# Framework for Monitoring HIV/STI Services for Key Populations in Latin America and the Caribbean

**PAHO**

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Washington, D.C., 2019

# Table of Contents

# Acknowledgments

# Abbreviations and acronyms

| | |
|---|---|
| **ART** | Antiretroviral therapy |
| **CD4** | CD4 lymphocytes |
| **FSW** | Female sex workers |
| **GRADE** | Grading of Recommendations Assessment, Development and Evaluation |
| **HBV** | Hepatitis B virus |
| **HIV** | Human immunodeficiency virus |
| **IBBS** | Integrated biobehavioral surveys |
| **MSM** | Gay men and other men who have sex with men |
| **nPEP** | Non-occupational post-exposure prophylaxis |
| **PAHO** | Pan American Health Organization |
| **PEP** | Post-exposure prophylaxis |
| **PEPFAR** | U.S. President's Emergency Plan for AIDS Relief |
| **PrEP** | Pre-exposure prophylaxis |
| **STI** | Sexually transmitted infections |
| **UNAIDS** | Joint United Nations Programme on HIV/AIDS |
| **WHO** | World Health Organization |

# INTRODUCTION

The international community has committed to ending the AIDS epidemic as a public health problem by 2030. This goal is part of the 2030 Agenda for Sustainable Development, approved by the United Nations General Assembly in September 2015. Intermediate goals should be met by 2020, including reducing new HIV infections by 75% and reducing AIDS-related deaths to fewer than 500,000 globally (**For more information visit:** https://www.un.org/sustainabledevelopment/) . Additionally, countries have agreed to reduce by 90% the incidence of gonorrhea and syphilis, as priority sexually transmitted infections (STIs), by 2030 [1]. In alignment with these objectives, the Pan American Health Organization *Plan of action for the prevention and control of HIV and sexually transmitted infections 2016-2021* establishes specific goals for the Region of the Americas that include a 75% reduction in the number of new HIV infections and a 60% reduction in the number of AIDS-related deaths [2].

Although there has been significant progress toward attaining these goals, barriers in access to HIV/STI services persist, with significant barriers for key populations due in part to the stigmatization and discrimination that people in these groups still face. According to data published in 2019, in Latin America and the Caribbean, estimated new HIV infections in three key populations (gay men and other men who have sex with men, female sex workers, and transgender women) represent half of all new HIV infections.[1] Strategies to reduce new infections in key populations need to be applied from a *combination prevention* approach that considers the synergies between behavioral, biomedical, and structural interventions.

To make progress toward goals, HIV/STI services for key populations should be people-centered, human rights-based and built on four fundamental elements: **(a)** based on person's needs; **(b)** with the required periodicity; **(c)** accessible; and **(d)** of adequate quality, including safety and confidentiality [3]. These services should be offered in a way that ensures continuity of HIV/STI care, with emphasis on the first level of care.

> ### *Applying the WHO Framework on integrated, people-centered health services [3]*
>
> A package of integrated services targeting key populations should be provided in a facilitating context. Sustainable access to services requires that the key populations: know that services exist (**accessible services**); are treated in a friendly and safe manner (**acceptable services**); can reach the services and get the care they need (**available services**); are financially able to use the services (**affordable services**); and receive quality services (**appropriate services**).

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**1** *Data from UNAIDS, 2019. Available at: https://www.unaids.org/sites/default/files/media_asset/2019-UNAIDS-data_en.pdf.*

# OBJECTIVE

This document presents a framework for monitoring the continuum of HIV/STI prevention and care for key populations, with a focus on gay men and other men who have sex with men (MSM), transgender women, and female sex workers (FSWs).[2] This document proposes a monitoring framework for HIV/STI services for key populations, monitoring a subset of tracer services.

Monitoring these tracer services will identify the bottlenecks that need to be addressed to achieve a more effective response to HIV/STI in the Region of the Americas. Furthermore, information about the impact of these services on HIV/STI epidemics will help to identify which services need to be reoriented and scaled up.

This document seeks to contribute in guiding countries in Latin America and the Caribbean to improve HIV/STI health services for gay men and other men who have sex with men (MSM), transgender women, and female sex workers, accelerating progress toward the end of AIDS by 2030.

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2   Sex workers include "female, male and transgender adults and young people (18 years of age and above) who receive money or goods in exchange for sexual services, either regularly or occasionally." However, this document will refer specifically to female sex workers. Countries should also consider the needs and services for male and transgender sex workers.

**This document seeks to contribute in guiding countries in Latin America and the Caribbean to improve HIV/STI health services**

# 3 DEFINITIONS

The definitions used in this document are aligned with those established in the UNAIDS Terminology Guidelines [4] and other documents published by WHO [5].

**Table 1** presents the definitions of key populations that are used in this monitoring framework. Key populations are groups that, due to specific practices and structural conditions, have a greater risk of HIV infection [4]. These groups tend to face legal and social barriers (including criminalization) related to these practices that heighten their vulnerability to HIV and other STIs. Moreover, they have also been the frequent target of human rights violations.

The access of these populations to health-related services is a human right that is recognized in numerous national laws and international documents [4, 6]. From an epidemiological standpoint, key populations play a fundamental role in the dynamics of HIV transmission, and working with these groups is essential to responding effectively to the epidemic.

The WHO and UNAIDS recognize additional key populations, which include people who inject drugs and people in prisons and other closed settings, which will be addressed in future editions of this framework. For more information on these key populations, consult the WHO document *Consolidated Guidelines on HIV Infection Prevention, Diagnosis, Treatment and Care for Key Populations* [7]. This document intends to simplify the definitions of key population groups to facilitate monitoring.
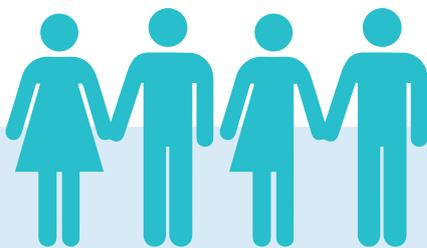
**Key populations under age 18** can engage in the same risky practices or behaviors as adults and can be at increased risk due to their age and their position in multiple contexts of social vulnerability. Countries should consider the unique characteristics of adolescents under age 18 when providing them with sexual and reproductive health services including HIV/STI, as well as ensuring access to other services, including legal and other psychosocial services.

**TABLE 1**

## Definitions of key populations included in the monitoring framework

**Gay men and other men who have sex with men (MSM)**

This is a term defined by sexual practices regardless of sexual orientation. In this document, "man" is understood as the sex assigned at birth, and "sexual practices" is understood as penetrative anal sex and oral sex. This definition is independent of the multiple motivations to have sex, the sexual orientation reported by individuals, and different identifications with any community or social group. This group excludes transgender women that are defined in the following subgroup.

**Transgender women**

Transgender person is a general term for all people who have an internal perception of their gender (gender identity) that differs from the sex assigned to them at birth. A transgender woman is someone who was assigned the male sex and identifies herself as a woman [5].

HIV prevalence among transgender women in many countries is as high or higher than among MSM. Given these different risk profiles, this document focuses on transgender women who have sex with men [8]. Transgender people's great vulnerability and specific health needs make it necessary to consider a differentiated response to HIV that centers on transgender people.

**Female sex workers**

This group includes women 18 years of age and older[3] that receive money or goods in exchange for sexual services, whether they do so regularly or occasionally. This definition is also independent of whether the woman self-identifies as a sex worker.

Sex work is consensual sex between adults. It can take many forms and ranges between and within countries and communities. Sex work also varies in the degree that is more or less "formal" or organized, as well as in its regularity [10].

