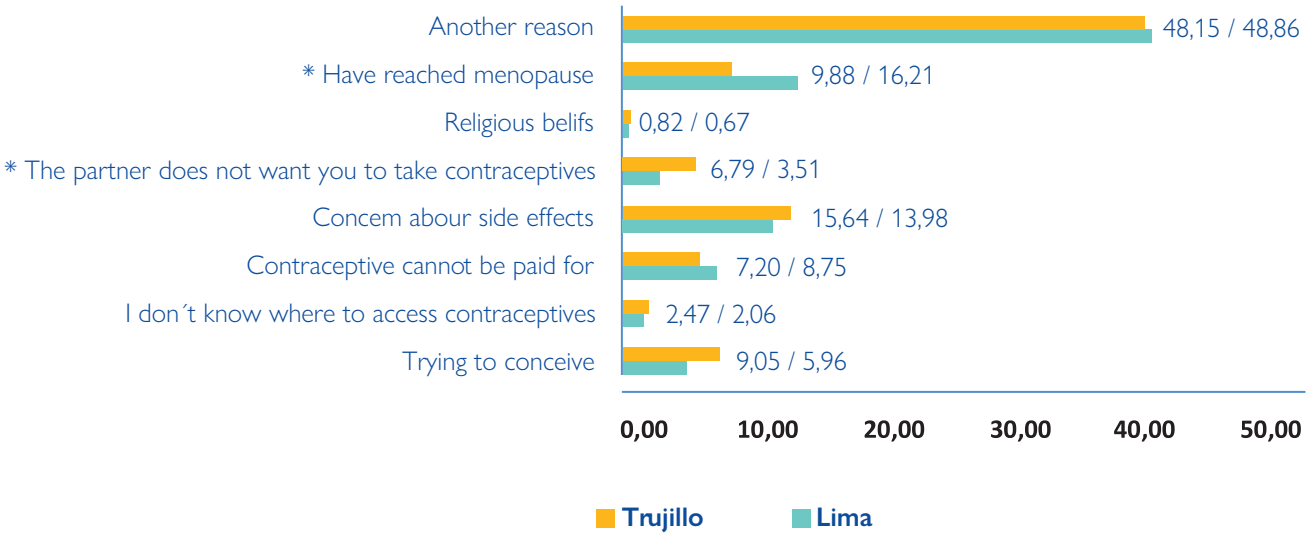


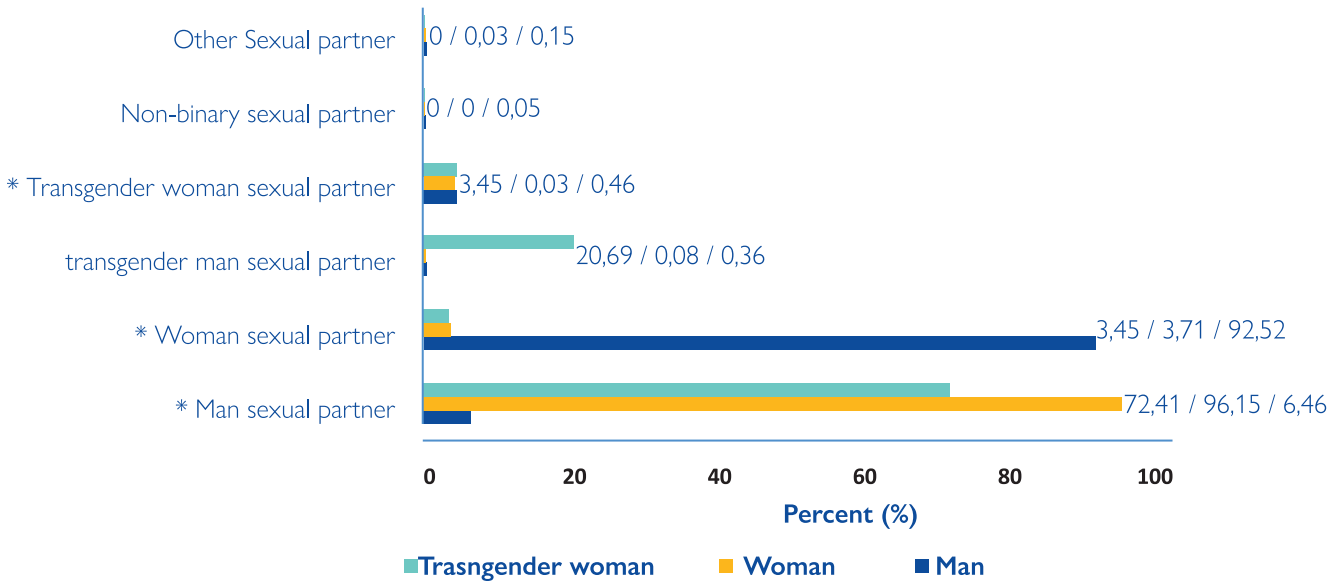
Figure 12 shows the reasons for not using contraceptive methods among 1795 Venezuelan women in Lima/Callao and 486 in Trujillo. A percentage of migrants reported not using contraceptive methods because they had already reached menopause, being higher in Lima/Callao than in Trujillo (16.21% vs. 9.88%, $p<0.05$). An important group of women reported not using them for fear of side effects, with a significant difference according to city (13.98% in Lima/Callao vs. 15.64% in Trujillo, $p<0.05$). Although it was not a very frequent reason, there was a significant difference by city in those women who reported that their partner did not want them to use contraceptive methods (3.51% in Lima/Callao vs. 6.79% in Trujillo). A large percentage of women reported reasons other than those included in the survey (48.86% in Lima/Callao and 48.15% in Trujillo).

Table 9. Sexual behaviors and behavioral risks for HIV by site, Peru

	Lima/Callao (n=4650)				Trujillo (n=1550)				Total (N=6200)			
	n	Sample proportion %	Population estimate %	CI 95%	n	Sample proportion %	Population estimate %	CI 95%	n	Sample proportion %	Population estimate %	CI 95%
Ever sexually active (ref: no)	4275/4650	91.94	91.12	89.73 - 92.51	1372/1550	88.52	86.7	83.94 - 89.48	5647/6200	91.08	90.81	89.5 - 92.11
Median # of sexual partners past 12months (p25-p75)	1 (1-2)				1 (1-2)				1 (1-2)			
Condom use at last sex (ref: no) regardless of partner gender, does not include sex work	1279/4268	29.97	29.7	27.62 - 31.78	431/1370	31.46	27	23.59 - 30.4	1710/5638	30.33	29.51	27.56 - 31.46
Man or trans migrant with male sexual partner (ref: no	123/1401	8.78	8.19	6.01 - 10.38	25/566	4.42	5.08	2.82 - 7.37	148/1967	7.52	7.97	5.93 - 10.01
Ever paid for sex (ref: no)	52/4275	1.22	1.49	-0.91 - 3.9	16/1372	1.17	1.28	-2.38 - 4.95	68/5647	1.2	1.48	-0.77 - 3.72
Sex work (ref: no)	26/1407	1.80	1.66	-0.98 - 4.31	11/574	1.90	1.66	-2.77 - 6.08	37/1981	1.87	1.66	-0.82 - 4.14
Sex work past 7 days (ref: no)	47/2868	1.60	1.52	-0.71 - 3.75	19/798	2.40	2.18	-3.34 - 7.68	66/3666	1.80	1.57	-0.54 - 3.68
Key population (ref: no)	25/73	34.25	31.3	19.42 - 43.16	11/30	36.67	51.6	18.89 - 85.14	36/103	34.95	32.74	21.46 - 44.01
Población Clave (ref: no)	235/4650	5.05	5.18	4.23 - 6.14	82/1550	5.29	4.97	3.36 - 6.57	317/6200	5.11	5.17	4.27 - 6.06
Partner's HIV status												
HIV-negative	2471/4275	57.8	59.29	56.87 - 61.73	734/1372	53.5	50.21	46.14 - 54.26	3205/5647	56.76	58.65	56.37 - 60.92
HIV-positive	19/4275	0.44	0.44	-1.77 - 2.64	3/1372	0.22	0.13	-0.07 - 0.34	22/5647	0.39	0.41	-1.63 - 2.46
Unknown	1785/4275	41.75	40.26	38.36 - 42.17	635/1372	46.28	49.65	45.82 - 53.51	2420/5647	42.85	40.93	39.13 - 42.72
Ever diagnosed with STI (ref: no)	190/2233	8.51	8.97	6.27 - 11.66	40/655	6.11	6.58	1.54 - 11.65	230/2888	7.96	8.8	6.27 - 11.33
Ever treated for an STI of those diagnosed (ref: no) in Venezuela or Peru	147/185	79.46	83.1	72.55 - 93.66	32/40	80	79.4	59.8 - 98.86	179/225	79.56	82.83	72.92 - 92.73

Sexual behavior and risk behaviors for HIV acquisition by site are shown in Table 9. Most of the population was considered sexually active, with slight differences in the population estimates by city: in Lima/Callao, 91.12% (CI: 89.73 - 92.51) and in Trujillo, 86.7% (CI: 83.94 - 89.48). The median number of sexual partners in the last 12 months was 1 partner (IQR: 1 - 2); however, only 29.51% (CI: 27.56 - 31.46) used a condom during their last sexual intercourse. 1.60% (CI: -0.60 - 3.79) have ever performed sex work, within which, 32.74% (CI: 21.46 - 44.01) performed sex work in the last week. Among those with an active sex life, 40.93% (CI: 39.13 - 42.72) did not know the HIV status of their sexual partner, and this lack of knowledge was greater in Trujillo 49.65% (CI: 45.82 - 53.51) than in Lima/Callao 40.26% (CI: 38.36 - 42.17). Finally, 8.80% (CI: 6.27 - 11.33) of migrants have been diagnosed with an STI at some point in their lives, and 82.83% (CI: 72.92 - 92.73) have not been treated.

Figure 13 Gender of sexual partners



**Creation of variable man and sexual partner, woman and sexual partner, transgender woman and sexual partner*

The gender identity of sexual partners is shown in Figure 13. Among the transgender population, the majority (72.41%) reported having male gender sexual partners and a smaller percentage (20.69%) reported having transgender men as sexual partners. Among female migrants, the majority (96.15%) reported having a male sexual partner. Among male migrants, the majority (92.52%) reported having a female sexual partner, while a smaller percentage (6.46%) reported having a same-gender sexual partner.

Table 10. HIV testing and prevention among migrants by survey site, Peru

	Lima/Callao (n=4650)				Trujillo (n=1550)				Total (N=6200)			
	n	Sample proportion %	Population estimare %	CI 95%	n	Sample proportion %	Population estimare %	CI 95%	n	Sample proportion %	Population estimare %	CI 95%
Ever HIV test												
No	1702/4650	36.6	39.16	36.89 - 41.42	734/1550	47.35	51.77	47.7 - 55.79	2436/6200	39.29	40.05	37.93 - 42.18
Yes	2884/4650	62.02	59.3	57.01 - 61.57	794/1550	51.23	46.91	42.97 - 50.9	3678/6200	59.32	58.42	56.29 - 60.56
Does not know	64/4650	1.38	1.54	0.95 - 2.12	22/1550	1.42	1.32	0.37 - 2.26	86/6200	1.39	1.52	0.98- 2.07
Time since last HIV test (among those tested)												
Within the past year	467/2884	16.19	16.71	14 - 19.09	115/794	14.48	13.94	10.34 - 17.5	582/3678	15.82	16.51	14.14 - 18.89
More than 1 year ago and less than 5 years ago	1205/2884	41.78	42.77	39.76 - 45.76	335/794	42.19	44.92	39.73 - 50.23	1540/3678	41.87	42.92	40.11 - 45.73
More than 5 years ago and less than 10 years ago	795/2884	27.57	26.36	23.87 - 28.84	247/794	31.11	31.44	26.68 -36.15	1042/3678	28.33	26.72	24.39 - 29.05
More than 10 years ago	387/2884	13.42	12.91	10.91 - 14.91	91/794	11.46	8.42	6.18 - 10.56	478/3678	13.00	12.59	10.73 - 14.46
Does not know	30/2884	1.04	1.24	0.6 - 1.86	6/794	0.76	1.28	0.41 - 2.18	36/3678	1.24	1.24	0.65 - 1.83
Country of HIV test												
Colombia	43/2884	1.49			15/794	1.89			58/3678	1.58		
Venezuela	1721/2884	59.67			487/794	61.34			2208/3678	60.03		
Peru	1093/2884	37.79			284/794	35.77			1374/3678	37.36		
Brasil	1/2884	0.03			2/794	0.25			3/3678	0.08		
Ecuador	25/2884	0.87			6/794	0.76			30/3678	0.82		
Other	5/2884	0.17			0	0			5/3678	0.14		
Results of last HIV test												
HIV negative	2843/2886	98.51	98.55	95.16 - 101.95	781/794	98.36	98.83	83.45 - 114.22	322/3678	94.48	98.57	92.23 -101.91
HIV positive	19/2886	0.66	0.6	-3.63 - 4.84	3/794	0.38	0.06	-0.01 - 0.11	22/3678	0.60	0.56	-3.37 - 4.50
Indeterminate	2/2886	0.07	0.03	-0.01 - 0.09	2/794	0.25	0.23	-0.47 - 0.95	4/3678	0.11	0.04	-0.02 - 0.11
Unknown	22/2886	0.76	0.79	-3.15 - 4.75	8/794	1.01	0.87	-14.2 - 15.94	30/3678	0.82	0.80	-3.03 - 4.62
Used PEP in Peru (among those with negative or unknown last test)												
Yes	23/4631	0.5	0.36	0.11 - 0.61	8/794	0.52	0.18	0.04 - 0.31	31/6178	0.5	0.35	0.11 - 0.58
Location where PEP was obtained	23				8				31			
Emergency room	2/23	8.7			0	0			2	6.45		
Hospital	7/23	30.4			2	25			9	29.03		
Health center	8/23	34.8			1	12.5			9	29.03		
Private clinic	2/23	8.7			1	12.5			3	9.68		
Humanitarian organizatio	3/23	13			0	0			3	9.68		
Community-based organization	0	0			0	0			0	0		
From a family member	1/23	4.3			0	0			1	3.23		
Other	2/23	8.7			4	50			6	19.35		

Table 10. HIV Testing and prevention among migrants by site, Perú

	Lima/Callao (n=4650)				Trujillo (n=1550)				Total (N=6200)			
	n	Sample proportion %	Population estimare %	CI 95%	n	Sample proportion %	Population estimare %	CI 95%	n	Sample proportion %	Population estimare %	CI 95%
Used PrEP in Peru												
No	*4508/4631*	*97.34*	*97.32*	*96.55 - 98.1*	*1497/1547*	*96.77*	*96.53*	*94.97 - 98.08*	*6005/6178*	*97.2*	*97.26*	*96.53 - 97.99*
Yes	*22/4631*	*0.48*	*0.64*	*0.26 - 1.03*	*4/1547*	*0.26*	*0.45*	*-0.11 - 1.02*	*26/6178*	*0.42*	*0.63*	*0.27 - 0.99*
Does not know	*101/4631*	*2.18*	*2.02*	*1.38 - 2.67*	*46/1547*	*2.98*	*3.02*	*1.57 - 4.47*	*147/6178*	*2.38*	*2.09*	*1.48 - 2.70*
Location where PrEP was obtained	*22*				*4*				*26*			
Emergency room	*5*	*22.73*			*0*	*0*			*5*	*19.23*		
Hospital	*6*	*27.27*			*2*	*50*			*8*	*30.77*		
Health center	*7*	*31.82*			*1*	*25*			*8*	*30.77*		
Private clinic	*3*	*13.64*			*0*	*0*			*3*	*11.54*		
Humanitarian organization	*0*	*0*			*0*	*0*			*0*	*0*		
Community-based organization	*1*	*4.55*			*0*	*0*			*1*	*3.85*		
From a family member	*0*	*0*			*1*	*25*			*1*	*3.85*		
Other	*2*	*9.09*			*0*	*0*			*2*	*7.69*		
Currently taking PrEP (ref: no)	*3/22*	*13.64*			*0*	*0.00*			*3/26*	*11.54*		

Table 10 shows the history of HIV testing and prevention according to the survey site. 40.05% (CI: 37.93 - 42.18) of the migrant population had not been previously tested for HIV, with differences between Trujillo 51.77% (CI: 47.7 - 55.79) and Lima/Callao 39.16% (CI: 36.89 - 41.42). Among those who did have a previous HIV test, only 16.51% (CI: 14.14 - 18.89) had done so in the last year. Most of those who had an HIV test did so in Venezuela (60.03%), however, a significant number (37.36%) did so in Peru. The use of PrEP among migrants was infrequent 0.63% (CI: 0.27 - 0.99), with no differences according to survey site.

Table 11. HIV Prevalence estimates among Venezuelan migrants living in Lima/Callao and Trujillo, Peru

	Sample n	Proportion %	Population estimate %%	CI 95%
HIV	*68/6200*	*1.1*	*1.01*	*0.56 - 1.45*
Site				
Lima/Callao	*49/4650*	*1.05*	*1.02*	*0.57 - 1.48*
Trujillo	*19/1550*	*1.23*	*0.85*	*0.24 - 1.46*
Age				
18 a 29	*26/2639*	*1.1*	*1.1*	*-1.64 - 3.83*
30 a 39	*26/2117*	*1.23*	*1.12*	*-1.64 - 3.88*
40 a 49	*14/1083*	*1.29*	*1.1*	*-2.29 - 4.48*
50+	*2/631*	*0.32*	*0.19*	*-1.45 - 1.82*
Gender				
Man	*52/2189*	*2.38*	*1.84*	*-0.57 - 4.25*
Woman	*13/3927*	*0.33*	*0.45*	*-1.47 - 2.36*
MSM (based on sex at birth) nacer)	*32/148*	*21.62*	*15.61*	*10.04 - 21.18*
Paid for sex*	*5/68*	*7.35*	*12.28*	*1.58 - 22.97*
Transactional sex (men)**	*9/37*	*24.32*	*43.39*	*17.33 - 69.45*
Ever injected drugs	*2/24*	*8.33*	*8.2*	*2.57 - 13.84*
Key population****	*38/317*	*11.99*	*11.78*	*6.46 - 17.11*
General population	*30/5883*	*0.51*	*0.42*	*-1.35 - 2.2*

Table 11 shows the prevalence of HIV among Venezuelan migrants in Peru. A total of 49 (1.05%) and 19 (1.23%) people had a confirmed diagnosis of HIV in Lima/Callao and Trujillo, respectively, estimating an HIV prevalence of 1.01% (CI: 0.56 - 1.45) in the Venezuelan adult population. , no differences were found according to age. The estimated prevalence of HIV was particularly high in the MSM population, 15.61% (10.04-21.18), 43.39% (CI: 17.33 - 69.45) in the male population that performs sex work (no women with HIV who perform sex work were reported) and 8.20 % (CI: 2.57 - 13.84) in injection drug user population.

* Payment for sex (people give gifts/money in exchange for sex)
** Transactional sex (people receive gifts/money in exchange for sex)

Table 12. Characteristics of migrants with past and new HIV diagnosis among Venezuelan migrants living in Lima/Callao and Trujillo, Peru / Characteristics of Venezuelan migrants in Peru living with HIV

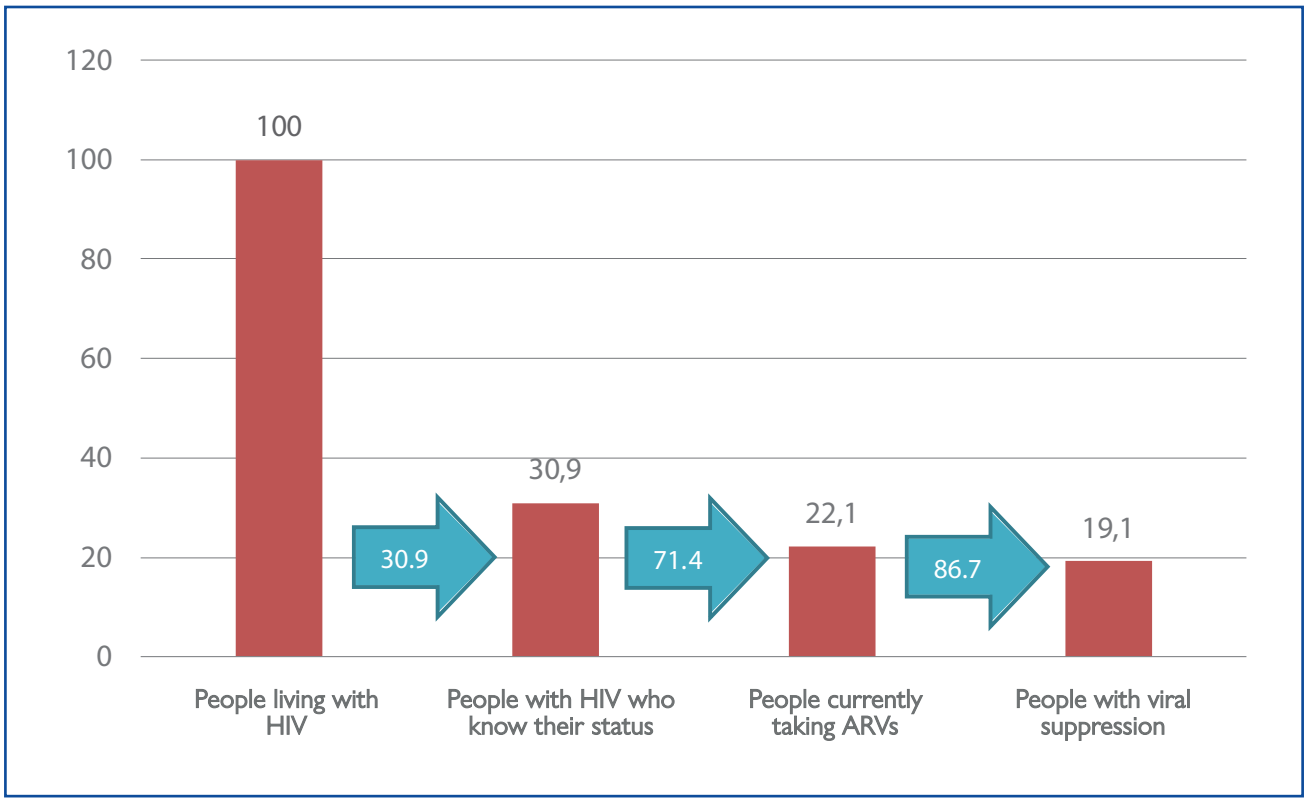
	Past diagnosis (n=21)		New diagnosis (n=47)		Total (n=68)	
	n	Col%	n	Col%	n	Col%
Site						
Lima	*18/21*	*85.71*	*31/47*	*65.96*	*49/68*	*72.06*
Trujillo	*3/21*	*14.29*	*16/47*	*34.04*	*19/68*	*27.94*
Age						
18 a 30	*7/21*	*33.33*	*19/47*	*40.43*	*26/68*	*38.24*
30 a 39	*11/21*	*52.38*	*15/47*	*31.91*	*26/68*	*38.24*
40 a 49	*2/21*	*9.52*	*12/47*	*25.53*	*14/68*	*20.59*
50+	*1/21*	*4.76*	*1/47*	*2.13*	*2/68*	*2.94*
Sex						
Man	*18/21*	*85.71*	*34/47*	*72.34*	*52/68*	*76.47*
Woman	*3/21*	*14.29*	*10/47*	*21.28*	*13/68*	*19.12*
Migration status						
Regular	*20/21*	*95.24*	*42/47*	*89.36*	*62/68*	*91.18*
Irregular	*1/21*	*4.76*	*5/47*	*10.64*	*6/68*	*8.82*
MSM (based on sex at birth (ref: no. MSM); among men or trans PLWHA	*15/18*	*83.33*	*17/47*	*51.52*	*32/51*	*62.75*
Paid for sex (ref: no)*	*2/21*	*9.52*	*3/44*	*6.82*	*5/65*	*7.69*
Transactional sex (men) (ref: no) **	*5/21*	*23.81*	*4/44*	*9.09*	*9/65*	*13.85*
Ever injected drugs (ref: no)	*1/21*	*4.76*	*1/47*	*2.13*	*2/68*	*2.94*
Ever HIV test						
No	*0*	*0*	*14/47*	*29.79*	*14/68*	*20.59*
Yes	*21/21*	*100*	*32/47*	*68.09*	*53/68*	*77.94*
Does not know	*0*	*0*	*1/47*	*2.13*	*1/68*	*1.47*
Country of last HIV test						
Peru	*20/21*	*95.24*	*13/32*	*40.63*	*33/53*	*62.26*
Venezuela	*1/21*	*4.76*	*18/32*	*56.25*	*19/53*	*35.85*
Colombia	*0*	*0*	*1/32*	*3.13*	*1/53*	*1.89*
Syphilis infection	*6/21*	*28.57*	*19/47*	*40.43*	*25/68*	*36.76*
HIV viral load						
<1000	*18/21*	*85.71*	*8/46*	*17.39*	*26/67*	*38.81*
>=1000	*3/21*	*14.29*	*38/46*	*82.61*	*41/67*	*61.19*

Table 12 shows the characteristics of Venezuelans living with HIV in total and according to recent and past diagnosis. Among the 68 identified Venezuelans living with HIV, 72.06% resided in Lima/Callao and 27.94% in Trujillo. The bulk of the population were young adults (18-30 years: 38.24%) or middle-aged adults (30-39 years: 38.24%). 76.47% were male, 19.12% female. 62.75% were MSM, 7.69% sex work users, 13.85% sex workers and 2.94% reported having ever injected drugs.

Among the 68 (100%) migrants diagnosed with HIV, 21 (30.88%) reported knowing their diagnosis previously and 47 (69.12%) were newly diagnosed (Table 12). Of those who reported a previous diagnosis, most were in Lima/Callao (85.71%), and the same was true for new cases (65.96%). Among Venezuelan migrants with an old diagnosis, the highest percentage was the middle adult population (30-39 years old: 53.38%), while among those with a new diagnosis, the highest percentage was the young adult population (18-30 years old: 40.43%). Among those newly diagnosed, 29.79% had never been tested for HIV. Among those with an old diagnosis, 95.24% had their last HIV screening test in Peru. Of the Venezuelan migrants diagnosed with HIV, 36.76% had co-infection with syphilis, being more common among those with a new diagnosis (40.43%) than among those with an old diagnosis (28.57%).

* Payment for sex (people give gifts/money in exchange for sex)
** Transactional sex (people receive gifts/money in exchange for sex)

Figure 14. HIV care continuum among Venezuelan migrants living with HIV in Lima/ Callao and Trujillo (N=68)



Living with HIV refers to people enrolled in the survey who previously knew their HIV status and recently diagnosed during the survey.

People with HIV who know their status refers to people enrolled in the survey who previously knew their HIV status

People currently taking ARVs refers to people enrolled in the survey who self-reported receiving ARVs

People with viral suppression refers to those with undetectable viral load among those living with HIV/AIDS

**1 missing data for the viral suppression variable/1 missing data for the viral suppression variable*

Figure 14 shows the continuum of care among Venezuelan migrants living with HIV. Among the 68 Venezuelan migrants with a diagnosis of HIV only 30.9% knew their HIV, status, with 22.1% currently taking ARV and only 19.1% being virally suppressed. Viral suppression was 85.7% among those who knew their HIV status and were on ARV compared to 17.4 among those who did not know their HIV status (Table 12).

Table 13. Correlates of HIV infection among Venezuelan migrants living in Lima/Callao and Trujillo, Peru

	OR	95%IC	p-value	aOR	95%IC	p-value
Gender (ref: man)						
Woman	*0.14*	*0.07 - 0.25*	*<0.001*	*0.11*	*0.04 - 0.29*	*p<0.001*
Key population (ref: general population) **	*26.57*	*16.22 - 43.52*	*<0.001*	*10.3*	*4.89 - 21.67*	*p<0.001*
Sexual exploitation (ref: no)	*5.75*	*2.43 - 13.60*	*<0.001*	*2.29*	*0.65 - 7.93*	*0.19*
Lifetime STI diagnosis (self-reported; ref: no)	*7.63*	*4.23 - 13.73*	*<0.001*	*4.25*	*2.02 - 8.94*	*p<0.001*
Partner HIV status (ref: negative)						
Positive	*101.89*	*40.46 - 256.62*	*<0.001*	*21.56*	*5.79 - 80.31*	*p<0.001*
Does not know	*1.48*	*0.87- 2.52*	*0.147*	*1.38*	*0.69 - 2.75*	*0.35*

**p-value with logistic regression*

**Key population defined as individuals who identify as transgender or non-binary, are male or transgender people who report sex with men, report lifetime transactional sex, or report lifetime injection drug use.*

Table 13 shows the correlations of HIV infection among Venezuelan migrants in Lima/Callao and Trujillo. The age-adjusted multivariate regression analysis shows that, using the male population as reference, the female population has a lower risk of acquiring HIV (aOR: 0.11; CI: 0.04 - 0.29, p<0.001). Belonging to the key population (aOR: 2.29, CI: 0.65 - 7.93), having a history of STIs (aOR: 4.25; CI: 2.02 - 8.94, p<0.001) and having a partner diagnosed with HIV (aOR: 21.56; CI : 5.79 - 80.31) was associated with HIV infection.

Table 14. Correlates of viral suppression among Venezuelan migrants living in Lima/Callao and Trujillo, Peru

	OR	95%IC	p-value	aOR	95%IC	p-value
Irregular migration status (ref: regular)	3.47	0.38 - 31.55	0.27	1.64	0.12-22.13	0.71
Key population (ref: general population)	0.55	0.20 – 1.53	0.26	0.68	0.13 -3.43	0.637
Country of last HIV test (ref: Peru)						
Venezuela	9.33	2.25 - 38.71	0.002	6.79	1.25-36.79	0.026
Uso de Servicios humanitarios (ref: no)	0.38	0.13 – 1.17	0.09	0.67	0.15-3.10	0.613

**p-value with logistic regression*

**Key population defined as individuals who identify as transgender or non-binary, are male or transgender people who report sex with men, report lifetime transactional sex, or report lifetime injection drug use.*

Table 14 shows the correlations for the achievement of viral suppression among Venezuelan migrants with HIV living in Lima/Callao and Trujillo. Multivariable analysis showed no association between virologic suppression and being a key population (OR: 0.55; CI: 0.20 - 1.53, p=0.26), compared to the general population. Multivariate regression analysis adjusted for sex, showed no significant differences for the achievement of viral suppression according to migratory status (aOR: 1.44; CI: 0.10 - 20.29, p=0.786); according to key population (aOR: 0.68; CI: 0.13 - 3.43, p=0.637), nor according to use of humanitarian services (aOR: 0.67; CI: 0.15 - 3.10, p=0.637); while differences were observed among those migrants who had their last HIV test in Venezuela (aOR: 9.45; CI: 2.09 - 42.69, p=0.004), compared to those whose last test was performed in Peru.