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**3**  As defined in the Convention on the Rights of the Child (CRC), persons under 18 years of age who exchange sex for money, goods, or favors are "sexually exploited" and cannot be defined as sex workers [9].

# 4 OPERATIONALIZATION OF VARIABLES FOR KEY POPULATIONS

In practice, it can be difficult to define whether people seeking services belong to a key population, particularly considering that disclosure may put them at risk for discrimination and, in certain contexts, illegality. To facilitate the operationalization of these definitions, **Table 2** offers a sensitive and specific tool to standardize the collection of information through a minimum set of variables. Self-identification by individuals from key populations should not be used to classify people as belonging to a key population. Instead, classification should be based mainly on practices. **Answering these questions is voluntary and should not influence service provision.**

This tool can be very useful for guiding HIV notification and counseling forms, as well as for taking clinical history to help health providers identify the services required for each person. People may respond differently depending on their trust in the interviewer and their emotional state. Therefore, the questions in the tool could be asked at different times during care. It is important to ask the questions as indicated to ensure objectivity and standardization in their interpretation.

This tool should be applied to everyone who seeks health care services, independent of the perceptions that the provider has about whether or not a person belongs to one or more key population groups.

## 4.a Assessment of risk for HIV infection

Key populations are defined by specific practices associated with a higher burden of HIV and STI

**TABLE 2**

### Tool for operationalizing variables for key populations

| **1. Which sex was assigned to you at birth: male, female, or intersexual?** | | |
|---|---|---|
| ☐ Male | ☐ Intersex | ☐ No answer |
| ☐ Female | ☐ Other | |
| **2. In the last 12 months, who have you had sexual relations with? Mark all that apply.** | | |
| ☐ Women | ☐ Transgender women* | ☐ Other |
| ☐ Men | ☐ Transgender men* | ☐ No answer |
| **3. In the last 12 months, have you exchanged sex for money?** | | |
| ☐ Yes | ☐ No | ☐ No answer |
| **4. In the last 12 months, have you shared a needle and/or syringe to inject substances?** | | |
| ☐ Yes | ☐ No | ☐ No answer |
| **5. Do you consider yourself to be a…?** *(Read all options)* | | |
| ☐ Man | ☐ Transgender woman | ☐ Other _____ |
| ☐ Woman | ☐ Transgender man | ☐ No answer |

*\* Transgender woman (Transgender man to woman): the person was born a boy but identifies herself as a woman.*
*Transgender man (Transgender woman to man): the person was born a girl but identifies himself as a man.*

**TABLE 2 (CONTINUED)**

**Interpretation of responses for monitoring and data analysis**

| Response to questions | Classification |
|---|---|
| If the person responds for question 1: "male" at birth **and** responds for question 2: "men" and/or "transgender women." **and** and responds for question 5: man or other | MSM |
| If the person responds for question 1: "male" at birth **and** responds for question 5: "transgender woman" or "woman." | Transgender woman |
| If the person responds "yes" to question 3 | Sex worker |
| If the person responds "yes" to question 4 | Person at risk for sharing needles/syringes |
| If the reporting unit is a penitentiary institution | Person deprived of his/her liberty |

**Note**: People may belong to more than one group due to overlapping practices and vulnerabilities. A country can have other key populations. Therefore, the tool should be adapted according to the national context. Regarding the disaggregation of the indicators shown in **Section 7**, if a person self-identifies as belonging to more than one key population, the person must be registered in all these groups. Therefore, the sum of the data disaggregated by key population could be greater than the total.

**Source:** PAHO. Adapted from the guidelines developed by the Key Populations Team in the HIV Prevention Branch at the Centers for Disease Control and Prevention (CDC) [11].

(**Table 2**) and greater social vulnerability. However, people who belong to key populations can have different levels of risk for HIV infection. For each person, the **substantial risk** of HIV infection should be determined.

People are considered to be at substantial risk for HIV infection if: **i**) they belong to a population group with high HIV incidence,[4] and **ii**) incur in certain risk practices (**Table 3**).

**Table 3** suggests a set of questions to carry out a risk assessment for HIV infection in key populations. A positive response to *any* of these questions, from people in a high HIV incidence population group,[4] may indicate that they are at substantial risk of HIV infection. People at substantial risk may benefit from PrEP and more frequent follow-ups. To ensure that the risk assessment is not a barrier for HIV testing, it should be conducted after performing the HIV test as part of the post-test counseling or other services within the prevention service package.

**TABLE 3**

**Suggested questions for HIV infection risk assessment among key populations**

**In the last six months:**
- *Have you had vaginal or anal sex without a condom with more than one partner?*
- *Have you been diagnosed, treated or had symptoms of an STI?*
- *Have you requested a prescription for PEP (post-exposure prophylaxis)?*
- *Have you injected substances with a shared needle/syringe?*
- *Have you had a sex partner who is HIV-positive?\**
- *Have you had a sex partner who has more than one of the above risk factors?*

**Source:** PAHO. Adapted from the WHO Implementation Tool for Pre-exposure Prophylaxis (PrEP) of HIV Infection [12].

\* Partners of HIV-positive people with undetectable viral load should not be considered as high risk since HIV-positive people with undetectable viral load **do not** transmit the virus to their partners.

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**4** Usually set at of 3 new HIV infections per 100 people/year. This is a broad definition established in the WHO PrEP implementation tool [12]. It was established as an indicative threshold where PrEP may be cost-effective.

# 5 FRAMEWORK FOR MONITORING HIV/STI SERVICES FOR KEY POPULATIONS
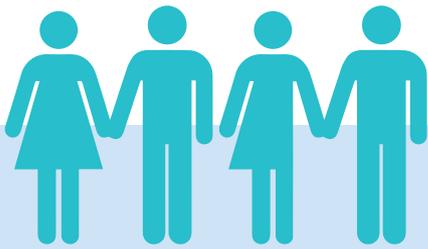
The monitoring framework involves a **longitudinal follow-up** of:

**HIV –**

**HIV-negative persons from key populations:** *who, after being tested for HIV, are linked to prevention services, and remain* **HIV-free***.*

**HIV +**

**HIV-positive persons from key populations:** *who, after receiving a confirmatory HIV diagnosis, are linked to HIV-related care services, and maintain* **a suppressed viral load***.*[5]

The framework for monitoring HIV/STI services for key populations measures a **sub-group** of WHO recommended services—established as tracer indicators—at both outcome and impact level for HIV/STI epidemics. The impact is measured in terms of prevention of new HIV infections (in HIV-negative key populations) and suppressed viral load[5] (in HIV-positive key populations).

The structure of the monitoring framework for key populations permits the construction of the **continuum of care** both for HIV-negative and HIV-positive people (in technical terms, so-called the **"Care cascade"** and the **"Prevention cascade"**).

**Figure 1** shows an outline of the monitoring framework. Briefly, the monitoring framework involves **longitudinal follow-up** of people attending HIV/STI services, starting with the determination of their serological status through an HIV test. This follow-up has two aspects:

- **Follow-up of HIV-negative key populations,** receive HIV-related prevention services and remain HIV-free.

- **Follow-up of HIV-positive key populations**, who receive HIV-related care services and maintain a suppressed viral load[5] (<1000 copies/ml of blood).