Table 15. Syphilis prevalence estimates among Venezuelan migrants living in Lima/Callao and Trujillo, Peru

	Sample	Proportion	Population estimate	
	n=241	%	%	CI 95%
Syphilis Prevalence (overall)	*241/ 6200*	*3.89*	*4.17*	*3.26 - 5.07*
Site				
Lima	*189/4650*	*4.06*	*4.25*	*3.31 - 5.19*
Trujillo	*52/1550*	*3.35*	*3.07*	*1.79 - 4.36*
Age				
18 a 29	*89/2369*	*3.76*	*4.08*	*1.29 - 6.87*
30 a 39	*72/2117*	*3.4*	*3.68*	*0.83 - 6.53*
40 a 49	*48/1083*	*4.43*	*4.44*	*0.96 - 7.92*
50+	*32/631*	*5.07*	*5.66*	*1.06 - 10.26*
Sex				
Man(n=2189)	*106/2186*	*4.84*	*5.62*	*2.69 - 8.54*
Woman (n=3927)	*126/3926*	*3.21*	*3.2*	*1.05 - 5.36*
MSM (based on sex at birth)	*32/148*	*21.62*	*23.68*	*13.59 - 33.77*
Paid for sex *	*6/68*	*8.82*	*5.32*	*0 - 10.63*
Transactional sex men **	*8/37*	*21.62*	*23.27*	*5.22 - 41.31*
Transactional sex women **	*5/66*	*7.57*	*9.09*	*-0.30 - 18.48*
Ever injected drugs	*2/24*	*8.33*		
General population	*193/5883*	*3.28*	*3.45*	*1.14 - 5.77*
Lab-confirmed HIV	*25/68*	*36.76*	*37.99*	*22.67 -53.3*

**Paid for sex (people give gifts/money in exchange for sex)*

*** Transactional sex (people receive gifts/money in exchange for sex)*

Table 15 shows the population estimates of the prevalence of syphilis. The prevalence of syphilis in the adult population was 4.17% (CI: 3.26 - 5.07), with no difference in population estimates according to age. The prevalence of syphilis was particularly high in the MSM population 23.68% (CI: 13.59 - 33.77) and in the male population that performs sex work 23.27% (CI: 5.22 - 41.31) and in the female population it was 9.09% (CI: -0.30 – 18.48); in people with HIV the global prevalence of syphilis was 37.99% (CI: 22.67 – 53.30).

Table 16: Experiences of discrimination and violence victimization among Venezuelan migrants by survey site, Peru

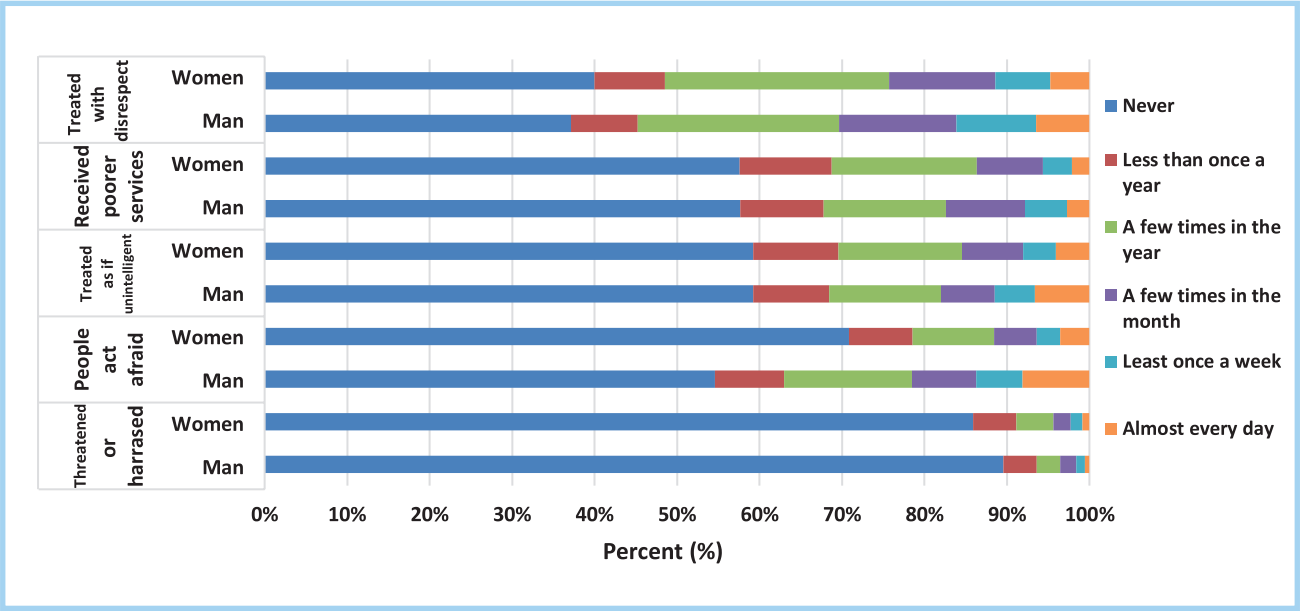
	Lima/Callao (n=4650)				Trujillo (n=1550)				Total (N=6200)			
	n	Sample proportion %	Population estimate %%	CI 95%	n	Sample proportion %	Population estimate %%	CI 95%	n	Sample proportion %	Population estimate %%	CI 95%
Stigma and discrimination												
Any experience of stigma or discrimination	3331/4650	71.63	70.9	68.83 - 73	1065/1550	68.71	68.5	64.53 - 72.36	4396/6200	70.9	70.72	68.78 - 72.67
Experiencies of violence at any time while living in Peru												
Psychological violence in Peru	500/4636	10.79	9.85	7.44 - 12.3	116/1547	7.5	8.15	0.37 - 15.93	616/6183	9.96	9.73	7.42 - 12.04
Psychological violence perpetrated by:												
Partner	106/498	21.29			24/116	20.69			130/614	21.17		
Family	15/498	3.01			3/116	2.59			18/614	2.92		
Religious leader	6/498	1.2			5/116	4.31			11/614	1.79		
Police	40/498	8.03			11/116	9.48			51/614	8.31		
Armed fringe groups	51/498	10.24			9/116	7.76			60/614	9.77		
Employer	66/498	13.25			19/116	16.39			85/614	13.84		
Stranger	334/498	67.07			73/116	62.93			407/614	66.29		
Other	30/498	6.02			5/116	4.31			35/614	5.7		
Physical violence in Peru	390/4636	8.41	7.45	5.02 - 9.87	102/1544	6.61	5.8	-2.4 - 14	492/6180	7.96	7.33	5.01 - 9.66
Physical violence perpetrated by												
Partner	104/378	27.51			27/96	28.13			131/474	27.64		
Family	12/378	3.17			0	0			12/474	2.53		
Religious leader	3/378	0.79			1/96	1.04			4/474	0.84		
Police	22/378	5.82			10/96	10.42			32/474	6.75		
Armed fringe groups	54/378	14.29			21/96	21.88			75/474	15.82		
Employer	13/378	3.44			5/96	5.21			18/474	3.8		
Stranger	202/378	53.44			48/96	50			250/474	52.74		
Other	19/378	5.03			7/96	7.29			26/474	5.49		
Sexo forzado en Perú	58/4627	1.25	1.31	-1.46 - 4.07	20/1536	1.3	1.57	-3.39 - 6.53	78/6163	1.27	1.33	-1.26 - 3.92
Forced sex in Peru Sexual violence perpetrated by:												
Partner	24/56	42.86			6/20	30			30/76	39.47		
Family	4/56	7.14			0	0			4/76	5.26		
Religious leader	1/56	1.79			0	0			1/76	1.32		
Police	1/56	1.79			1/20	5			2/76	2.63		
Armed fringe groups	1/56	1.79			0	0			1/76	1.32		
NGO worker	1/56	1.79			0	0			1/76	1.32		
Employer	11/56	19.64			3/20	15			14/76	18.42		
Stranger	17/56	30.36			9/20	45			26/76	34.21		
Other	5/56	8.93			3/20	15			8/76	10.53		

Table 16: Experiences of discrimination and violence victimization among Venezuelan migrants by site, Peru

	Lima/Callao (n=4650)				Trujillo (n1550)				Total (N=6200)			
	n	Sample proportion %	Population estimate %%	CI 95%	n	Sample proportion %	Population estimate %%	CI 95%	n	Sample proportion %	Population estimate %%	CI 95%
Sexual exploitation for resources	*79/4625*	*1.71*	*1.75*	*-0.98 - 4.47*	*28/1546*	*1.81*	*2.27*	*-6.52 - 11.07*	*107/6171*	*1.73*	*1.79*	*-0.82 - 4.4*
Sexual exploitation perpetrated by												
Partner	*13/76*	*17.11*			*5/26*	*19.23*			*18/102*	*17.65*		
Family	*0*	*0*			*0*	*0*			*0*	*0*		
Religious leader	*1/76*	*1.32*			*0*	*0*			*1/102*	*0.98*		
Police	*0*	*0*			*1/26*	*3.85*			*1/102*	*0.98*		
Armed fringe groups	*0*	*0*			*0*	*0*			*0*	*0*		
NGO worker	*0*	*0*			*0*	*0*			*0*	*0*		
Employer	*17 /76*	*22.37*			*10/26*	*38.46*			*27/102*	*26.47*		
Stranger	*39/76*	*51.32*			*10/26*	*38.46*			*49/102*	*48.04*		
Other	*11/76*	*14.47*			*3/26*	*11.54*			*14/102*	*13.73*		
Any violence victimization while in Peru	*700/4650*	*15.05*	*14.2*	*12.59 - 15.71*	*175/1550*	*11.29*	*10.4*	*7.95 - 12.88*	*875/6200*	*14.11*	*13.93*	*12.47 - 15.39*
Experiences of violence last 12 months												
Psychological violence last 12 months (ref: no)	*222/505*	*43.96*			*61/117*	*52.14*			*283/622*	*45.50*		
Physical violence last 12 months(ref: no)	*179/379*	*47.23*			*46/95*	*48.42*			*225/474*	*47.47*		
Forced sex last 12 months (ref: no)	*29/58*	*50*			*9/20*	*45*			*38/78*	*48.72*		
Sexually exploited for resources last 12 months (ref: no)	*35/77*	*45.45*			*11/27*	*40.74*			*46/104*	*44.23*		
Any victimization last 12 months (ref: no)	*345/702*	*49.15*	*49.2*	*43.98 - 54.38*	*92/173*	*53.18*	*51.3*	*39.75 - 62.82*	*437/875*	*49.94*	*49.35*	*44.45 - 54.25*

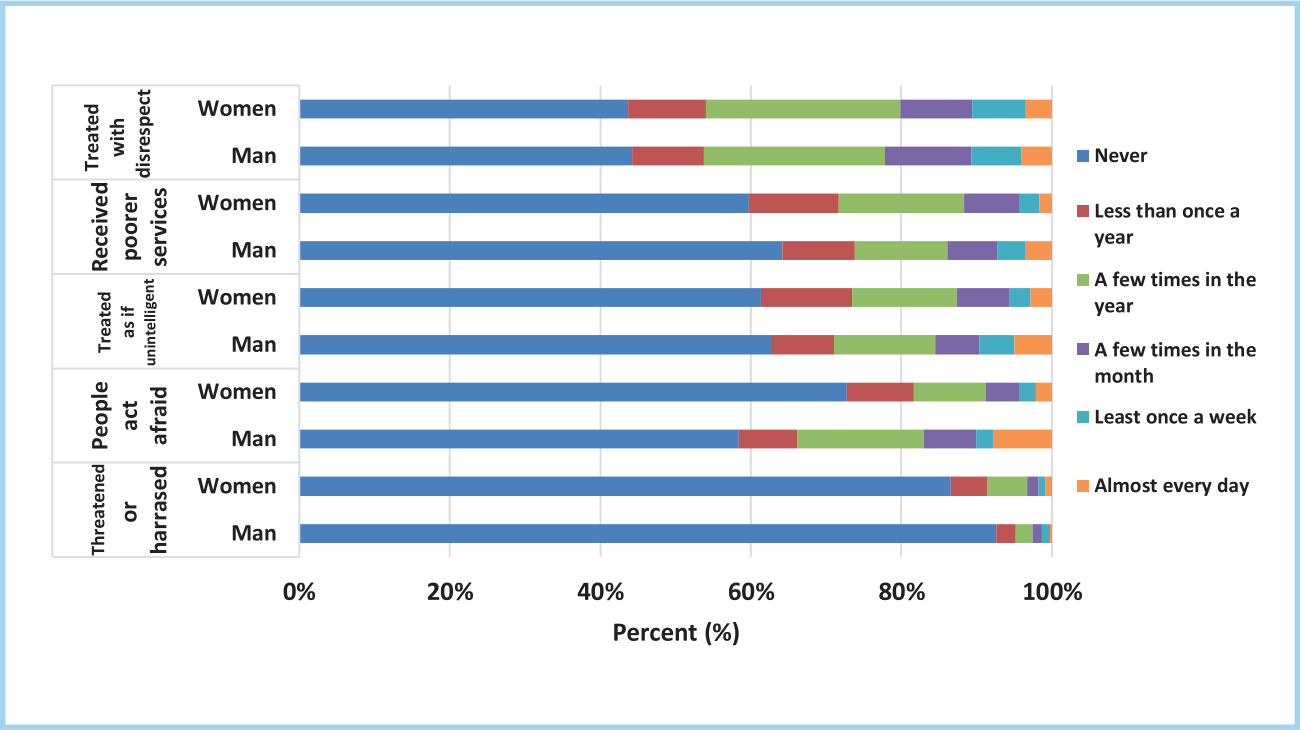
Table 16 shows the experiences of discrimination and violence victimization among Venezuelan migrants in total and by survey site. In total, 70.72% (CI: 68.78 - 72.67) have had an experience of stigma or discrimination. Regarding experiences of violence at some point during their stay in Peru, 9.73% (CI: 7.42 - 12.04) have suffered some type of psychological violence, 7.33% (CI: 5.01 - 9.66) physical violence and 1.33% (CI: -1.26 - 3.92) sexual violence. All three types of violence were most commonly perpetrated by strangers and intimate partners. Regarding experiences of violence in the last 12 months, a total of 45.50% reported psychological violence, 47.70% reported physical violence, 48.72% reported having suffered forced sex and 44.23% reported having been sexually exploited in exchange for resources. Similar percentages were observed between survey sites.

Figure 15. Frequency of stigma and discrimination reported among Venezuelan migrants living in Lima/Callao by sex, Peru



**Stigma and discrimination by sex difference at* p<0.05 for threatened or harassed, people act afraid, treated as if unintelligent, received poorer services and treated with disrespect*

Figure 16 Frequency of stigma and discrimination reported among Venezuelan migrants living in Trujillo by sex, Peru



**Stigma and discrimination by sex difference at* p<0.05 for threatened or harassed, people act afraid, treated as if unintelligent and received poorer services*

Figures 15 and 16 show the experiences of stigma and discrimination among the Venezuelan population by sex and by city, respectively. In both Lima/Callao and Trujillo, the most frequent experience of discrimination was being treated with disrespect, and the least frequent experience of discrimination was being threatened or harassed. In Lima/Callao, there were no significant differences by sex for any type of stigma or discrimination. In Trujillo, it was more frequent for women to have been threatened or harassed, to have been treated as a less intelligent person, to have acted with fear and to have received worse services, compared to the male population.

Table 17. Utilization of humanitarian services by site, Peru

	Lima/Callao (n=4650)				Trujillo (n=1550)				Total (N=6200)			
	n	Sample proportion %	Population estimate %%	IC 95%	n	Sample proportion %	Population estimate %%	IC 95%	n	Sample proportion %	Population estimate %%	IC 95%
Used humanitarian resources (ref:no)	958/4650	20.6	19.2	17.5 - 20.9	309/1550	19.94	18.1	15.1 - 21.2	1267/6200	20.44	19.12	17.55 - 20.7
Type of service utilize												
Legal/registration assistance	344/956	35.98			95/308	30.84			439/1264	34.73		
Assistance accessing national health services	134/956	14.02			53/308	17.21			187/1264	14.79		
Healthcare	172/956	17.99			61/308	19.81			233/1264	18.43		
Support for gender-based violence	42/956	4.39			12/308	3.9			54/1264	4.27		
Psychosocial support	118/956	12.34			31/308	10.06			149/1264	11.79		
Housing assistance	31/956	3.24			16/308	5.19			47/1264	3.72		
Food assistance	604/956	63.18			174/308	56.49			778/1264	61.55		
Security	15/956	1.57			14/308	4.55			29/1264	2.29		
Organization that provided service												
UNHCR	351/948	37.03			90/307	29.32			441/1255	35.14		
AIDS Healthcare Foundation (AHF)	22/948	2.32			3/307	0.98			25/1255	1.99		
International Organization of Migration (IOM)	139/948	14.66			43/307	14.01			182/1255	14.5		
Peruvian Red Cross	148/948	15.61			35/307	11.4			183/1255	14.58		
International Rescue Committee (IRC)	3/948	0.32			0	0			3/1255	0.24		
Médecins Sans Frontières (MSF)	16/948	1.69			7/307	2.28			23/1255	1.83		
Other	468/948	49.37			180/307	58.63			648/1255	51.63		

Table 17. Utilization of humanitarian services by survey site, Peru

	Lima/Callao (n=4650)				Trujillo (n=1550)				Total (N=6200)			
	n	Sample proportion %	Population estimate %%	CI 95%	n	Sample proportion %	Population estimate %%	CI 95%	n	Sample proportion %	Population estimate %%	CI 95%
Greatest hardship as a migrant in Peru Finances												
Finances	*491/958*	*21.25*			*176/309*	*56.96*			*667/1267*	*52.64*		
Housing	*172/958*	*17.95*			*47/309*	*15.21*			*219/1267*	*17.28*		
Food	*221/958*	*23.07*			*53/309*	*17.15*			*274/1267*	*21.63*		
Security	*8/958*	*0.84*			*4/309*	*1.29*			*12/1267*	*0.95*		
Education	*14/958*	*1.46*			*8/309*	*2.59*			*22/1267*	*1.74*		
Other	*27/958*	*2.82*			*10/309*	*3.24*			*37/1267*	*2.92*		
No hardship	*25/958*	*2.61*			*11/309*	*3.56*			*36/1267*	*2.84*		

The experience of using humanitarian assistant services according to the survey site is shown in Table 17. In total, 19.12% (CI: 17.55 - 20.70) of Venezuelan migrants made use of humanitarian support resources or services in Peru. Of the Venezuelan migrants who reported having used humanitarian services, the most frequent assistance received was food assistance (61.55%), followed by assistance for legal registration (34.73%); while the main organization from which they received assistance was UNHCR (35.14%), followed by the Peruvian Red Cross (14.58%) and IOM (14.50%). The most frequent types of assistance and the most frequent institutions providing humanitarian assistance were similar between survey sites. The main difficulties faced by the Venezuelan migrant population are financial (52.64%), food (21.63%) and housing (17.28%). The high economic hardship present in Trujillo (56.96%) compared to the Venezuelan migrant population residing in Lima/Callao (21.25%) stands out.

Table 18. Utilization of humanitarian services by migration status

	Regular Status				Irregular Status				Total (N=6200)			
	n	Sample proportion %	Population estimate %%	CI 95%	n	Sample proportion %	Population estimate %%	CI 95%	n	Sample proportion %	Population estimate %%	CI 95%
Used humanitarian resources (ref: no)	1000/4743	21.08	19.74	17.66 - 21.83	267/1457	18.33	17.64	13.93 - 21.36	1267/6200	20.44	19.12	17.55 - 20.7
Type of service utilized												
Legal/registration assistance	336/997	33.7			105/267	38.58			439/1264	34.73		
Assistance accessing national health services	156/997	15.65			31/267	11.61			187/1264	14.79		
Healthcare	179/997	17.95			54/267	20.22			233/1264	18.43		
Support for gender-based violence	45/997	4.51			9/267	3.37			54/1264	4.27		
Psychosocial support	116/997	11.63			33/267	12.36			149/1264	11.79		
Housing assistance	37/997	3.71			10/267	3.75			47/1264	3.72		
Food assistance	618/997	61.99			160/267	59.93			778/1264	61.55		
Security	22/997	2.21			7/267	2.62			29/1264	2.29		
Organization that provided service												
UNHCR	351/989	35.49			90/266	33.83			441/1255	35.14		
AIDS Healthcare Foundation (AHF)	19/989	1.92			6/266	2.26			25/1255	1.99		
International Organization of Migration (IOM)	133/989	13.45			49/266	18.42			182/1255	14.5		
Peruvian Red Cross	145/989	14.66			38/266	14.29			183/1255	14.58		
International Rescue Committee (IRC)	2/989	0.2			1/266	0.38			3/1255	0.24		
Médecins Sans Frontières (MSF)	18/989	1.82			5/266	1.88			23/1255	1.83		
Other	517/989	52.28			131/266	49.25			648/1255	51.63		
Greatest hardship in Peru												
Finances	539/1000	53.9			128/267	47.94			667/1267	52.64		
Housing	161/1000	16.1			58/267	21.72			219/1267	17.28		
Food	217/1000	21.7			57/267	21.35			274/1267	21.63		
Security	10/1000	1			2/267	0.75			12/1267	0.95		
Education	16/1000	1.6			6/267	2.25			22/1267	1.74		
Other	29/1000	2.9			8/267	3			37/1267	2.92		
No challenges	28/1000	2.8			8/267	3			36/1267	2.84		

Table 18. Utilization of humanitarian services by migration status

	Regular Status				Irregular Status				Total (N=6200)			
	n	Sample proportion %	Population estimate %%	IC 95%	n	Sample proportion %	Population estimate %%	IC 95%	n	Sample proportion %	Population estimate %%	IC 95%
Greatest hardship in Peru												
Finances	*539/1000*	*53.9*			*128/267*	*47.94*			*667/1267*	*52.64*		
Housing	*161/1000*	*16.1*			*58/267*	*21.72*			*219/1267*	*17.28*		
Food	*217/1000*	*21.7*			*57/267*	*21.35*			*274/1267*	*21.63*		
Security	*10/1000*	*1*			*2/267*	*0.75*			*12/1267*	*0.95*		
Education	*16/1000*	*1.6*			*6/267*	*2.25*			*22/1267*	*1.74*		
Other	*29/1000*	*2.9*			*8/267*	*3*			*37/1267*	*2.92*		
No challenges	*28/1000*	*2.8*			*8/267*	*3*			*36/1267*	*2.84*		

The experience of using humanitarian assistant services by migration status is shown in Table 18. With respect to the type of service used, very similar characteristics are observed according to migratory status, with food assistance being the most common for both those with regular status (61.99%) and those with irregular status (59.93%), followed by assistance for legal registration for both those with regular status (33.70%) and those with irregular status (38.58%). With respect to the organizations from which they received assistance, UNHCR, IOM and the Peruvian Red Cross continue to be the most frequent for both migratory statuses and with very similar percentages, with slightly higher frequency of support received by IOM for migrants with irregular status (18.42%) compared to those with regular status (13.45%). A higher frequency of financial challenge was observed among those with regular status (53.90%) compared to those with irregular status (47.94%), and a lower frequency of housing difficulties among those with regular status (16.19%) in contrast to those with irregular status (21.72%).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6. CHAPTER 5: DISCUSSION

The survey enrolled a total of 6200 (100%) Venezuelan migrants, 4650 (75%) in the city of Lima/Callao and 1550 (25%) in the city of Trujillo, Peru. For the survey, we used RDS, a peer-based sampling method that allows for probability-based selection of participants used to access populations with extensive social connections and when there is no sampling frame. This empirical methodology generates unbiased adjusted estimates [20]. The survey was successfully implemented in these two cities through close work with NGOs, local and central government institutions, training of survey staff, and continuous supervision.

The survey enrolled more women (n=3989,66.21%) than men (n=2211,33.79%). Despite the fact that during the data collection period, several strategies were used with the increasing the number intention of men in our sample: opening the offices during the weekends, increasing the male seeds, and asking the migrants to invite to men during recruitment; It was not possible to equalize the percentages of male and female participation. According to data reported by INEI (ENPOVE 2022), the migrants number registered in the census in Peru according to sex was 49.4% for men and 50.6% for women [49]. Based on these data, we believe that the difference in the migrant's number in relation to sex found in our study does not represent the migrant's real composition by sex in Peru, rather, it seems to be more than an availability reflection of women to participate in this survey type. Within the sociodemographic characteristics, we also observed that migrants in the survey are, in general, an educated population, with 53.70% (CI: 51.46 - 55.94) with secondary education and 37.96% (CI: 35.76 - 40.17) with university education. However, the vast majority of participants do not have access to formal full-time sources of employment and their monthly salary is less than or close to the minimum wage (930 PEN = 245 USD). It is important to facilitate the regularization of their migratory status so that they have access to sources of work in accordance with their educational level and profession and better salaries, generating a positive impact on their quality of life.

The survey found an HIV prevalence among the adult population of Venezuelan migrants (18 years and older) of 1.02% (CI: 0.56 - 1.48) in Lima/Callao and 0.85% (CI: 0.24 - 1.46) in Trujillo, which is higher than the prevalence of 0.4% (CI: 0.3 - 0.4) in the Peruvian adult population (15-49 years) [10] and the prevalence of 0.5% (CI: 0.40 - 0.60) in the adult population in Venezuela (15-49 years) [10]. Like Peru, the HIV epidemic in the Venezuelan migrant population is concentrated in key populations (MSM, TW and SW) [21] as well as in the young population; however, we found higher HIV prevalence in the Venezuelan migrant MSM population (15.61%) than in the Peruvian MSM population (10%) [7] and higher prevalence in Venezuelan men SW (43.39%) than in Peruvians (3%) [10]. As in other countries in Latin American, the HIV epidemic is concentrated among KP. It is known that the socioeconomic downturn suffered by Venezuela has originated a health crisis, with lack of HIV diagnostic tests and shortages of drugs including antiretrovirals with major deficits reported between 2016 to 2019 [22]. This is consistent with the survey data: among those who reported leaving Venezuela in search of medical care, about 25% did so in search of access to HIV services.

HIV prevalence estimates in the adult migrant population in Colombia and Peru are close to those defined by UNAIDS for a generalized epidemic (>1% in women attending prenatal care). In addition, we found that the percentage of migrants receiving ARVs, according to self-reporting, is 22.1% and the viral suppression observed was 19.1%), well below the 95-95-95 targets set by UNAIDS [23]. This highlights the importance of facilitating access to the general population and the Venezuelan key population to government HIV health care programs in cooperation with non-governmental organizations to impact the cascade of care [24].

The general adult population of Venezuelan migrants presents higher drug abuse than their Peruvian peers, and lower risky heavy alcohol abuse than the general adult population in Peru. This finding is unusual: we know that communities vulnerable to HIV infection abuse alcohol

and drugs; however, these harmful habits in the Venezuelan migrant community are different from Peruvians. [25]

There is little and updated information on drug use in the Venezuelan adult population, as of 2011 it was reported that cocaine use was 0.6% and the ratio between men and women who used it was almost 8 men for each woman. Likewise, the issues related to sociocultural determinants of migratory process may be related to survey results, in addition to impact on mental health that migratory mourning generates in the Venezuelan migrant population.[50]

For the estimation of syphilis prevalence in our survey, we relied on the identification of confirmed cases using the Architec CLIA test of those who tested positive to the rapid syphilis test, with a prevalence of 4.17% (CI 3.26 - 5.07). However, when we evaluated cases of active syphilis (Architec CLIA test positive and RPR≥8) we found a prevalence of active syphilis among the adult population of Venezuelan migrants (18 years and older) living in the cities of Lima/Callao of 0.94% (CI: 0.48 - 1.40) and in Trujillo of 0.78% (CI: -11.5 - 13.0), being this prevalence (0.5%) higher in relation to that found in the adult population (18 to 29 years) in Peru. The higher relative to the general population prevalence of active syphilis in the migrant population may be related to the lack of access to prevention and diagnostic services, lower condom use compared to the Peruvian population and low risk perception of syphilis infection due to lack of knowledge about this STI [26].

The survey showed that migrants reported having had some episode of stigma or discrimination with 70.9% (CI: 68.83 - 73.0) in Lima/Callao vs 68.5% (CI: 64.53 - 72.36) in Trujillo, which was measured by the perceived discrimination scale (short version). This was higher than that found in the survey of the Venezuelan population conducted in 2018, which reported that 35.6% of Venezuelan migrants had experienced some type of discrimination since their arrival in Peru [27]. A sub-analysis of the same survey found that perceived discrimination increased to 54.8% in those who had a chronic illness [28]. On the other hand, we found that 9.73% (CI: 7.42-12.04) of migrants have experienced some type of psychological violence in Peru; 7.33% (CI: 5.01-9.66) experienced physical violence during their stay in Peru, and 1.79% (CI: -0.82-4.40) reported having experienced sexual violence, in addition to having experienced forced sex 1.33% (CI: -1.26-3.92). These rates are lower than those reported in the ENPOVE 2018, as they reported that 26.8% had been subject to verbal violence, 9.5% to some type of physical violence and 2.9% to sexual violence [27]. Likewise, it should be mentioned that episodes of stigma or discrimination towards migrants by the receiving community is reflected in the lack of labor, economic and social indicators weakening the provision of public services (transportation, health, education, security, etc.) as a result of the inexistence in public policies and migration planning of host countries in the face of mass migration. [29]

To assess aspects related to migrants' mental health, the Patient Health Questionnaire (PHQ-4) was used to screen for symptoms of depression and anxiety, and the AUDIT was used to assess alcohol use in the last month. Lima was the city where more symptoms of anxiety (women 20%, CI=17.8-22.1%; men 10.5%, CI=8.37-12.67%) and depression (women 17.5%, CI=15.07-19.98%; men 9.42%, CI=6.63-21.21%) were reported. These proportions of anxiety and depression symptoms in the migrant population are higher than those reported in the most recent epidemiological survey of mental health conducted by the "Honorio Delgado-Hideyo Noguchi" National Institute of Mental Health [30][31]. In this report, the annual prevalence of depression in Lima in 2012 was 4.6% (2.9% in men and 6.2% in women), while in the same year the annual prevalence of anxiety was 2.9% (2.1% in men and 2.8% in women). Although the differences in the estimates of depression and anxiety may be the result of methodological discrepancies, the reported symptoms prevalence is considerable and suggests the need for linkage with psychosocial support services in the receiving country.

With respect to alcohol consumption in the last month, it was lower in women 38.20% (CI= 35.48 - 40.83) than in men 65.70% (CI= 61.97 - 69.43) in Lima/Callao. In Trujillo, 41.70% (CI= 36.5 - 46.8) of women and 63.50% (CI= 57.81 - 69.28) of men reported this behavior. These estimates are consistent with data reported in Peru by sex, where higher alcohol consumption has been found in the male population (65%) compared to the female population (25%) [32]. Alcohol consumption is one of the main risk factors for high morbidity and mortality, being associated with the development of cirrhosis, cancer, social and mental health problems such as depression and anxiety [33]. Given the high vulnerability of the Venezuelan migrant population, it is important to diagnose and link them to mental health care and alcohol reduction services such as Community Mental Health Centers and civil society organizations such as Alcoholics Anonymous (AA).

Access to maternal health care among the migrant population is limited. Of the women who reported having given birth, only 73.40% (CI=6 9.10 - 77.77) in Lima/Callao and 77.50% (CI= 69.45 - 85.71) in Trujillo received prenatal care. Of the women who reported having a pregnancy since their arrival in Peru, 15.71% in Lima/Callao (CI= 12.30 - 19.15) and 12.37% in Trujillo (CI= 5.61 - 18.98) did not have any prenatal visits. Prenatal care is a priority service to reduce maternal and infant morbidity and mortality [33]. Currently, the World Health Organization recommends a minimum of 8 prenatal visits [34]. In Peru, 90.5% of pregnant women living in urban areas had 6 or more prenatal visits [33]. Given the high number of migrant women of childbearing age and the low percentage of reported access to prenatal care compared to the population, it is essential to generate mechanisms so that all women of reproductive age receive information on contraceptive methods and pregnancy and can access reliable and safe prenatal care services at a level similar to that reported for the national population.

In addition, approximately 15% of the women of childbearing age surveyed do not use any type of long-acting contraceptive method (e.g., birth control pills, hormonal patch, etc.), a lower number (25%) than that reported for Peruvian women of reproductive age (15-49 years) [33][34].