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**5** The clinical and public health objective of preventing new infections is to maintain HIV-positive people with an undetectable viral load. However, for monitoring purposes, the global indicator of "suppressed viral load" (for the 90-90-90 target) will be followed over time. The percentage with an undetectable viral load should also be measured (see **indicator 3.4**). **For more information on the 90-90-90 targets visit**: http://www.unaids.org/en/resources/909090

**FIGURE 1**

## Monitoring framework for HIV/STI services for key populations



% and # KP with a HIV+ result

# KP (estimation) disaggregated by HIV+ and HIV-

% knows HIV+ status

% linked

% treated

% suppressed (disaggregated undetectable)

HIV+

Known

Key Population

HIV−

Not tested in past year

HIV+ knows status

Linked to care

On ART

Undetectable viral load

Retained in care

New

Tested in past year

HIV− status

Linked to prevention services

Followed-up after 12 months

Sustained HIV-free at 12 months

Retained in care

**Example entry point**

nPEP
STI symptoms
Request HIV test
Request PrEP
SRH
Peer referral
Other

# and % KP tested for HIV in past 12 months (program data)

# and % with HIV-negative result in past 12 months

KP at substantial and non-substantial risk

# and % KP retained in care (tested at 12 months)

# and % KP HIV-free at 12 months

# and % KP in care (disaggregated by KP)

**KP:** key population

**PEP:** post-exposure prophylaxis

**PrEP:** pre-exposure prophylaxis

**STI:** sexually transmitted infection

**SRH:** sexual and reproductive health services

**ART:** antiretroviral therapy

**HIV:** Human Immunodeficiency Virus

⬤ Indicators

**Notes:** Disaggregated per key population and age group.

**Unique personal identifiers** are necessary to carry out this longitudinal follow-up. Unique identifiers prevent data duplication and help to cross-check and integrate data from different HIV and national sub-systems. **Table 4** summarizes the different identifier options**.** The best unique identifiers are those used at the national level and for all health services.

### Examples of unique identifiers used in Latin America and the Caribbean

| Type | Advantages | Limitations | Model countries |
|------|-----------|-------------|-----------------|
| **Alphanumeric code:** consists of a combination of the name, date of birth, or other information. | Simple to establish and generates greater confidence regarding confidentiality. | Difficult to cross-check information across different vertical information systems. | Paraguay |
| **Personal identification card** as the person's medical record identifier. | It facilitates the integration of HIV-related information into other information systems. | Segments of the population lack a personal identification card or refuse to provide it. | Bolivia, Paraguay |
| **Biometrics** such as fingerprints. | The most specific identifier facilitates the integration of HIV-related information into other information systems. | Requires more advanced technology to be implemented. There may be challenges in the sustainability. | Haiti |

**Source:** Prepared by authors.

**Note:** About monitoring the continuum of prevention services, countries can decide to monitor all people in key populations who have negative results, or they can start with those at substantial risk, depending on how developed their information systems are.

Prevention and care cascades for key populations help to guide planning and can be based on population-level estimates or programmatic denominators. The cascades based on population-level denominators help estimate service coverage and the impact of interventions. The cascades based on programmatic denominators help monitor the quality of services and provide information for targeted program improvements. It can be used at any level (nationally, subnationally, and at clinic level).

### Size of key populations disaggregated by serostatus (Prevention CASCADE: 1st pillar) 📊

The first step in constructing the HIV prevention and care cascades is to estimate the size of each key population. The population size estimate is essential for planning services that are adequate for the groups' needs and for identifying the impact of health services from a population perspective. There are different methods to estimate the size of key populations [13]. These estimates could be disaggregated by those who are HIV-positive and HIV-negative.

#### *Size of the HIV-negative key population*

It will be the denominator for calculating some of the indicators highlighted in the framework when using a population perspective. For example, the estimated size of HIV-negative MSM is the denominator for identifying the percentage of MSM receiving prevention services.

**Limitations of using estimations for the size of key populations.**

The cascade depends on the quality of the data used for each indicator. Therefore, the quality of population size estimates should be carefully assessed. Estimates may be available through IBBS surveys, mapping exercises or HIV estimation models such as *Spectrum*. National-level estimates can be difficult to conduct and are costly; they may also have large uncertainty ranges, limiting their availability and quality. In many cases, subnational or local-level data may be more readily available and of a higher quality than national estimates; moreover, consideration should be given to conducting KP cascade analysis at the local level.

*Size of the HIV-positive key population (Care CASCADE: 1st pillar)*

It will be used as the denominator for calculating some of the indicators highlighted in the framework when using a population perspective. For example, it is the denominator for the first pillar of the care cascade for the HIV-positive key populations.

## Percentage of people in key populations that had an HIV test in the last 12 months

Measurement of this indicator can use: **i**) programmatic data that quantify the people in the key populations that had an HIV test in the last 12 months; and/or **ii**) probabilistic surveys conducted in these population groups. Surveys tend to show a higher percentage of key populations tested, as programmatic data usually exclude testing conducted in the private sector, or by the self-administered HIV test. Also, the programmatic data can miss the information about testing among non-identified key populations.

Low access to the HIV test may result in a low testing coverage in key populations. In this

Indicators calculated using as a denominator of the number of people who access health services measure coverage at the service level, while indicators calculated using as a denominator the estimated total key population provide a population-based vision of the impact of services on the HIV epidemic. (See indicator: **1.1 Estimated size of key populations**.)

scenario, it would be necessary to promote demand, introduce new strategies to improve access to testing or scale up existing successful strategies. Examples include community-wide initiatives, introducing HIV self-testing, or restructuring of health service operating days and hours. (See indicator **1.2 Number and percentage of people in key populations that had an HIV test in the last 12 months.**)

## HIV-positivity rate

Calculation of the percentage of HIV-positives in the tested population serves as an indicator to corroborate whether HIV testing efforts are being implemented in the right places and populations, serving as an indicator for testing efficiency. A very low percentage of positives in a given service may indicate that testing is being offered in a setting with a low HIV circulation. In this case, program managers should reconsider the service location, hours of service, as well as the focus populations.

This indicator is related to the concept of **diagnostic yield**, which corresponds to the number of newly diagnosed HIV-positive persons over the total number of persons tested in a particular time, location, and/or population. Accordingly, the indicator can be divided into: (a) positives that are new diagnoses; and (b) positives that have been previously detected and are recaptured when carrying out testing at a given service. (See indicator **1.3 Number and percentage of people in key populations that had a positive HIV test result in the last 12 months**.)

**Example of data analysis:**

100 tests conducted ➜ 12 HIV-positive persons.

Of the 12 HIV-positives: 10 are new HIV-positive diagnoses; 2 are known HIV-positive diagnoses.

- *Crude positivity rate: 12/100 or 12%*

- *Adjusted positivity rate [new diagnoses] (diagnostic yield): 10/100 or 10%*

- *People with known HIV diagnosis and repeated test: 2/100 or 2% (possible indication to strengthen work on linkage)*

## 5.a  Monitoring the continuum of prevention services for HIV-negative key populations ("prevention cascade")

People in key populations who receive a negative result on the HIV test need to be linked to the prevention service continuum **(Figure 2)**. The final goal is that people in key populations remain HIV-free.

The number of people in key populations with a negative result on the HIV test in the last 12 months will be the denominator for calculating their linkage and retention in HIV-prevention services. This number will also be the denominator for calculating most of the service indicators shown in **Section 6**. (See indicator **2.1 Number and percentage of people in key populations that had a negative HIV test result in the last 12 months**.)

**Indicators for monitoring prevention services for HIV-negative persons from key populations**
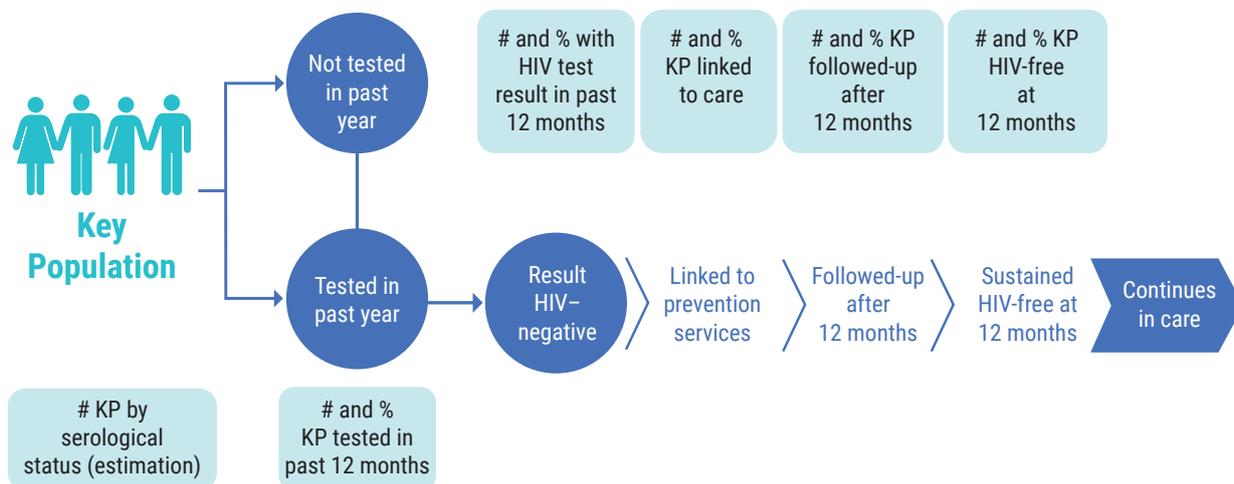


**KP:** key populations
**HIV:** Human Immunodeficiency Virus

⬤ Indicators

**Notes:** Disaggregated per key population and age group.

## Number and percentage of people in key populations with an HIV test and a negative test result in the last 12 months (Prevention CASCADE: 2nd pillar) 

The HIV test result will determine whether tested people in key populations need to be offered HIV prevention services (in the case of a negative test) or HIV treatment and care services (in the case of a positive test).

## Number and percentage of people in key populations with a negative HIV test result that are LINKED to prevention services (Prevention CASCADE: 3rd pillar). 

It is important to ensure that people in key populations with a negative HIV test result are offered a range of prevention services along the continuum of care that goes beyond HIV testing and adapts to their individual needs. (See indicator **2.2 Number and percentage of HIV-negative key populations that have been linked to prevention services in the last 12 months.**)

Linking a person from a key population to prevention services can be defined in different ways and depends on services available in country. We suggest the use of the following definition:

1. Had an HIV test with a **negative result in the last 12 months**

    **and**

2. One of the following:
    - *Was screened and/or treated for syphilis or another STI.*
    - *Has opened a medical record (or updated a previous one) related to HIV/STI services.*
    - *Has received a risk/eligibility evaluation for PrEP or received a prescription for PrEP.*

These criteria should be reviewed and adapted to national contexts, considering factors such as the availability of services and the feasibility of obtaining the information. No timeframe has been defined for the components of the indicator. However, these services could be provided simultaneously or in a timely manner **(for example, simultaneously or within a maximum of 2 months after the HIV test)**.

## Number and percentage of people in key populations with a negative HIV test result that are FOLLOWED-UP in prevention services (4th pillar of the prevention cascade) 

The HIV-free key population should continue in care and receive needed services with adequate periodicity (see **Section 2**). Ideally, all the HIV-negative population must be followed-up. However, the countries can decide to prioritize the longitudinal follow-up of persons at substantial risk (see **Table 3**).

*Being in follow-up* implies receiving a a range of WHO recommended prevention services (such as STI testing and treatment, counseling, or risk assessment (**Table 6**). However, for this framework, persons from key populations are considered to be under follow-up in prevention services if they received an HIV test and repeated the test 12 months later.[6] (See indicator **2.3 Number and percentage of HIV-negative key populations that are followed-up in HIV prevention services).**

## Number and percentage of people in key populations who remain HIV-negative 12 months after being tested (5th pillar of the prevention cascade) 

One criterion to define the success of prevention services is the number and percentage of persons from key populations that remain HIV-free 12 months after the negative HIV test that determined their linkage to prevention services. (See indicator **2.4 Number and percentage of HIV-negative key populations that remain HIV-free at 12 months.**)

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**6** 12 months is proposed as the maximum time unit for monitoring. Shorter time units can also be applied (e.g. 6 months). In the case of PrEP users, the suggested monitoring unit is 3 months [12].

# Analysis of the prevention cascade

The prevention cascade should be represented with **absolute numbers** (see **Figure 3**). Subsequently, percentages can be calculated according to the objective of the analysis. Interpretation of the percentages can create challenges since some indicators may be calculated using different denominators. These special considerations are summarized in **Table 5,** together with the interpretation of results according to the selected calculation method.

## Analysis of the indicators in the prevention cascade

| Indicator analyzed | Numerator | Denominator | Interpretation |
|---|---|---|---|
| **Percentage of KP tested for HIV** | Key population (KP) with an HIV test in the last 12 months | Estimated size of KP | HIV testing coverage is one of the prevention targets for Latin America and the Caribbean. Values obtained through the measurement of services rendered to KP may differ from those obtained by special surveys and are subject to uncertainty given the imprecision of KP size estimates. Despite these limitations, it may be useful to compare the total number of members of KP groups tested relative to the total KP population. |
| **Percent of KP tested with an HIV-negative result** | KP with an HIV-negative test result in the last 12 months | Estimated size of HIV negative KP | Estimated percentage of HIV-negative KP who accessed testing services in the past 12 months in the population. |
| | | **KP tested for HIV in the past 12 months** | Percentage of KP who tested HIV-negative among those tested in the past 12 months. |
| **Percent of KP linked** | KP with an HIV-negative test result in the last 12 months and linked to prevention services | Estimated size of the HIV-negative KP | Estimated percentage of KP who are linked (received HIV prevention services), among the estimated total of HIV-negative KP. |
| | | **KP tested with an HIV-negative result in the last 12 months** | Percentage of KP that are linked to prevention services, among the KP captured by the initial HIV test. |
| **Percent of KP that are followed-up in prevention services** | KP with a negative HIV test that repeated the test 12 months following the initial test | Estimated KP who are HIV-negative | Estimated percentage of KP who had a test 12 months after the previous test, among the total estimated HIV-negative KP. |
| | | **KP tested with an HIV-negative result in the last 12 months** | Percentage of KP who had a test 12 months after the previous test, among the total KP tested the previous year. |
| **Percent HIV-free** | KP with a second negative HIV test 12 months after their first HIV-negative test | **KP who had at least one negative HIV test in the past 12 months, and one follow-up HIV test** | Percentage of KP who continue to be HIV-free, among KP who are in follow-up. This indicator intends to measure the effectiveness of services/interventions on reached KP. |

**KP:** key population
**Note:** Shaded cells represent the recommended denominator to conduct the analysis for the programmatic level cascade. Unique identifiers are important to ensure that each person tested is counted only once in the reference period.