Access to TB treatment among migrants was frequent, however, there are gaps in treatment initiation. Of a total of 22 (70.97%) migrants in Lima/Callao and 9 (29.03%) in Trujillo who reported having been diagnosed with TB at some point in their lives, 10 (32.26%) were diagnosed in Peru. Of these, 1 (10%) participant in Lima/Callao and 1 (10%) in Trujillo had not started TB treatment. Globally, migrants are considered a population vulnerable to acquiring TB and face greater difficulties in accessing TB care [35]. Partners in Health reports that community interventions in Lima/Callao in 2022 have registered more than double the number of TB cases in the Venezuelan community compared to the Peruvian population [36]. In Peru, among the barriers that migrants face in accessing anti-TB treatment are low literacy about TB, lack of knowledge of the Peruvian health system and difficulties in meeting the associated out-of-pocket costs [36]. As suggested by WHO, to achieve the End TB Strategy goals of reducing TB incidence by 90% and TB deaths by 95%, strategies should include interventions aimed at increasing diagnosis and treatment in vulnerable populations, such as the migrant population. [37][38]

Among those migrants with COVID-19 compatible symptoms, only about half accessed screening tests in Lima/Callao 51.60% (CI: 48.26 - 55.0) and in Trujillo 48.90% (CI: 42.96-54.85), with no difference according to their migratory status. One of the reasons reported for not accessing COVID-19 services is related to the lack of clarity among Venezuelan migrants about their eligibility to receive COVID-19 care, with 75% of them in Peru reporting they believed that this care was not available to them, notably higher than the 39% reported for Colombia [39]. Likewise, local data show that 15.4% of Venezuelans had to pay for a COVID-19 test, which, for a community with limited economic resources and aggravated by the pandemic itself, may have been a barrier to accessing a COVID-19 screening test. [39]

Our study has limitations. Despite the different strategies used, it was not possible to have a similar percentage of male and female participants to that reported in the population reports of Venezuelan population in Peru. However, the homophily value calculation according to sex and according to HIV status are adequate and don´t seem to have influenced the results estimate. Secondly, the data collection was carried out through a self-administered survey, which may have caused participant confusion in the certain questions interpretation or response options, as seems to have occurred in the case of sex and gender variables. This occurred despite the fact that the same validated survey was used and used previously without difficulties in Venezuelan migrants residing in Colombia, and even though facilities were provided during questionnaire filling out for participants to consult the study personnel to have doubts any question or answer of questionnaire. This fact did not allow for an adequate identification of female and male transgender population and non-binary individuals with certainty, which is important for epidemiological populations analysis living with HIV. Likewise, the data collection based on self-report does not allow us to ensure the answers provided validity. This may have been reflected in the inconsistency of the people higher percentage with viral suppression according to the test carried out results in this study compared to the people lower percentage who reported never having received HIV care. In addition, given the migratory vulnerability condition in which many migrant populations find themselves, data on their real health condition may have been modified for the consequences fear that they may cause, despite the fact that none of them were collected as part of survey information that can later serve to identify the participant with their answers provided and despite having communicated them to the participants. Similarly, our study did not collect information on experiences prior to migration to Peru, which does not allow for comparisons between health status and other pre- and post-migration characteristics. Lastly, the study was designed to estimate the HIV prevalence in general Venezuelan population, so future studies focused on key populations affected by HIV to estimate specific details about the Venezuelan population behavior with greater risk of contracting HIV and other STIs are needed.

The survey suggests several areas for intervention. The report ends with a series of conclusions addressed to entities of the Ministry of Health, Ministry of Foreign Affairs, the civil society, and non-governmental organizations that, if implemented, could improve access to services and the quality of life of Venezuelan migrants in Peru.

7. CHAPTER 6: CONCLUSIONS AND RECOMENDATIONS

Peru, after Colombia, is the country that receives the largest number of Venezuelan migrants with approximately 1.49 million. [2] As the humanitarian emergency continues, it is a priority for the Government of Peru to maintain or increase access to health services for the Venezuelan population.[2] Strengthening information systems to reflect in greater detail the situation and health migrants needs and to be able to identify gaps in government health systems.

• **Linkage to health programs:** generate mechanisms for access to programs in collaboration with government agencies, civil society, non-governmental organizations, bilateral agencies, and United Nations agencies to facilitate access to programs that currently exist in Peru for the migrant population. Generate advocacy to integrate the health migrants needs into the country's plans, policies, and programs, integrating the Ministry of Health participation in their development.

• **Maternal health:** The surveyed population is young and with a high percentage of reported use of hormonal contraceptives or IUDs. One limitation we found with the information collected in the survey is that we do not know whether access to the service was granted in the country of origin or in Peru given the long duration of the methods we are referring to. It is important that we better understand how the migrant population accesses these methods and continue to facilitate access to all women seeking contraceptive methods. Pregnancy and prenatal care also requires attention given the monitoring importance during pregnancy and facilitating the migrant women's access to friendly, reliable and safe services. Establish a joint work with the Ministries programs for the elaboration of monitoring protocols and health personnel disposition to guarantee the right to sexual and reproductive of migrant women health and their partners, as well as gender-based violence survivors.

• **Alcohol use:** the damages generated by alcohol consumption (WHO) are extensives and covers different areas of a person's life. The early people identification with alcohol consumption should be promoted, so that they can be linked to harm reduction services. This implies addressing people in a life context and consumption spaces, both at the individual and community level, in parallel and complementary processes of comprehensive care. This implies integrating and articulating the health, education, housing, employment, and cultural systems, among others, with practices or flexible interventions that are adaptable to specific populations, spaces, and times.

• **Drug use:** the problem, needs and recommendations are very similar to alcohol abuse and goes hand in hand with the urgency of a look from the implications of the migration psychosocial determinants, the approach to mental health and detection of use/ substance abuse.

• **Mental health:** The depression and anxiety prevalence reported by Venezuelan migrants is three times higher than that reported in the Peruvian population during the pandemic. However, the access that this population has to mental health services is very limited. It is important that access to these services, including diagnosis and mental health care, be facilitated. Therefore, it is necessary to articulate actions with local services aware of the migrant population, continuous and accessible. A community care approach through itinerant interventions in areas with a large concentration of migrants.

• **HIV:** The HIV prevalence in the migrant population was higher than that reported in the adult Peruvian population. It is important to facilitate access to prevention services (prioritizing preventive-promotional interventions) and diagnosis (strengthening the mobile brigades strategy for case detection). The inclusion of migrant community agents can facilitate the arrival in the population, as well as ensure the follow-up of cases and access to timely treatment and auxiliary tests to start treatment. The latter was a step that the study identified as limiting for the ART start in this population.

• **Syphilis:** this survey suggests that the prevalence of syphilis and active syphilis in the migrant population is higher than in the Peruvian population, which points to the importance of improving prevention, diagnosis, and treatment of syphilis and prevention of HIV infection. The same interventions as for HIV are proposed for the approach and STIs management.

• **Tuberculosis:** Few cases of tuberculosis history were reported, it is known that Venezuelan migrant population has certain social determinants that can increase their risk of acquiring tuberculosis, such as living in poverty and overcrowded conditions.[46] Therefore, actions must be articulated with MOH and municipalities for the active search for cases, early detection to provide timely treatment, prioritizing the adherence and treatment compliance monitoring through migrant community agents. Itinerant health campaigns/tents can be an alternative to bring health closer to migrant community.

• **Migratory status:** The alien registration card is the document issued by the National Superintendence of Migration to regularize the situation of migrants living in Peru. This document is valid for up to 5 years and can be renewed. Although the survey shows that a large proportion of migrants have entered Peru regularly or have some form of identification document, few have an alien registration card or, should they have one, it has not been renewed or is not valid, which limits their access to public services, including access to and benefit from the coverage of the comprehensive health insurance (SIS). Hence, articulation with state agencies are encouraged to promote a massive regularization policy that allows them to obtain the alien registration card and thus have access to public health services, as well as to the labor market.

• **Stigma and discrimination:** The survey showed that migrants report high rates of stigma or discrimination. Venezuelan migrants refer to the Peruvian population as the main source of stigma and discrimination, and their perception is that the main reason is because they are migrants. Development of stigma mitigation strategies specific for this population could help mitigate this highly prevalence problem. Work is needed, in coordination with government agencies and non-governmental entities to strengthen activities to raise awareness and reduce stigma and discrimination. Likewise, although the rates of different types of violence (psychological, physical, and sexual) reported by migrants are lower than previous findings (ENPOVE 2018), it is still important to work in coordination between the government and civil society organizations may reduce episodes of violence, with an emphasis on gender-based violence.

8. ANNEXES AND APPENDICES

Venezuelan Migrants Residing in Peru
Consent Form for Adults RDS

Sponsor:	Centers for Disease Control and Prevention-US USA
Research Institution:	Centers for Disease Control and Prevention-US USA International Organization for Migration
Implementing institution:	Partners in Health Branch office Perú

INTRODUCTION AND GENERAL SUMMARY

Hello my Name Is _____. I am working with Venezuelan migrants living in Peru with [institutions affiliated to project]. We are doing a survey with Venezuelan migrants to better understand their HIV-related health needs, this information will help improve HIV care and other health services.

This document is a consent form, which explains what is done in this survey, that way you can decide if you want to participate of the survey, you can do questions at any time, if you do not understand any word, you can ask.

YOUR ROLE IN THIS SURVEY

We request that you participate in this survey because you are:

- Venezuelan migrant
- Older than 18 years-old
- Who lives in Peru (as of 2015 or later)
- Currently resides in Peru
- You can communicate in Spanish
- And because you can give your verbal informed consent

About 6,000 Venezuelan migrants will participate in this survey

Survey:

1. If you participate, you will fill out a survey by computer or tablet, our staff will show you how to do it; The interview will take between 45 and 60 minutes to complete. If you have any difficulties, the staff will help you solve them.
2. The survey questions are about you, your sexual behavior and drug use, there are also questions about the use of HIV services; you can refuse to answer any questions.

Testing:

1. We will take a capillary blood sample from you, and we will analyze it for HIV and Syphilis with a rapid test. If you agree, we will use a small needle to take a few drops of blood (finger prick) and if necessary, according to the result of the first test, we will extract about 15 ml extra venous blood (from the vein in the arm).

2. If your result is positive for HIV, your blood will also be analyzed to find out the amount of virus you have, this is called viral load, the less virus you have in your body, it's better for your health. We will do all these tests from the same blood sample already collected.

3.Rapid test results will be delivered to you within 30 minutes. If your HIV or Syphilis test result is positive, the confirmatory test result and viral load will be released during your second visit to the site, we will link you to an establishment health for immediate treatment.

After the survey

We will look at all the responses of the people who participated in the survey, we can share the survey records with other researchers, so we will make sure that nobody knows the name of who participated in the survey.

POSSIBLE RISKS AND BENEFITS

Risks

Some questions that will be asked during the interview may include sensitive topics that may make you uncomfortable, you can refuse to answer any question or stop the interview at any time, without being penalized.
Having blood drawn may cause some pain and bruising, the rapid HIV/Syphilis test requires a small pin prick which may cause little discomfort.

Benefits

Your participation in the survey is free and voluntary, so for your time and transportation we will give you compensation; you can help improve HIV care services for the migrant population by participating in this survey; we will also provide you with condoms, lubricants, and information about HIV and STIs at the end of the procedures.

By completing the survey and procedures, you will receive from 25 PEN and 10 PEN for transportation; During your second visit, you can also get 25 PEN for each participant that you can recruit with coupons that we will give you.

CONFIDENTIALITY

We will not record your name or any other data that proves who you are, we will keep all your answers and test results private, we will not collect your name; instead, you will be assigned a survey participant number. In addition, as a survey sponsor, the United States Centers for Disease Control and Prevention (CDC USA) can monitor or audit the survey activities, the reason would be to ensure that the survey is being carried out properly, ensuring that your rights and health are protected; your personal information will be kept confidential.

PARTICIPATION

You are free to participate or not, there will be no problem if you do not participate, you can withdraw from the survey at any time, you can refuse to answer any question, if you do not participate you can take an HIV/Syphilis test and go to an establishment health. The whole process (survey and sampling) will last approximately two hours. For your participation, you will receive 25 PEN and 10 PEN for transportation at the end of the first visit and 25 PEN for each participant who has been recruited / referred by you. This will be collected during the second visit.

YOUR RIGHTS

This survey has been approved by the local Ethics Review Board and the Centers for Disease Control in Atlanta, USA and an Ethics Committee from Peru.

If you have any questions about this survey, you can contact the survey research team: Karin Sosa at 991344238 (ksosa@iom.int) or Horacio Ruiseñor to the mail njz2@ cdc.gov.

This survey has been reviewed and approved by the Vía Libre Institutional Bioethics Committee. If you have any questions about your rights as participant or problems or concerns about how you are treated in this survey or about its ethics, you can contact Lic. Karen Cruz Azaña, president of the Institutional Bioethics Committee of Vía Libre, in Jr Paraguay 490, Lima. You can contact her by phone 2039900 annex 131 from Monday to Friday from 9 a.m. to 6 p.m. or by email comitebioetica@vialibre.org.pe. An ethics committee is made up of a group of people from scientific and non-scientific fields who carry out an initial and permanent review of the survey, protecting the rights of the participants in a research survey.

PARTICIPANT AGREEMENT

I understand the meaning of participating in the survey, I know my rights and risks, I have had time to ask questions, I understand that I can participate in the survey of my own free will, and I can withdraw at any time.

Have all your questions been answered? YES: ___ NO: ___ (Check the answer)

Do you agree to participate in the survey? YES: ___ NO: ___ (Check the answer)

Do you accept blood draw and testing for HIV and syphilis? YES: ___ NO: ___ (Check the answer)

Name of the personnel in charge of the informed consent (Print)	Staff signature	Date	Hour

INFORMED CONSET TO BE TESTED FOR HIV INFECTION

Me, _____

(Put code - Same as used for survey and other procedures)

I certify that:

I have received information about HIV infection, prevention, transmission, and the purpose and benefit of having a diagnostic test. If I have a positive result in initial test, I have been informed that a confirmatory test will be required to know my final HIV infection status and to know if I have acquired the infection or not.

The counselor informed me that I will receive a post-test counseling through which my results will be delivered. I confirm that I agree to the procedure.

I understand that taking this test is voluntary and that I may withdraw my consent at any time before to perform test.

I was informed about measures that will be taken to confidentiality protect of my results.

Signature of person giving consent

Signature _____Date and Time _____

(Put signature equal to identity document presented)

Name and signature of professional who performed the counseling

Name _____

Signature _____Date and Time _____

English version 1.0 August 3, 2021

Appendix 4.0

Venezuelan migrants living in Peru

Referral Coupon

Coupons will be printed in colour paper and be durable to withstand traveling in pockets and wallets. The content will be clear and informative even for those with limited literacy. For Trujillo Site we modified the Address, Map and Telephone

Front of Referral Coupon (Figure 1. below):

Referral Coupon

BBS – OIM

(Show coupon at check-in)

OIM ONU MIGRACIÓN

COUPON CODE

ADDRESS: Av. Emancipación 791 Cercado
(02 blocks from Union Square)

TELEPHONE: XXXX XXX XXX
(You can call to make an appointment in advance)

Map

(Local reference indication)

OPENING HOURS: Monday to Friday of 08:00Hours to 17:00Hours

EXPIRATION DATE: _____ / _____/_____

1. Unique identification number
2. Name of the project
3. Phone number (preferably a toll-free number)
4. Hours and days of the interview site operation
5. Address of the interview site
6. Expiration date of the coupon (project staff will write this information in the space provided)
7. Project logos of participating organizations

Back of referral coupon (Figure 2. below):

IT IS MANDATORY TO SHOW THIS COUPON WHEN YOU COME TO PARTICIPATE IN THE STUDY.

ONLY WITH THE COUPON YOU WILL BE ABLE TO START THE PROCESS AND SEE IF YOU ARE ELIGIBLE TO PARTICIPATE.

YOU WILL RECEIVE THE FOLLOWING BENEFITS:

- Free, confidential HIV / Syphilis counselling and testing. If necessary confirmatory test
- Condoms and lubricants
- Referral to a support staff in the incorporation process into the health care system for HIV/Syphilis.
- Reimbursement for time invested in completing the visit and mobility expenses.

IF THE COUPON IS DAMAGED, DELETED, ILLEGIBLE OR HAS FALSIFIED CODE, IT WILL NOT BE ACCEPTED.

IF THE PROJECT REACHED THE TARGET SAMPLE SIZE YOU COULD NOT BE SERVED BUT YOU WILL GET MOBILITY REFUND.

Photo:

Venezuelan migrants living in Peru

Referral Form

General data:

Age	
Participant ID	
HIV status	
Syphilis status	
Venue of testing	
Date of testing	

Site data:

Survey site phone number:	
Name of site manager	

Site manager

Signature

Venezuelan migrants living in Peru

Participant Survey

Table of Contents

Screening and consent

1. Is this participant a seed? *(reg_seed)*
    0. No
    1. Yes

2. ***(If reg_seed = 0)*** If no, enter coupon ID: *(reg_cid)* **Eligibility criteria: must be valid CID**

3. What is your date of birth? **(Range: 1/1/1900 – present)** (*reg_dob)* **Eligibility criteria: age >=18**

   Dd/mm/yyyy

   Programming: calculate age (reg_age) then display age for confirmation

4. In what country were you born? *(reg_homecountry)* **Eligibility criteria: reg_homecountry = 0**
    0. Venezuela
    1. Peru
    2. Other

5. For what/which countries do you hold citizenship status? Select all that apply *(reg_citizen)* **Eligibility criteria: reg_citizen INCLUDES A)**
    a. Venezuela
    b. Peru
    c. Other: _____

6. Do you currently reside in Peru? *(reg_curres)* **Eligibility criteria: reg_curres = 1**
    0. No
    1. Yes

7. ***(If reg_curres = 1)*** In what year did you move to Peru? (Drop down list of calendar year) **(Range: 1/1/1900 – present)** (*reg_migyear)* **Eligibility criteria: reg_migyear is 2015 – 2021**

8. How would you describe your presence in Peru? *(reg_migstatus)* **Eligibility criteria: reg_migstatus = 0 OR 1**
    0. Regular
    1. Irregular
    2. In transit

9. In what city do you currently reside/stay (i.e. spend the majority of your nights)? *(reg_city)* **Eligibility criteria: reg_city = 0 OR 1 OR 2 OR 3**
    0. Lima
    1. Callao
    2. Trujillo
    3. Other city in Peru
    4. Venezuela

10. Do you plan to move to another country outside of Peru or Venezuela, assuming that conditions remain the same in Venezuela? *(reg_futureplans)* **Eligibility criteria: reg_futureplans = 0**
    0. No
    1. Yes

11. (If *reg_futureplans=0)* Within what timeframe do you plan to leave Peru? *(reg_*
    0. < 1 month
    1. 1 month – 6 month
    2. 7 months – 1 year
    3. >1 year

12. Where do you plan to go? *(reg_futurecountry)*
    0. Colombia
    1. Brazil
    2. Ecuador
    3. Chile
    4. Other

13. Have any immediate family members in your household participated in this survey already?*(reg_fampart)* **Eligibility criteria: reg_fampart = 0**
    0. No
    1. Yes

14. ***Interviewer:*** *Confirm if this participant is eligible: (reg_eligibilityconfirm)*
    1. No
    1. Yes

15. Interviewer: *Read consent form and answer any questions.*
Has the participant provided consent to participate? (reg_consent)
    1. No
    1. Yes

Registration of eligible and consenting participants

Thank you for agreeing to participate in this survey. As we mentioned during the consent process, we would like to collect your name and contact information, so that we can contact you for any incentives or laboratory results. Please remember that this information will be stored in a secure, encrypted system that is accessible only to select members of our survey team. We will retain your contact information until the end of the survey, at which point it will be destroyed.

0. Please provide a telephone number where we can contact you: *(reg_phone)*

1. Is this a cellular phone or landline? *(reg_cell)*
    0. Cellular
    1. Landline

2. Do you share the phone with other people? (For example, do you share or loan this phone to family or friends)? *(reg_sharedphone)*
   0. No
   1. Yes

Programming note: Run a search on given name and phone number to identify potential duplicate participants.

If there is a match on phone number, display message: "This phone number has been previously registered in *this survey. Have you or someone else you know participated in this survey? What is your relationship to the person with this phone number who participated in the survey" Return to eligibility form, if the participant or an immediate family member in the household has participated.*

If there is a match on the phone number and name, display message: "The name and phone number you gave *me have been previously registered in this survey. Have you participated in this survey* in the past?" Return *to eligibility form, if the participant had participated.*

Is there another preferred way to contact you? *(reg_othercontact)*

1. Email: _____
2. Facebook: _____
3. Other: _____

Which method do you prefer that we use to contact you? *(reg_preferredcontact)*

0. Telephone (SMS)
1. Telephone (WhatsApp)
2. Email
3. Facebook
4. other

RDS Relationship (Interviewer administered)

1. ***(If reg_seed = 0)*** Which of the following describes how you know the person who gave you this coupon? *(rds_relationship)*
   0. Relative or family member
   1. Friend / Acquaintance
   2. Sexual partner
   3. Stranger
   4. Other: _____

2. ***(If rds_relationship = 2)*** What kind of a sex partner is this person? *(rds_partner)*
   0. Main
   1. Casual
   2. Commercial (Participant paid them)
   3. Commercial (Participant was paid by them)

4. Have you known this person for some days, some months, or some years? *(rds_timeknow)*

0. Days
1. Months
2. Years

5. How many times have you seen this person in the last 30 days? **(Range: 0 – 30)** *(rds_30days)*

6. What was the main reason you joined this survey? *(rds_motive)*
   0. Interested in the survey
   1. Want the incentive
   2. Wanted the health screening/HIV or STI test
   3. Wanted to learn more about health services for Venezuelans
   4. Wanted to help improve health services for Venezuelans
   5. Was forced to come
   6. Other

RDS Personal Network Size

Now I am going to ask you a few questions about how many Venezuelans you know. When I refer to Venezuelans, I am referring to those who have moved here within the last 5 years (since 2015).

1. How many Venezuelans who migrated in the past five years do you know personally in Peru? *(rds_knowperu)*

2. How many Venezuelans who migrated in the past five years do you know personally who stay or work in [survey site]? *(rds_knowsite)*
   VALUE: <= rds_knowperu

3. ***(If rds_knowsite >0)*** Of the *[rds_knowsite]* you know, how many do you know personally that are aged 18 years or older? *(rds_knowadults)*
   VALUE: <= rds_knowsite

4. ***(If rds_citypop >0)*** Of the [*rds_knowadults]* people aged 18 years or older you know in [SURVEY SITE], how many have you seen in the past 30 days? *(rds_seen30days)*
   VALUE: <= rds_knowadults

5. ***(If rds_citypop >0)*** Of the [*rds_knowadults]* adults you know in [survey site], how many have you seen in the past 2 weeks? *(rds_seentwo)*
   VALUE: <= rds_knowadults

6. ***(If rds_knowadults >0)*** Finally, of [*rds_knowadults*] adults you know in [survey site], how many would you consider inviting to participate in this survey? *(rds_invite)*
   VALUE: <=rds_knowadults

Literacy screening (interviewer administered)

"It would be helpful for us to get an idea of what medical words you are familiar with. What I need you to do is look at this list of words, beginning here [point to first word with pencil] . Say all of the words you

know. If you come to a word youdon't know, you can sound it out or just skip it and go on." Research assistant: check the items that are properly pronounced by the participant.

fat
flu
pill
allergic
jaundice
anemia
fatigue
directed
colitis
constipation
osteoporosis

Programming: Words fat-pill are not scored. Correctly pronounced words will be summed (lit_sum).

If lit_sum <=6, display message: "The participant scored [lit_sum]. An interviewer administered survey is recommended."

If lit_sum>6 display message: "The participant scored [lit_sum]. A self-administered survey is recommended."

Select the method the participant will use to complete the survey:

0. Self-administered **hand tablet to the participant when the new screen opens.**
1. Interviewer administered

Demographics

Thank you again for participating in our survey! We are going to ask you several questions regarding a variety of topics, some of which may be sensitive or uncomfortable to answer. We ask that you answer honestly so your responses can best help care providers to support the Venezuelan community. Please take as much time as you need to answer each question. You may ask survey staff for clarification regarding any questions at any point during the survey. Anything you share in this survey will remain completely confidential.

We are going to begin with some basic demographic questions.

1. What sex were you assigned at birth? *(dem_sex)*
   0. Male
   1. Female

2. How do you identify in terms of gender? *(dem_gender)*
   0. Male
   1. Female
   2. Transgender male
   3. Transgender female
   4. Non-binary
   5. Other

3. Which is the highest level of education that you've completed? *(dem_education)*
   0. No formal education

1. Primary
2. Secondary
3. Higher (university or other post-secondary school)
4. Other

4. Which of the following best describes your employment status? *(dem_employment)*
   0. Formal or "on the books" full-time employment
   1. Formal or "on the books" part-time employment
   2. Informal or "under the table" employment
   3. Street vendor
   4. Full-time student
   5. Retired
   6. Unemployed
   7. Other

5. In the last thirty days, how much income was received by your household? *(dem_income)*
   0. Less than minimum wage (930 soles)
   1. Minimum wage (930 soles)
   2. Between 930 – 1,500 soles
   3. More than 1,500 soles

6. Including yourself, how many people rely on this income? **(Range: 1 – 20)** *(dem_dependents)*

7. What is your current relationship/marital status? *(dem_relationship)*
   0. Never married
   1. Married or cohabitating
   2. Divorced or separated
   3. Widowed

Displacement History and Housing

The following questions will ask about how you came to Peru and your experiences living here.

1. When you moved here in [*reg_migyear*], how did you arrive in Peru? *(dis_arrival)*
   0. Formal border crossing
   1. Trocha or informal border crossing
   2. Plane/boat/bus/truck/car/walking
   3. Other

2. What was your *primary* motivation to leave Venezuela? Select the response most applicable to you *(dis_migmotive)*
   0. Job insecurity
   1. Food insecurity
   2. Violence
   3. Lack of educational opportunities
   4. Lack of access to medicine/medical care (excluding prenatal & obstetric care)
   5. To give birth/access prenatal care in a reputable hospital
   6. To give birth/obtain Perun citizenship for child
   7. To join other family members who had already left Venezuela
   8. Other

3. *(If dis_migmotive = 4)* For which health conditions were you seeking care? Select all that apply *(dis_healthmotive)*
    0. General primary care
    1. Diabetes
    2. Cancer
    3. Heart disease
    4. High blood pressure
    5. High cholesterol (hypercholesterolemia)
    6. HIV
    7. Mental health (such as depression)
    8. Other:

4. With whom did you travel to Peru? Select all that apply *(dis_travelcompanion)*
    0. Alone
    1. With immediate family
    2. With extended family
    3. With friends
    4. With a group I did not know well

5. ***(If dis_travelcompanion INCLUDES B)*** Did all members of your immediate family travel with you to Peru? *(dis_splitfamily)*
    0. No
    1. Yes
    2. Not applicable

6. *(If dis_travelcompanion does not include B OR dis_splitfamily=0)* Did any of your immediate family members join you at different time?
    0. No
    1. Yes
    2. Not applicable

7. How would you best describe your current residence/shelter? *(dis_reside)*
    0. Home/apartment/room that I rent
    1. Home/apartment that I own
    2. Staying at someone else's place
    3. Shelter/halfway house
    4. Camp
    5. Abandoned building
    6. Car
    7. No current residence/shelter
    8. Other:

8. In the last 180 days, how many nights have you had difficulty finding a safe place to sleep? *(dis_safeplace)*
    0. None
    1. 1-10
    2. 11-30
    3. 31-60
    4. More than 60

9. Do you plan on remaining in (SITE NAME) for the foreseeable future? *(dis_destination)*
    0. No

1. Yes

10. *(If dis_destination = 0)* How long do you plan to remain in (SITE NAME)? (*dis_timehere)*
    0. Less than 1 month
    1. 1 month – 6 months
    2. 7 months – 1 year
    3. More than 1 year

11. *(If dis_destination = 0)* Where is your final destination? *(dis_destinationcity)*
    0. Lima
    1. Arequipa
    2. Trujillo
    3. Chiclayo
    4. Piura
    5. Iquitos
    6. Cusco
    7. Chimbote
    8. Tumbes
    9. Other

12. Since arriving in Peru, have you been detained by the police or border officials on account of your migration status? *(dis_detain)*
    0. No
    1. Yes

13. You are treated with less courtesy or respect than other people *(disc_respect)*
    0. Never
    1. Less than once a year
    2. A few times a year
    3. A few times a month
    4. At least once a week
    5. Almost every day

14. You receive poorer service than other people at restaurants or stores *(disc_service)*
    0. Never
    1. Less than once a year
    2. A few times a year
    3. A few times a month
    4. At least once a week
    5. Almost every day

15. People act as if they think you are not smart *(disc_smart)*
    0. Never
    1. Less than once a year
    2. A few times a year
    3. A few times a month
    4. At least once a week
    5. Almost every day

16. People act as if they are afraid of you? *(disc_afraid)*
    0. Never
    1. Less than once a year

2. A few times a year
3. A few times a month
4. At least once a week
5. Almost every day

17. You are threatened or harassed *(disc_threat)*
    0. Never
    1. Less than once a year
    2. A few times a year
    3. A few times a month
    4. At least once a week
    5. Almost every day

18. ***("A few times a year" or more frequently to at least one question disc_respect – disc_threat.)*** Do you believe the main reason for this/these experiences is your nationality or migration status? *(disc_reason)*
    0. No
    1. Yes

The next questions are about any experience with registration in Peru

19. ***(If reg_migstatus = 0)*** Which of the following do you have? Select all which apply. *(dis_regular)*
    0. Temporary state permit (Permiso Temporal de Permanencia)
    1. Immigration Card (Carnet de extranjería)
    2. Refugee applicant card
    3. Temporary residence permit card (Permiso temporal de residencia)
    4. Identity card (Cédula de identidad)
    5. Venezuelan passport
    6. Others

Food Security

The following several statements have been made by people about their food situation. For these statements, please indicate whether the statement was often true, sometimes true, or never true for (you/your household) in the last 12 months—that is, since last (***NAME OF CURRENT MONTH***).

20. The food that (I/we) boughtjust didn't last, and (I/we) didn't have moneyto get more. *(usda_money)*
    0. Often true
    1. Sometimes true
    2. Never true
    3. Don't know

21. (I/we) couldn't afford to eat balanced meals. *(usda_afford)*
    0. Often true
    1. Sometimes true
    2. Never true
    3. Don't know

22. In the last 12 months, since last (***NAME OF CURRENT MONTH***), did (you/you or other adults in your household) ever cut the size of your meals or skip meals because there wasn't enough money for food? *(usda_skip)*
    0. No
    1. Yes
    2. Don't know

23. *(If usda_skip = 1)* How often did this happen—almost every month, some months but not every month, or in only 1 or 2 months? *(usda_skipfu)*
    0. Almost every month
    1. Some months but not every month
    2. Only 1 or 2 months
    3. Don't know

24. In the last 12 months, did you ever eat less than you felt you should because there wasn't enough money for food? *(usda_enough)*
    0. No
    1. Yes
    2. Don't know

25. In the last 12 months, were you ever hungry but didn't eat because there wasn't enough money for food? *(usda_hungry)*
    0. No
    1. Yes
    2. Don't know

Programming: Sum all affirmative responses (yes, Often/Sometimes true, Almost every month/some months)- each counts as one point to genderate usda_sum. Scores 2-4 are defined as low food security, Scores 5-6 are very low food security.

Health History

Now we would like to ask some questions about your general health and well-being. Some of these questions will deal with mental health and substance use and may be sensitive or difficult to answer. Please take as much time as you need and try to answer each question truthfully.

26. Would you say your health in general is excellent, very good, good, fair, or poor? *(health_selfreport)*
    1. Excellent
    2. Very good
    3. Good
    4. Fair
    5. Poor

27. Please tell me your height at your last measurement in centimeters. Please give your best guess, if you cannot remember it precisely. **(Range: 100 – 215, whole numbers only)** *(bmi_height)*

28. Please tell me your weight at your last measurement in kilograms. Please give your best guess, if you cannot remember it precisely. **(Range: 30 – 180, whole numbers only)** (*bmi_weight)*

For the next four questions, please think about the ***last two weeks***. How often have you had the following problems:

29. Feeling nervous, anxious or on edge *(phq1)*
    0. Not at all
    1. Several days
    2. More than half of the days
    3. Nearly every day

30. Not being able to stop or control worrying *(phq2)*
    0. Not at all
    1. Several days
    2. More than half of the days
    3. Nearly every day

31. Little interest or pleasure in doing things *(phq3)*
    0. Not at all
    1. Several days
    2. More than half of the days
    3. Nearly every day

32. Feeling down, depressed, or hopeless *(phq4)*
    0. Not at all
    1. Several days
    2. More than half of the days
    3. Nearly every day

Programming: Generate variable phq_sum by adding all phq items. Scores are rated as normal (0-2), mild (3-5), moderate (6-8), and severe (9-12). Total score ≥3 for first 2 questions suggests anxiety. Total score ≥3 for last 2 questions suggests depression.