**FIGURE 3**

## Example of HIV prevention cascade for key populations
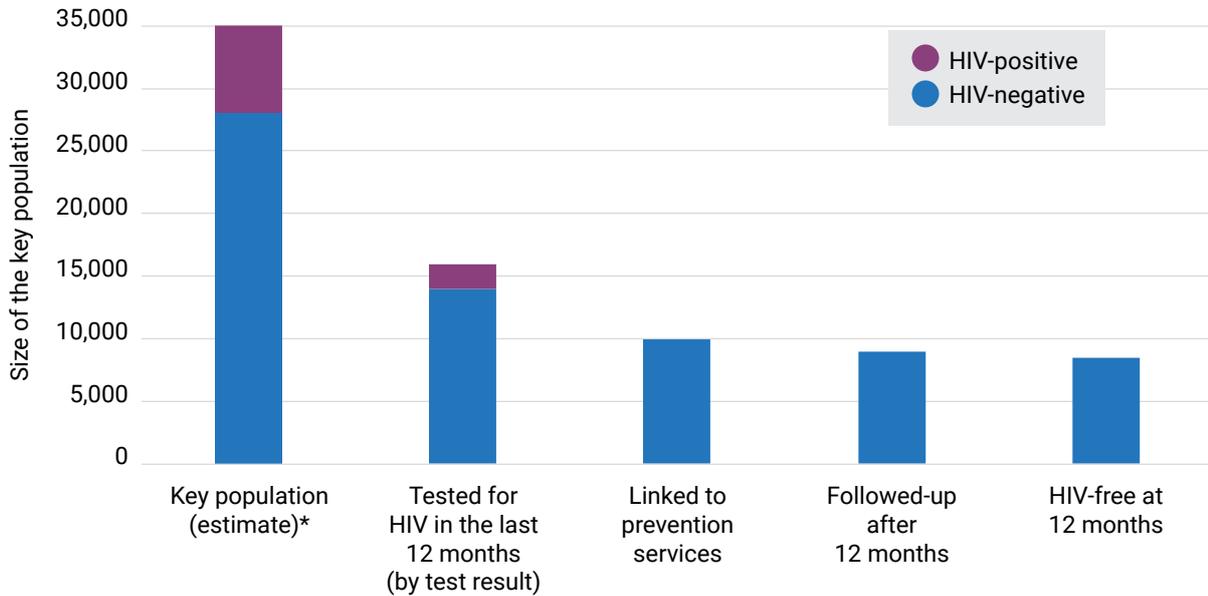


* This estimated number includes HIV-positive persons who are both aware or unaware of their HIV status.

Disaggregating the cascade information by HIV-risk infection level can help to identify if the follow-up of HIV-negative persons is focusing on those with a greater need for services (**Figure 4**). The tool shown in **Table 3** can be useful to assess HIV risk. Moreover, countries could use risk assessment to prioritize the longitudinal follow-up of people at substantial risk.

**FIGURE 4**

## Key populations HIV prevention services cascade disaggregated by level of risk



* This estimated number includes HIV-positive persons who are both aware or unaware of their HIV status.

The analysis of the prevention cascade indicators shown in **Table 5** can be carried out with national, subnational, or local data for each key population. Additionally, one of the principal benefits of the framework is its application to support decision-making. To this end, it is also importa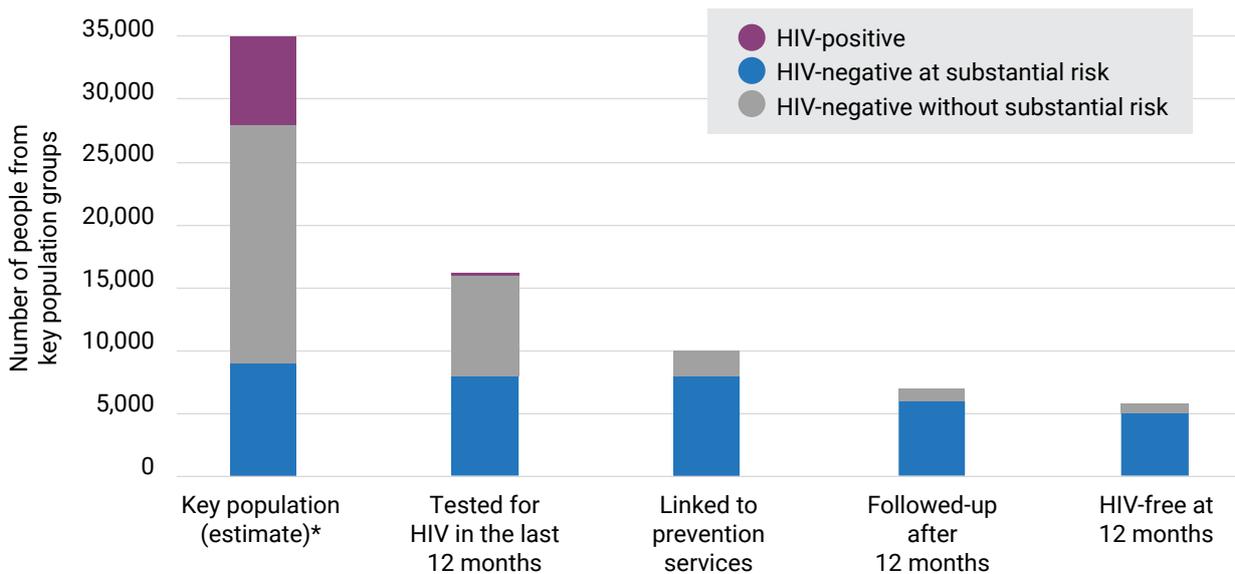nt to disaggregate the analysis by variables such as the organization providing services, i.e., Ministry of Health, Social Security, civil society organizations (see **Section 4.c**) according to each country's unique features (**Figure 6**). Disaggregation by sex and age group is also very useful (for example, 15-24 and >24 years old) as it makes possible to identify gaps and focus on specific actions and strategies for each age group (**Figure 4**). The same applies to ethnic group, geographical location, and local health care units.

**CONSIDERATIONS FOR SERVICES THAT PROVIDE PrEP**

Several countries in the Region have begun to introduce PrEP as part of their services for HIV prevention. It is important that the services offering PrEP incorporate an additional disaggregation to the *prevention cascade* indicators, specifically related to the follow-up of HIV negative people and people HIV-free at 12 months. This addition implies applying monitoring criteria with a shortened temporal span for PrEP users (i.e., considering follow up and HIV testing every three months) [12].

## Application of the Monitoring Framework to Increase the Quality and Coverage of Services

The monitoring framework indicators should be the starting point to promote actions aimed at improving the quality and coverage of HIV/STI for key populations. These actions may include aspects such as the review of the organization of services, waiting times, consultation length, or efficiency of medical care. Actions to improve the quality and coverage of HIV/STI services may require improvements in areas such as decentralization of care to lower levels of complexity, expansion of consultation hours, organization of appointments, development or review of care protocols, or community outreach strategies. Below are some examples of improvement actions that could be derived from the interpretation of the monitoring framework indicators.

| Result | Interpretation | Improvement actions |
|---|---|---|
| Low coverage of HIV testing (**indicator 1.2**) | Barriers to access related to availability and acceptability, security and efficiency of services. For example, inappropriate hours, little confidence in health or community providers, low confidentiality, defective appointment systems, extended waiting times, lack of information about HIV testing centers. | Review community outreach strategies, guarantee friendly services (e.g. use of people's preferred or social names), ensure confidentiality, address other access barriers. |
| Low linkage to HIV prevention services (**indicator 2.2**) | | Improve communication with users, reduce waiting times, make appointments with day and time. |
| A high percentage of delay in the start of antiretroviral therapy (**indicator 6.1**) | Diagnostic algorithms that include unnecessary tests, and that require multiple visits before the start of treatment, references to various places, bureaucratic procedures. | Review of algorithms; simplify and integrate processes in a single consultation; decentralize services to a first level of care including the availability of antiretrovirals. |

## 5.b Monitoring the continuum of health care services for HIV-positive key populations ("care cascade")

The indicators in the care cascade for HIV-positive people are already being measured programmatically in the majority of countries. This framework emphasizes data disaggregation by key population group according to the risk factors defined in **Table 3.**

The final objective of the continuum of care for people in HIV-positive key populations (**Figure 5**) is that they receive antiretroviral therapy (ART) to achieve and maintain an undetectable viral load.