Now we will ask some questions about drinking alcohol during this past year. (Explain that alcoholic beverages are: beer, wine or another alcoholic beverages locally consume)

33. How often do you have a drink containing alcohol? (*auditc1)*
    0. Never ⍰ next section
    1. Monthly or less
    2. 2-4 times a month
    3. 2-3 times a week
    4. 4 or more times a week

34. How many drinks containing alcohol do you have on a typical day when you are drinking? (a*uditc2)*
    0. 1 or 2
    1. 3 or 4
    2. 5 or 6
    3. 7 to 9
    4. 10 or more

35. On one occasion, how often do you have six or more drinks? (*auditc3)*
    0. Never
    1. Less than monthly
    2. Monthly
    3. Weekly
    4. Daily or almost daily

Programming: generate audit_sum=auditc1+auditc3 scored 0-12, scores>=4 for men and >=3 for women consistent with hazardous drinking or AUD

Thank you. Now we will ask some questions about illicit drugs people may use. These include illicit drugs such as cocaine, heroin, methamphetamine, cannabis, extasis, polyvinyl acetate (PVA)

36. Have you ever used any drugs that you sniff, swallow, or inhale other than those prescribed for you? (*du_ever*)
    0. No
    1. Yes

37. Have you ever injected any drugs, other than those prescribed for you? (*inj_ever*)
    0. No
    1. Yes

38. ***(If du_ever=1)*** In the past 12 months, have you used any drugs that you sniff, swallow, or inhale other than those prescribed for you? (*du_lastyr*)
    0. No
    1. Yes

39. ***(If inj_ever=1)*** In the past 12 months, have you injected any drugs, other than those prescribed for you? (*inj_lastyr*)
    0. No
    1. Yes

Thank you. Now we will ask some questions about medical procedures you have ever had while in Venezuela.

40. Have you ever received a blood transfusion while in Venezuela? *(health_blood)*
    3. No
    4. Yes

41. ***(If health_blood = 1)*** In what year was your most recent blood transfusion in Venezuela? **(Range: 1/1/1900 – present)** *(health_bloodyear)*

42. Have you ever had surgery while in Venezuela? *(health_surg)*
    5. No
    6. Yes

43. ***(If health_surg= 1)*** In what year was your most recent surgery in Venezuela? **(Range: 1/1/1900 – present)** *(health_bloodyear)*

The next few questions are about your lifetime sexual history. When we refer to sex, this includes vaginal and anal sex. With vaginal sex we mean a penis enters a vagina. With anal sex, this is when a penis enters the anus (butt).

44. Have you ever had sex? *(health_sexactive)*
    0. No HIV testing
    1. Yes

45. ***(If health_sexactive = 1)*** What is/are the gender(s) of your lifetime sexual partners? Select all that apply (*health_sexpartner*)
    0. Male
    1. Female
    2. Transgender male
    3. Transgender female
    4. Non-binary
    5. Other

46. *(If health_sexpartner INCLUDES A)* Was a condom used during the last time that you had sex with a man? *(condom_malepartner)*
    0. No
    1. Yes

47. ***(If health_sexpartner INCLUDES B)*** Was a condom used during the last time that you had sex with a woman? *(condom_femalepartner)*
    0. No
    1. Yes

48. ***(If health_sexpartner INCLUDES C)*** Was a condom used during the last time that you had sex with a transgender man? *(condom_transmalepartner)*
    0. No
    1. Yes

49. *(If health_sexpartner INCLUDES D)* Was a condom used during the last time that you had sex with a transgender woman? *(condom_transfemalepartner)*
    0. No
    1. Yes

50. ***(If health_sexpartner INCLUDES E)*** Was a condom used during the last time that you had sex with a non-binary person? *(condom_nonbinarypartner)*
    0. No
    1. Yes

51. *(If health_sexactive=1)* In the last 12 months, with approximately how many different partners have you had sex? Please give your best guess. **(Range: 0 – 4,000)** *(sexpartner_num)*

52. ***(If health_sexactive=1)*** What is your most recent partner's HIV status? *(hivrisk_partnerstatus)*
    0. HIV-negative
    1. HIV-positive
    2. Unknown

53. In the last 12 months, have *you* paid or given *someone* something in exchange for sex? *(hivrisk_paidsex)*
    0. No
    1. Yes

54. ***(If hivrisk_paidsex = 1)*** Was a condom used the *last time* you *paid* or gave someone something to have sexual intercourse? *(hivrisk_paidsexcondom)*
    0. No
    1. Yes

55. In the last 12 months, has anyone paid or given *you* something in exchange for sex? *(hivrisk_sexwork)*
    0. No
    1. Yes
56. ***(If hivrisk_sexwork = 1)*** In the last 7 days, has anyone paid or given *you* something in exchange for sex? (*sexwork_curr)*
    0. No
    1. Yes

57. ***(If hivrisk_sexwork = 1)*** *In an average week,* with approximately how many different clients do you have sex?
    0. No
    1. Yes

58. ***(If hivrisk_sexwork = 1)*** Was a condom used the *last time* you were paid or given something in exchange for sex? *(hivrisk_sexworkcondom)*
    0. No
    1. Yes
59. ***(If gender=1 AND health_sexactive=1)*** Are you currently using a method of contraception/birth control? *(health_contraception)*
    0. No
    1. Yes

60. *(If health_contraception = 1)* What method are you using? *(contraception_method)*
    0. Pills
    1. Patch
    2. Shot
    3. Vaginal ring
    4. Hormonal IUD
    5. Copper IUD
    6. Implant
    7. Condoms or other physical barrier method
    8. Breastfeeding as birth control
    9. Vasectomy or tubal ligation
    10. Other

61. ***(If health_contraception = 0)*** For which reason(s) are you not using contraception? Select all that apply.
    0. Trying to conceive
    1. Do not know where to access contraception
    2. Cannot afford contraception
    3. Concern about side effects
    4. Partner does not want you to take contraception
    5. Religious beliefs
    6. Have reached menopause
    7. Other

62. Before coming to Peru, were you ever tested for a sexually transmitted infection (STI), such as gonorrhea, chlamydia, syphilis, HPV etc? *(sti_evertest)*
    0. No
    1. Yes

2. Unsure

63. ***(If sti_evertest = 1)*** Before coming to Peru, were you ever told by a medical professional that you have a sexually transmitted infection (STI)? *(sti_evertold)*
    0. No
    1. Yes

64. ***(If sti_evertold = 1)*** Which STI were you told you had? Select all that apply. *(sti_ever)*
    0. Syphilis
    1. Gonorrhea
    2. Chlamydia
    3. Herpes
    4. HPV
    5. Other:

65. ***(If sti_evertold = 1)*** Did you receive treatment for the STI? *(sti_tx)*
    0. No
    1. Yes
    2. Unsure

66. Since coming to Peru, have you been tested for a sexually transmitted infection (STI)? *(sti_pertest)*
    2. No
    3. Yes
    4. Unsure

67. ***(If sti_pertest = 1)*** Since coming to Peru, have you been told by a medical professional that you have a sexually transmitted infection (STI)? *(sti_pertold)*
    0. No
    1. Yes

68. ***(If sti_pertold = 1)*** Which sexually transmitted infection (STI) were you told you had in Peru? Select all that apply *(sti_per)*
    0. Syphilis
    1. Gonorrhea
    2. Chlamydia
    3. Herpes
    4. HPV
    5. Other:

69. ***(If sti_pertold = 1)*** Did you receive treatment for the STI? (*sti_tx_per)*
    0. No
    1. Yes
    2. Unsure

Now I would like to ask you other questions about your health.

70. How many days have you had the following symptoms? Please put "0" if you are not currently experiencing the symptom. (*tbscreen_label)*
    0. Dry cough (*tbscreen_drycough)*
    1. Cough with phlegm *(tbscreen_phlegmcough)*
    2. Cough with blood *(tbscreen_bloodcough)*
    3. Fever *(tbscreen_fever)*

4. Shortness of breath *(tbscreen_breath)*
5. Unintentional weight loss *(tbscreen_weightloss)*
6. Fatigue or loss of energy *(tbscreen_fatigue)*
7. Excessive sweating at night *(tbscreen_nightsweat)*
8. Lack of appetite *(tbscreen_appetite)*
9. Pain in chest and/or back *(tbscreen_chestpain)*

71. Have you ever been tested for TB? *(tb_evertest)*
    0. No
    1. Yes

72. ***(If tb_evertest = 1)*** Have you ever been told by a medical professional that you have active tuberculosis (TB)? *(tb_evertold)*
    0. No
    1. Yes

73. ***(If tb_evertold = 1)*** In which country were you told that you have active tuberculosis (TB)? Select all that apply. *(tb_dxcountry)*
    0.Venezuela
    1. Peru
    2. Other

74. Did you ever start treatment for tuberculosis (TB)? *(tb_evertreat)*
    0. No
    1. Yes

75. ***(If tb_evertreat=1)*** Did you *take all of the pills* that were prescribed to treat your tuberculosis (TB) infection? *(tb_allmed)*
    0. No
    1. Yes

76. ***(If tb_evertreat=1)*** In which country were you treated for active tuberculosis (TB)? Select all that apply. *(tb_txcountry)*
    0. Venezuela
    1. Peru
    2. Other

77. ***(If tb_evertreat=1)*** Did a healthcare provider ever tell you that you no longer have tuberculosis (TB)? (*tb_resolve*)
    0. No
    1. Yes
    2. Don't know

78. In the period between February 2020 and now, did you experience symptoms which lead you to believe you were infected with COVID-19? (*covid_belief*)
    0. No
    1. Yes

79. ***(If covid_belief = 1)*** Which symptoms did you experience? Select all that apply. (*covid_sx*)
    0. Fever (covid_fever)
    1. Fatigue or lack of energy (covid_fatigue)
    2. Cough or sore throat (covid_cough)

3. Shortness of breath, discomfort, or tightness in chest (covid_breath)
4. Lost sense of smell (covid_smell)
5. Other: (covid_other)

80. ***(If covid_belief = 1)*** Were you tested for COVID-19 infection? (*covid_test*)
    0. No
    1. Yes

81. ***(If covid_test = 1)*** What was the result? (*covid_dx*)
    0. Negative
    1. Positive
    2. Don't know

82. ***(If covid_dx = 1)*** Were you treated by a healthcare provider for COVID-19? (*covid_tx*)
    0. No
    1. Yes

83. ***(If covid_tx = 1)*** In which country were you treated for COVID-19? (*covid_txcountry*)
    0. Venezuela
    1. Colombia
    2. Brazil
    3. Peru
    4. Ecuador
    5. Panama
    6. Other

84. In the period between February 2020 and today, how many people in your household do you believe were infected with COVID-19? Enter 0 if none (covid_hh1)

85. In the period between February 2020 and today, how many people in your household were diagnosed with COVID-19? Enter 0 if none (covid_hh2)

86. (If covid_hh1 or covid_hh2 >0)Of these "XX" people in your household you believe were infected with COVID-19, how many do you believe passed away due to COVID-19? Enter 0 if none (covid_hh3)

General access to healthcare

87. During the time that you have lived in Peru, approximately how many times have you been to a health clinic and/ or private clinic, health center or hospital for any medical care for any medical condition? This does *not* include preventive care such as annual exams or vaccinations. *(care_peru)*
    0. None
    1. Once
    2. Twice
    3. Three or more times

88. *(If care_ peru= 1 OR 2 OR 3)* Where did you receive this care? Select all that apply *(care_setting)*
    0. Emergency room
    1. Public hospital
    2. Health center
    3. Private clinic
    4. Humanitarian organization (such as Red Cross or UNHCR)
    5. Community based organization

6. Other

89. ***(If care_peru = 1 OR 2 OR 3)*** To what extent did you receive all of the medical services that you felt you needed? *(care_adequate)*
    0. None of the services
    1. Some of the services
    2. Most of the services
    3. All of the services

90. ***(If care_adequate<3)*** Why were you unable to receive the medical services you needed? *(care_barrier)*
    0. Cost
    1. Time
    2. Services unavailable
    3. Other

91. Do you have any chronic health conditions that require regular medication (excluding HIV)? *(care_chronicneeds)*
    0. No ***care_prevention***
    1. Yes

92. ***(If care_chronicneeds = 1)*** What/which condition(s) do you have? Select all that apply: *(care_chronicconditions)*
    0. Diabetes
    1. Cancer
    2. Heart disease
    3. High blood pressure
    4. High cholesterol (hypercholesterolemia)
    5. Mental health (such as depression)
    6. Other:

93. ***(If care_chronicneeds = 1)*** During the time that you have lived in Peru, was there any time in which you were unable to obtain the medicine(s) that you needed for this/these condition(s)? *(care_chroniclapse)*
    0. No ***care_prevention***
    1. Yes

94. ***(If care_chroniclapse = 1)***What prevented you from obtaining the medicine that you needed? Select all that apply *(care_chronicbarrier)*
    0. Cost
    1. Time
    2. Unable to see a medical provider who could prescribe this/manage my care
    3. Medicine unavailable
    4. Other

95. During the time that you have lived in Peru, have you tried to receive any preventive health services, such as an annual physical exam, vaccinations, etc? *(care_prevention)*
    0. No ***hiv_evertest***
    1. Yes

96. ***(If care_prevention = 1)*** To what extent did you receive all of the medical services that you felt you needed? *(prevention_adequate)*
    0. None
    1. Some
    2. All ***hiv_evertest***

97. ***(If prevention_adequate <3)*** Why were you unable to receive the medical services you needed? *(prevention_barrier)*
    0. Cost
    1. Time
    2. Services unavailable
    3. Other

HIV – Testing, Prevention, and Care

Thank you for answering those questions about general healthcare. The next set of questions will ask more specific questions about HIV testing, prevention, and care.

98. Have you ever been tested for HIV? *(hiv_evertest)*
    0. No ***hiv_testwhere***
    1. Yes
    2. Don't know ***hiv_testwhere***

a. ***(If hiv_evertest = 1)*** How long ago was your most recent test? *(hiv_recenttest)*

    0. Within the past 1 year
    1. More than 1 year ago and less than 5 years
    2. More than 5 years ago and less than 10 years
    3. More than 10 years ago
    4. Don't know

b. ***(If hiv_evertest = 1)*** In what country did you have your most recent HIV test? *(hiv_testcountry)*

    0. Colombia,
    1. Venezuela
    2. Peru
    3. Brazil
    4. Chile
    5. Ecuador
    6. Other

99. ***(If hiv _evertest = 1)*** What was the result of your most recent HIV test? *(hiv_testresult)*
    0. HIV negative
    1. HIV positive ***hivcareever***
    2. Indeterminate
    3. Unknown

100. ***(If hiv_evertest = 0 OR [hiv_testcountry =/= 0 AND hiv_testresult =/= 1])*** Do you know where you can be tested for HIV in this city? (*hiv_testwhere)*
    0. No
    1. Yes
    2. Don't know

101. **(If hiv_evertest=0 or 2 OR hiv_testresult=/=1)** During the time that you have lived in Peru, have you ever use post-exposure prophylaxis (PEP) to prevent HIV infection? PEP is a medicine that HIV-negative people take for one month *after* they had contact with someone who is living with HIV, so that they do not get HIV. (*hiv_npep)*
    0. No
    1. Yes
    2. Don't know

102. ***(If hiv_npep=1***) Where did you obtain PEP? Select all that apply. *(npep_where)*
    0. Emergency room
    1. Public hospital
    2. Health center
    3. Private clinic
    4. Humanitarian organization (such as Red Cross, UNHCR or other)
    5. Community based organization
    6. Family or friends
    7. Other

103. ***(If hiv_evertest=0 or 2 OR hiv_testresult=/=1)*** During the time that you have lived in Peru, have you ever use pre-exposure prophylaxis (PrEP) to prevent HIV infection? Pre-exposure prophylaxis (PrEP) is a daily medicine that can prevent HIV. It is taken by HIV-negative people. (*hiv_prep)*
    0. No
    1. Yes
    2. Don't know

104. ***(If hiv_prep=1)*** Where did you obtain PrEP? Select all that apply. *(prep_where)*
    0. Emergency room
    1. Public hospital
    2. Health center
    3. Private clinic
    4. Humanitarian organization (such as Cruz Roja, UNHCR or other)
    5. Community based organization
    6. Family or friends
    7. Other

105. ***(If hiv_prep=1)*** Are you currently taking PrEP? *(prep_current)*
    0. No
    1. Yes

(hiv_testresult = 1) Thank you. You told us you tested positive for HIV. Many people living with HIV register with a health care provider to get care. By "care" we mean someone goesfor check-ups to a health care provider or gets antiretrovirals (ARVs) for their HIV infection. The next few questions are about the first time you saw a provider for your HIV.