### Percentage of HIV-positive people in key populations that know their status. 

(See indicator 3.1 **Percentage of HIV-positive key populations that know their serological status.***)*

### Percentage of HIV-positive people in key populations that are linked to care. 

(See indicator 3.2 **Percentage of HIV-positive key populations linked to HIV health care services.**)[7]

### Percentage of HIV-positive people in key populations that are receiving ART. 

(See indicator 3.3 **Percentage of people from HIV-positive key populations that are receiving ART***.)*

### Percentage of HIV-positive people in key populations that are receiving ART and have a suppressed HIV viral load. 

(See indicator 3.4 **Percentage of HIV-positive persons from key populations on ART who have a suppressed viral load.***)*[8]

For more information on these indicators, please see PAHO's HIV Continuum of Care Monitoring Framework [14].

**FIGURE 5**

**Indicators for monitoring the continuum of care for HIV-positive key populations**
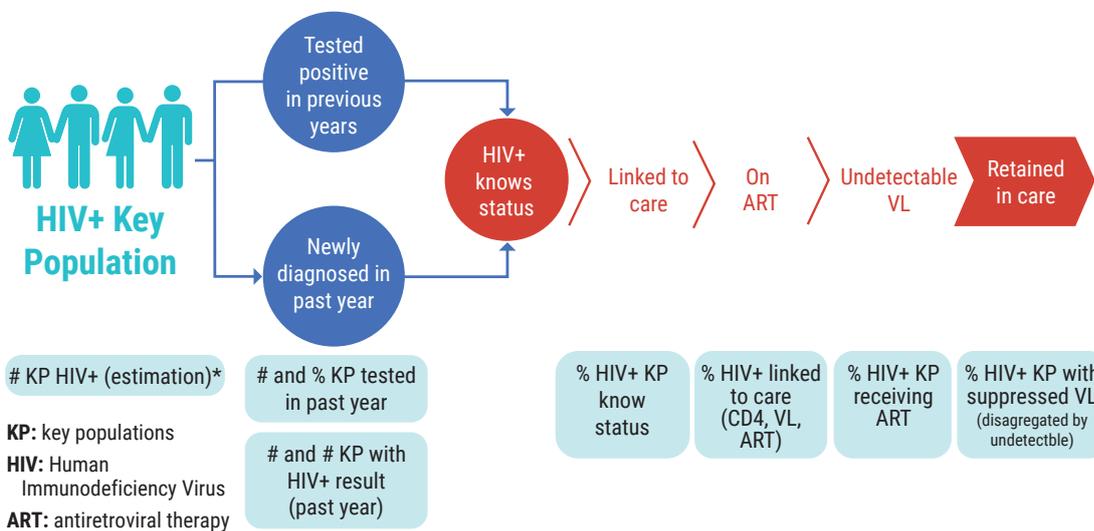


Tested positive in previous years

HIV+ Key Population

Newly diagnosed in past year

HIV+ knows status

Linked to care

On ART

Undetectable VL

Retained in care

# KP HIV+ (estimation)*

**KP:** key populations
**HIV:** Human Immunodeficiency Virus
**ART:** antiretroviral therapy

# and % KP tested in past year

# and # KP with HIV+ result (past year)

% HIV+ KP know status

% HIV+ linked to care (CD4, VL, ART)

% HIV+ KP receiving ART

% HIV+ KP with suppressed VL (disaggregated by undetectble)

Indicators

* This estimated number includes HIV-positive persons who are both aware or unaware of their HIV status.

**Notes:** Disaggregated per key population and age group.

---

7.  Countries are introducing treat-all policies, initiating ART immediately after a confirmed HIV diagnosis, thus making indicators 3.2 and 3.3 similar.
8   The global indicator refers to suppressed viral load. Given the importance of maintaining an undetectable viral load, this indicator should be disaggregated by undetectability (for example, viral load less than 50 copies/ml).

## Recommended indicators for monitoring HIV/STI services in key populations

### Indicators related to the size of the key populations and the number tested for HIV

1.1   Estimated size of key populations.

1.2   Number and percentage of people in key populations that had an HIV test in the last 12 months.

1.3   Number and percentage of people in key populations that had a positive HIV test result in the last 12 months.

### Indicators related to the prevention continuum (prevention cascade)

*1.1.a Estimated total size of the HIV-negative key population (disaggregation of indicator 1.1).*

*1.2   Number and percentage of people in key populations that had an HIV test in the last 12 months.*

2.1   Number and percentage of people in key populations that had a negative HIV test result in the last 12 months.

2.2   Number and percentage of HIV-negative key populations that have been linked to prevention services in the last 12 months.

2.3   Number and percentage of HIV-negative key populations that are followed-up in HIV prevention services.

2.4   Number and percentage of HIV-negative key populations that remain HIV-free at 12 months.

### Indicators related to the care continuum (care cascade)

3.1   Percentage of HIV-positive key populations that know their serological status.

3.2   Percentage of HIV-positive key populations linked to HIV health care services.

3.3   Percentage of people from HIV-positive key populations that are receiving ART.

3.4   Percentage of HIV-positive persons from key populations on ART who have a suppressed viral load.

### Capacity of health services to provide HIV/STI services for key populations

4.1   Ratio of the number of male condoms distributed to the estimated size of key populations in the last 12 months.

4.2   Ratio of the number of lubricants distributed to the estimated size of key populations in the last 12 months.

4.3   Number of health services that provide pre-exposure prophylaxis (PrEP).

4.4   Number of health services that provide post-exposure prophylaxis (PEP).

4.5   Percentage of HIV-positive persons that received a confirmatory HIV diagnosis after a positive HIV self-testing result in the last 12 months.

4.6   Number of centers that provide assisted partner notification services.

4.7   Percentage and number of centers that have human resources trained in stigma and discrimination reduction.

4.8   Percentage of people in key populations that experienced discrimination in health services.

## Coverage of HIV/STI services for HIV-negative key populations

5.1 Percentage of HIV-negative key populations that, after receiving a negative HIV test result, had a risk assessment.

5.2 Percentage of HIV-negative key populations that were determined to be at substantial HIV risk.

5.3 Percentage of HIV-negative people in key populations that were screened for syphilis in the last 12 months.

5.4 Percentage of HIV-negative people in key populations who had a syphilis-positive test and that received treatment in the last 12 months.

5.5 Percentage of HIV-negative people in key populations who were screened for *Neisseria gonorrhoeae* in the last 12 months.

5.6 Percentage of eligible people from key populations who initiated oral PrEP at least once in the last 12 months.

5.7 Percentage of PrEP users who continue using oral PrEP for three consecutive months after initiating PrEP in the last 12 months.

5.8 Number of HIV-negative key populations that received post-exposure prophylaxis (PEP) services in the last 12 months.

5.9 Percentage of HIV-negative key populations that were screened for hepatitis B virus (HBV) in the last 12 months.

## Coverage of HIV/STI services for HIV-positive people in key populations

6.1 Percentage of HIV-positive key populations who initiated antiretroviral therapy (ART) within 7 days of diagnosis, during the last 12 months.

6.2 Percentage of HIV-positive key populations on ART that received a viral load (VL) test.

6.3 Percentage of HIV-positive key populations who received tuberculosis (TB) screening in the context of HIV care or treatment.