106. After learning that you had HIV, have you *ever* received HIV medical care from a health care provider? (*hivcareever)*
    0. No
    1. Yes → ***hiv_poscountry***

107. ***(If hivcareever = 0)*** What was the main reason you have never received HIV medical care from a healthcare provider? *(hivcarenever)*
    0. Feel healthy

1. Concerned about stigma or do not want others to know
2. Cost of the medical visit
3. Distance to clinic
4. Attitude of healthcare providers
5. Waiting times or clinic hours are not good
6. Treatment was unavailable or unaffordable, so medical visits seemed pointless
7. Didn't know where to go
8. Other

108. In what country did you first receive your HIV diagnosis? *(hiv_poscountry)*
0. Venezuela
1. Colombia
2. Peru
3. Ecuador
4. Other

109. ***(If hivcareever =1)*** In what country(ies) have you received HIV medical care? Select all that apply *(hivcarecountries)*
0. Colombia
1. Venezuela
2. Peru
3. Ecuador
4. Other

110. ***(If hivcareever=1)*** Are you *currently* receiving HIV medical care from a health care provider? (*hivcarecurr)*
0. No
1. Yes ***hivvisits***

111. ***(If hivcarecurr = 0)*** What was the main reason you are *not currently* receiving or unable to receive HIV medical care from a healthcare provider? *(hivcarelapse)*
0. Feel healthy
1. Concerned about stigma or do not want others to know
2. Cost of the medical visit
3. Distance to clinic
4. Attitude of healthcare providers
5. Waiting times or clinic hours are not good
6. Treatment is unavailable, so medical visits seem irrelevant
7. Treatment is unaffordable, so medical visits seem irrelevant
8. Don't know where to go
9. Other

112. ***(If hivcarecurr=1)*** In the past 12 months, how many medical visits have you received to care for your HIV infection? **(Range: 0 – 365)** *(hivvisits)*

113. ***(If hivcareever =1)*** Have you ever had your CD4 (or T-cell count) tested? The CD4 count tells how sick you are with HIV. (*hivcarecd4)*
0. No
1. Yes
2. Don't know

114. ***(If hivcarecd4=1)*** When did your care provider last test your CD4 count? *(whencd4)*

0. In the last 6 months
1. Between 7 and 12 months ago
2. More than 12 months ago
3. Don't know

115. ***(If hivcarecd4=1)*** What was the result of your last CD4 count? *(recentcd4)*
0. More than 500
1. Between 350 and 500
2. Between 200 and 349
3. Below 200
4. Did not receive the result
5. Don't know

116. ***(If hivcarecd4=1)*** In what country did you have your most recent CD4 test? *(countrycd4)*
0. Venezuela
1. Colombia
2. Peru
3. Ecuador
4. Other

117. ***(If hivcareever =1)*** Have you ever had your viral load measured? This is a measure of the amount of virus circulating in your body. (*hivcarevl)*
0. No
1. Yes
2. Don't know

118. ***(If hivcarevl=1)*** When did your care provider last test your viral load? *(whenvl)*
0. In the last 6 months
1. Between 7 and 12 months ago
2. More than 12 months ago
3. Don't know

119. ***(If hivcarevl=1)*** What was the result of your last viral load test? *(recentvl)*
0. Unsuppressed (>=1000)
1. Suppressed (< 1000)
2. Do not know

120. ***(If hivcarevl=1)*** In what country did you have your most recent viral load test? *(countryvl)*
0. Venezuela
1. Colombia
2. Peru
3. Ecuador
4. Other

121. ***(If hivcareever = 1)*** Have you ever taken antiretroviral medication to treat your HIV infection? *(hivcareart)*
0. No
1. Yes
2. Don't know

122. ***(If hivcareart = 0)*** What is the main reason you never started taking antiretroviral medication? *(artbarrier_never)*

0. I felt healthy
1. Antiretroviral medication were unavailable
2. Antiretroviral medication were unaffordable
3. My CD4 count was too high
4. My CD4 count was unknown
5. Healthcare provider told me it was too early to start
6. Other:

123. ***(If hivcareart = 1)*** When did you start taking antiretroviral medication? Please give your best estimate *(whenart)*

0. Within the past 1 year
1. More than 1 year ago and less than 5 years
2. More than 5 years ago and less than 10 years
3. More than 10 years ago
4. Don't know

124. ***(If hivcareart = 1)*** In which country(ies) have you obtained antiretroviral medications? Select all that apply. *(artcountries)*

0. Colombia
1. Venezuela
2. Peru
3. Ecuador
4. Other

125. ***(If hivcareart = 1)*** In the past 12 months, have you taken antiretroviral medications to manage your HIV? *(hivart)*

0. No
1. Yes

126. ***(If hivart = 1)*** Are you currently taking ARVs to manage your HIV? *(hivart_curr)*

0. No
1. Yes

127. ***(If hivart = 0 OR hivart_curr=0)*** Can you tell me the main reason why you are *not currently* taking ARVs? *(artbarrier_curr)*

0. I am/was on a waiting list to start
1. Healthcare provider told me it was too early to start
2. I feel healthy
3. ARVs are unavailable
4. ARVs are unaffordable
5. Disliked the side effects
6. Concerns about stigma or did not want others to know
7. Do not know where to find ARVs
8. Other:

128. ***(If hivart = 1)*** How many different types of pills do you take for your antiretroviral medication regimen? By this, I mean how many are you prescribed to take per day? **(Range: 1 – 5)** *(hivdrugcount)*

129. ***(If hivart = 1)*** When was the last time that you missed or forgot to take *any* of your doses? *(art_misseddose)*

0. Within the past week
1. 1-2 weeks ago
2. 2-4 weeks ago
3. 1-3 months ago
4. More than 3 months ago
5. Never
6. Not applicable

130. ***(If hivart = 1)*** During the past 7 days, how many days have you taken *all* of your prescribed doses? ***(Range; 0-7)*** *(art_recentmisseddose)*

131. ***(If artcountries INCLUDES 1)*** When living in Venezuela, how did you acquire your ARVs? Select all that apply. *(artsource_ven)*

0. Venezuelan national health system
1. Private practice
2. Venezuelan organization redistributing unused ARVs
3. A friend
4. On the street
5. Internet
6. In exchange for sex work
7. Other

132. ***(If artcountries INCLUDES 1)*** When living in Venezuela, was there ever a time in which you were unable to obtain all of your ART medications, for reasons that were beyond your control? *(artunable_ven)*

0. No
1. Yes

133. ***(If artunable_ven = 1)*** Thinking of the *last time* that you were unable to obtain all of your medications, how long were you unable to access these medications? *(artlapse_ven)*

0. 48 hours – 6 days
1. 7 days to 14 days
2. 14 days to 30 days
3. More than 30 days/one month

134. ***(If artcountries INCLUDES 1)*** When living in Venezuela, which of the following obstacles gave you problems getting your ARVs on time? Select all that apply *(artbarrier_ven)*

a. Difficulty registering with national system
b. National system had low supply of medications
c. National system healthcare providers were unavailable to see you
d. Private organization had low supply of medication
e. Private organization healthcare providers were unavailable to see you
f. Lack of transportation or costly transportation
g. Cost of medication
h. Cost of healthcare that was required for ARV prescriptions
i. Other
j. There were no problems

135. ***(If artcountries INCLUDES 0)*** In the time since you have lived in Peru, how have you acquired your ARVs? Select all that apply. *(artsource_per)*

0. Peruvian national health system
1. Private clinic
2. Humanitarian organization on a permanent basis
3. Humanitarian organization as a stopgap while Inmigration card is pending, such as Red Cross, etc
4. Community organization
5. Peruvian organization distributing ARVs
6. A friend/family member
7. On the street
8. Internet
9. Other

136. ***(If artcountries INCLUDES 0)*** In the time since you have lived in Peru, was there ever a time in which you were unable to obtain all of your ART medications, for reasons were beyond your control? *(artunable_per)*

0. No
1. Yes

137. ***(If artunable_per = 1)*** Thinking of the last time that you were unable to obtain all of your medications, how long were you unable to access these medications? *(artlapse_per)*

0. 48 hours – 6 days
1. 7 days to 13 days
2. 14 days to 30 days
3. More than 30 days/one month

138. ***(If artcountries INCLUDES 0)*** In the time since you have lived in Peru, which of the following obstacles have given you problems getting your ARVs on time? Select all that apply. *(artbarrier_per)*

0. Difficulty obtaining regular migration status
1. Difficulty entering national health system
2. National system has low supply of medication
3. National system healthcare providers are unavailable to see you
4. Private organizations have low supply of medication
5. Private organization healthcare providers are unavailable to see you
6. Lack of transportation or costly transportation
7. Cost of medication
8. Cost of healthcare that was required for ARV prescriptions
9. Do not know where to find ARVs
10. Other
11. There were no problems

Prenatal Care

139. Have you or a partner been pregnant at any time since arriving in Peru? *(pregnancy_per)*

0. No
1. Yes

140. ***(If pregnancy_per = 1)*** How many children of yours have been born in Peru? *(births_per)*

0. 0
1. 1
2. 2
3. 3

4. 4 or more

141. ***(If pregnancy_per = 1)*** Did you/your partner receive any prenatal care during the last pregnancy? *(anc_per)*
    0. No
    1. Yes

142. ***(If pregnancy_per = 1)*** How many prenatal care visits did you/your partner have during the last pregnancy? *(anc_visits)*
    0. 0
    1. 1
    2. 2
    3. 3
    4. 4 or more

143. ***(If hiv_testresult = 1)*** Did the healthcare provider discuss treatment to prevent HIV transmission to your child? *(mothertochild_discuss)*
    0. No
    1. Yes

144. ***(If mothertochild_discuss = 1)*** Were you or your partner able to consistently use HIV treatment during pregnancy and/or breastfeeding? *(mothertochild_treat)*
    0. No
    1. Yes

145. ***(If hiv_testresult = 1)*** What is the HIV status of your most recent child? *(mothertochild_result)*
    0. Negative
    1. Positive

Violence

The next few questions are about any experiences of violence that you may have experienced while in Peru. Please remember that what you say is confidential and will not be shared with others. You may skip any questions that you do not feel comfortable answering.

In the time that you have lived in Peru, have you been *threatened* with physical or sexual violence by someone (in your home or outside of your home)? *(gbv_threat*)

    0. No
    1. Yes

(If gbv_threat=1) Who threatened you? Select all that apply (*gbv_threatwho)*

    0. Spouse/former spouse or Partner/ex-partner
    1. Family member
    2. Community or religious leader
    3. Police, border agent, or military
    4. Armed fringe groups
    5. UN/NGO worker
    6. Employer
    7. Stranger

8. Other

(If gbv_threat=1) Have you been threatened within the last 12 months? (*gbv_threat12)*

0. No
1. Yes

In the time that you have lived in Peru, has anyone hit, punched, kicked, slapped, choked, hurt with a weapon, or otherwise physically hurt you (in your home or outside of your home)? (*gbv_phys)*

0. No
1. Yes

(If gbv_phs=1) Who physically hurt you? Select all that apply (*gbv_physwho)*

0. Spouse/former spouse or Partner/ex-partner
1. Family member
2. Community or religious leader
3. Police border agent, or military
4. Armed fringe groups
5. UN/NGO worker
6. Employer
7. Stranger
8. Other

(If gbv_phs=1) Have you been physically hurt by someone within the last 12 months? (*gbv_phys12)*

0. No
1. Yes

In the time that you have lived in Peru, have you been forced by anyone to have sex against your will? (*gbv_sex)*

0. No
1. Yes

(If gbv_sex=1) Who forced you to have sex against your will? Select all that apply (*gbv_sexwho)*

0. Spouse/former spouse or Partner/ex-partner
1. Family member
2. Community or religious leader
3. Police, border agent, or military
4. Armed fringe groups
5. UN/NGO worker
6. Employer
7. Stranger
8. Other

(If gbv_sex=1) Were you forced to have sex within the past 12 months? (*gbv_sex12)*

0. No

1. Yes

In the time that you have lived in Peru, were you ever forced/coerced to have sex to be able to eat, have shelter, or have sex for essential services? (*gbv_exploit)*

0. No
1. Yes

(If gbv_exploit=1) Who forced/coerced to have sex for these essential needs? Select all that apply (*gbv_exploitwho)*

0. Spouse/former spouse or Partner/ex-partner
1. Family member
2. Community or religious leader
3. Police, border agent, or military
4. Armed fringe groups
5. UN/NGO worker
6. Employer
7. Stranger
8. Other

(If gbv_exploit=1) Were you forced/coerced to have sex for these essential needs within the past 12 months? (*gbv_exploit12)*

0. No
1. Yes

Programming: Generate asist_sum = gbv_threat + gbv_phys + gbv_sex + gbv_exploit. If gbv_sum>1 screens positive for violence victimization

Humanitarian services

Thank you. We are now coming to the end of the survey. We have a few more questions about your experiences accessing humanitarian services.

In the time that you have lived in Peru, have you used any services provided by local humanitarian organizations? *(hum_use)*

0. No end
1. Yes

Which services did you use? Select all that apply *(hum_services)*

0. Assistance with the legal process/registration
1. Assistance accessing national health services
2. Healthcare
3. Support for gender-based violence
4. Psychosocial support

5. Housing assistanceod assistance
6. Security

What/which organization(s) provided these services? Select all that apply *(hum_orgs)*

0. ACNUR (Alto Comisionado de las Naciones Unidas para los Refugiados)
1. AHF (AIDS Healthcare Foundation)
2. International Organization for Migration (IOM)
3. Red Cross
4. IRC (International Rescue Committee)
5. MSF (Medicos sin Fronteras)
6. Other

Thinking of your day to day life, what has been your greatest challenge while living in Peru? *(hum_challenge)*

0. Finances
1. Housing
2. Food
3. Security
4. Education
5. Other
6. No challenges in Peru

That is the end of the survey. We appreciate the time you gave to participating in this survey. Do you have any feedback or comments about the survey? *(feedback)*

[text field]

Please return inform the staff that you have completed the survey.

Referrals:

Programming: If phq_sum>6, usda>2, audit_sum>3, AND/OR assist>1, Display message "The participant screened positive for [depression or anxiety] [food insecurity] [hazardous alcohol use] [violence]. Please provide the resource guide and highlight relevant services based on the participants' need."

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Domain	Citation
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Food security	USDA food security measures
Health and health behavior	BMI Depression – PHQ4 Self-rated health: Idler E.L., Angel R.J. Self-rated health and mortality in the NHANES-I Epidemiologic Follow-up Survey. Am. J. Public Health. 1990;80:446–452. doi: 10.2105/AJPH.80.4.446. [PMC free article] [PubMed] [CrossRef] [Google Scholar] Alcohol use: AUDIT C Drug use: WHO BBS
HIV prevention, care, and treatment	Treatment adherence: ACTG; WHO BBS
Violence	ASIST-GBV
Stigma	Everyday Discrimination Scale (Short Version) alpha = .77 Source : Sternthal, M., Slopen, N., Williams, D.R. "Racial Disparities in Health: How Much Does Stress Really Matter?" Du Bois Review, 2011; 8(1): 95-113.

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