6.4 Percentage of HIV-positive key populations who received combination therapy for HIV infection and tuberculosis.

6.5 Percentage of HIV-positive key populations who initiated preventive therapy for TB.

6.6 Percentage of HIV-positive key populations that were screened for syphilis in the last 12 months.

6.7 Percentage of HIV-positive key populations with a positive syphilis test that received treatment for syphilis in the last 12 months.

6.8 Percentage of HIV-positive key populations that were screened for *Neisseria gonorrhoeae,* in the last 12 months.

6.9 Percentage of HIV-positive key populations that were screened for hepatitis B virus (HBV), among those diagnosed with HIV in the last 12 months.

6.10 Percentage of partners of HIV-positive people that received an HIV-positive test result in the last 12 months.

## 5.c Monitoring of services provided by civil society organizations

Civil society organizations (CSO) play a fundamental role in HIV response, particularly in advocating and in providing prevention and care services for key populations. In Latin America and the Caribbean, CSOs are often financed by external donors [15]. When providing HIV services, CSO activities should be integrated to the national health and information systems.

To monitor their performance, civil society organizations should contribute data to national information systems and have user-level access to these systems. Evaluation of the performance of community services at the national level can be carried out by disaggregating the indicators in the prevention and treatment continuums by variables such as where services were provided and differentiating the mechanism by which the key populations were reached (for example, through peers or community services). This information will make possible visualizing the added value of civil society organizations to the national HIV/STI response and improve their accountability.

**Example of HIV prevention cascade, disaggregated by health service provider**
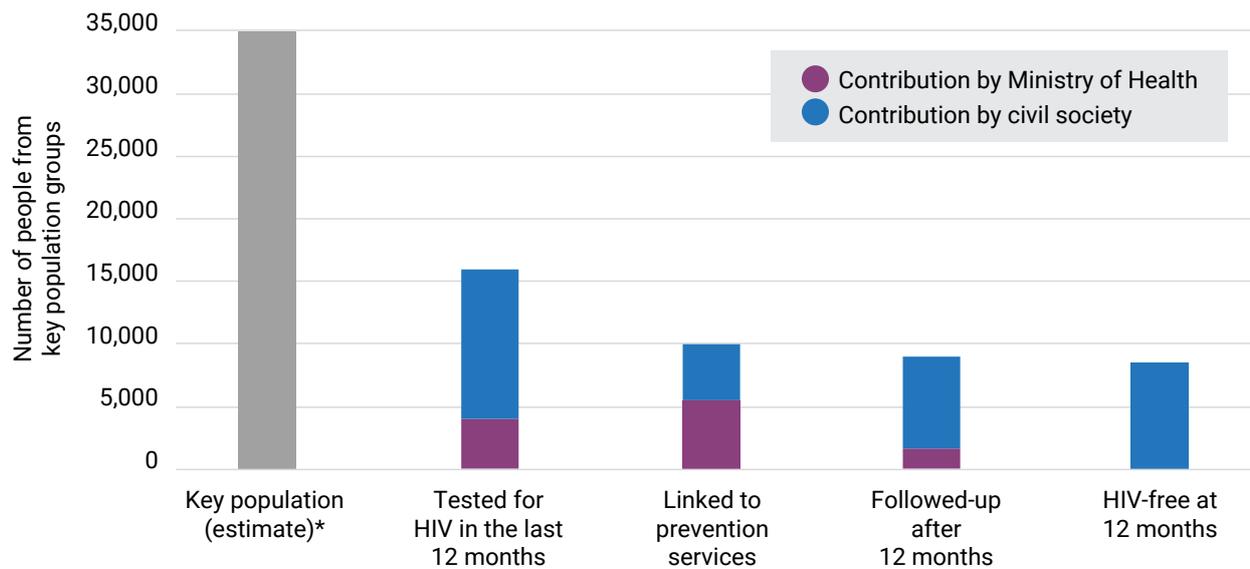


* This estimated number includes HIV-positive persons who are both aware or unaware of their HIV status.

# 6 HIV/STI SERVICES FOR PEOPLE IN KEY POPULATIONS

Reaching all people with services that are adapted to their needs is one of the basic principles of the WHO *Framework on Integrated People-centered Health Services* [3]. A package of integrated, people-centered services should be provided to people in key populations—regardless of their HIV status—in a facilitating context.[9] These services should be provided in a way that ensures the continuity of HIV/STI treatment and prevention according to needs at the different levels of care, with an emphasis on the first level of care.

Sustainable service provision and coverage with a package of integrated HIV/STI services for key populations should be framed within the *Strategy for Universal Access to Health and Universal Health Coverage* [16]. Sustainable access to health services requires the following elements: people in key populations know that services exist (**accessible services**); people are treated in a friendly, safe manner (**acceptable services**); people

can reach the services and obtain the care they need (**available services**); people are financially capable of using the services (**affordable services**); and people receive quality services (**appropriate services**) [3].

**Table 7** compiles the services that are part of the continuum of HIV/STI prevention and care services for key populations recommended by WHO. All of these recommendations are evidence-based (based on the GRADE—Grading of Recommendations Assessment, Development, and Evaluation—methodology). However, this monitoring framework focuses on a subset of services called **tracer services,** which will be used to establish a measure of comprehensive HIV/STI care for gay men and other men who have sex who have sex with men, transgender women, and female sex workers. This monitoring framework proposes to measure the coverage and quality of these services for key populations.

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**9** In addition to offering an essential service package for key populations, WHO recommends the implementation of initiatives to enforce the protection of privacy and establish policies, laws, and standards that prevent discrimination and promote the rights of people living with HIV (**strong recommendation, low-quality evidence**) [7].

TABLE 7

## WHO-recommended HIV/STI services for key populations applicable to MSM, FSW and transgender women

**STRENGTH OF RECOMMENDATION:** ● Strong ● Conditional ● Not GRADE
**QUALITY OF EVIDENCE:** ● High ● Moderate ● Low ● Very low

Comprehensive programs for the distribution of condoms and lubricants [7,17,18] ● ●

Voluntary HIV screening and counseling [7] ●
Community screening and counseling for KP [7] ● ●
Provision of HIV self-testing [19] ● ●
HIV risk assessment [7] ●
HIV testing using rapid diagnostic tests carried out by trained lay providers [20] ● ●
Assisted partner notification [19,21] ● ●

Syphilis screening [22,23] ● ●
Syphilis treatment with penicillin [24] ● ●
Screening for gonorrhea and chlamydia with molecular assays [22] ● ●
Anamnesis and clinical exploration for STI [7] ● ●
Hepatitis B vaccination [25] ●
Hepatitis B and C screening [26] ● ●
Hepatitis A vaccination [27] ●

Evaluation and provision of PrEP [28] ● ●
Evaluation and provision of PEP [29] ● ●

ART provision regardless of CD4 count [28] ● ●
Initiation of ART on the day of diagnosis or no more than 7 days post-diagnosis [30] ● ●
Relinkage strategies for those lost to treatment follow-up [7] ●
Viral load monitoring [28] ● ●
Counseling services for HIV-positive people [17,18] ● ●
Support for people on ART, in adherence to treatment and retention in HIV health care services [28] ● ●

TB screening for HIV-positive people [31] ● ●
Preventive TB treatment for HIV-positive people [31] ● ●
TB treatment for HIV-positive people [28,32] ● ●

Behavioral interventions for HIV prevention and care ●
Screening and treatment of cervical cancer [33] ●
Violence support and prevention [7] ●
Mental health services [7,28] ● ●
Interventions to address the abuse of substances [7] ● ●
Nutritional counseling and support [7] ●
Prevention of discrimination and promotion of KP rights [7] ●
Community empowerment of KP [7] ●

**Source:** PAHO. Prepared by authors

## 6.a Tracer services for key populations regardless of serological status

The tracer services described here are a subset of the WHO-recommended services that should be offered to all key populations regardless of their serological status and HIV infection risk. Each service has one or more associated indicators, which are detailed in **Section 7** of this document.

### *Distribution of condoms and lubricants*

An essential strategy in the HIV response consists of increasing the availability, access, affordability, and use of male and female condoms and appropriate lubricants among people in key populations through specific distribution strategies. Effective planning of condom and lubricant distribution is particularly important for key populations [7].

| Tracer service | Distribution of condoms and lubricants |
|---|---|
| **Periodicity** | During each visit to health services |
| **Recommendations and quality** | The correct and consistent use of condoms with condom-compatible lubricants is recommended for all key populations to prevent sexual transmission of HIV and STIs **(WHO GRADE, strong recommendation, moderate-quality evidence)** [7]. |
| **Initiation** | N/A |
| **Indicators** | 4.1 **Ratio of the number of male condoms distributed to the estimated size of key populations in the last 12 months** |
| | 4.2 **Ratio of the number of lubricants distributed to the estimated size of key populations in the last 12 months** |

### *HIV testing services*

Access to HIV testing and counseling (HTC) services is the first step to link people with an HIV-negative result to prevention services [28, 34] and people with a positive test result to treatment and care services.

| Tracer service | Voluntary HIV testing and counseling |
|---|---|
| **Periodicity** | At least annually |
| **Recommendations and quality** | Community-based HIV testing and counseling for key populations, with linkage to prevention, care and treatment services, is recommended, in addition to provider-initiated testing and counseling **(WHO GRADE, strong recommendation, low-quality evidence)** [7]. |
| | It is recommended to offer retesting at least annually to people from key populations and to HIV-negative partners in serodiscordant couples. Depending on client risk behaviors, more frequent voluntary retesting should be offered and available **(WHO, not GRADE)** [20]. |
| | Countries are encouraged to examine their current consent policies and consider revising them to reduce age-related barriers to access and uptake of HTC and to linkages to prevention, treatment and care following testing. **(WHO, not GRADE)** [35]. |
| | **Lay providers** who are **trained and supervised** can independently conduct safe and effective HIV testing using RDTs **(WHO GRADE, strong recommendation, moderate-quality evidence)** [20]. |
| **Indicators** | 1.2 **Number and percentage of people in key populations that had an HIV test in the last 12 months** |
| | 1.3 **Number and percentage of people in key populations that had a positive HIV test result in the last 12 months** |

| Tracer service | HIV self-testing |
| --- | --- |
| Periodicity | N/A |
| Recommendations and quality | HIV **self-testing** should be offered as an additional approach to HIV testing services (**WHO GRADE, strong recommendation, moderate-quality evidence**) [19]. |
| Initiation | N/A |
| Indicators | **4.5 Percentage of HIV-positive persons that received a confirmatory HIV diagnosis after a positive HIV self-testing result in the last 12 months** |

### HIV risk assessment

The HIV risk assessment helps to determine the HIV/STI prevention services required for each person after an HIV-negative test result (see **Table 3**).

| Tracer service | HIV risk assessment |
| --- | --- |
| Periodicity | N/A |
| Recommendations and quality | The risk assessment must focus on people who belong to population groups or live in geographic areas with a high prevalence of HIV and who have had some of the factors included in Table 3 (**WHO, not GRADE**) [12]. |
| Initiation | Following a negative HIV test result |
| Indicators | **5.1. Percentage of HIV-negative key populations that, after receiving a negative HIV test result, had a risk assessment**<br><br>**5.2. Percentage of HIV-negative key populations that were determined to be at substantial HIV risk** |

### Strategies for linkage to health services

Regardless of the result, people in key populations who have an HIV test should be linked to a package of services that includes services for the prevention, detection, and treatment of HIV, tuberculosis, sexually transmitted infections, mental health, and violence prevention, among others, according to their needs.

To reduce loss to follow-up, standard work protocols should specify linkage to care for people in key populations and help with the transfer from diagnostic services to ART or comprehensive prevention services, as needed. One notable intervention for improving linkage is peer support.

| Tracer service | Linkage to health services |
| --- | --- |
| Periodicity | N/A |
| Recommendations and quality | WHO recommends community-based HIV testing services with linkage to prevention, treatment, and care services in addition to routinely offering Provider-Initiated HIV Testing & Counseling for all populations, particularly key populations (**WHO PAHO GRADE strong recommendation, low-quality evidence**) [20].<br><br>Following an HIV diagnosis, a package of support interventions should be offered to ensure timely linkage to care for all people living with HIV (**WHO GRADE, strong recommendation, moderate-quality evidence**) [28]. |
| Initiation | After the HIV test result |
| Indicators | **2.2 Number and percentage of HIV-negative key populations that have been linked to prevention services in the last 12 months**<br><br>**3.2 Percentage of HIV-positive key populations linked to HIV health care services** |

## *Syphilis screening and treatment*

Untreated syphilis can have serious consequences and is related to higher risk of HIV transmission. Many people with syphilis do not experience symptoms or only experience minor symptoms. The essential pillar for syphilis screening is serological testing (treponemal and non-treponemal) [36-38]. Syphilis treatment consists mainly of penicillin injections.

| Tracer service | Syphilis screening and treatment |
|---|---|
| **Periodicity** | Every 6-12 months |
| **Recommendations and quality** | Offering periodic serological testing for asymptomatic syphilis infection to MSM and transgender people is strongly recommended over not offering such screening **(WHO GRADE, strong recommendation, moderate-quality evidence)** [22].<br><br>Sex workers should be screened for syphilis every 6 months (**WHO, not GRADE**) [23].<br><br>People in key populations with early syphilis or unknown phase of syphilis should be treated with an intramuscular injection of penicillin G benzathine **(WHO GRADE, strong recommendation, very low-quality evidence)** [24]. |
| **Initiation** | During the first linkage to services |
| **Indicators** | 5.3  **Percentage of HIV-negative people in key populations that were screened for syphilis in the last 12 months**<br><br>5.4  **Percentage of HIV-negative people in key populations who had a syphilis-positive test and that received treatment in the last 12 months**<br><br>6.6  **Percentage of HIV-positive key populations that were screened for syphilis in the last 12 months**<br><br>6.7. **Percentage of HIV-positive key populations with a positive syphilis test that received treatment in the last 12 months** |

## *Hepatitis B prevention and screening*

Hepatitis B and C may disproportionately affect key populations. An integrated approach to addressing viral hepatitis B and C in key populations consists of combining prevention, screening, vaccination for HBV, and treatment and care for infected people [7]. Ideally, those screened negative for HBV should immediately start the first dose of the vaccine. Therefore, the number of persons screened for HBV should decrease with time.

| Tracer service | Screening for hepatitis B virus |
|---|---|
| **Periodicity** | When accessing services for the first time (for unvaccinated people) |
| **Recommendations and quality** | In all settings (and regardless of whether delivered through facility- or community-based testing), it is recommended that hepatitis B serological testing and linkage to care and treatment services be offered to the populations most affected by HBV infection (**WHO GRADE, strong recommendation, low-quality evidence**) [26]. |
| **Initiation** | When seeking services for the first time |
| **Indicators** | 5.9.  **Percentage of HIV-negative key populations that were screened for hepatitis B virus (HBV) in the last 12 months**<br><br>6.9.  **Percentage of HIV-positive key populations that were screened for hepatitis B virus (HBV), among those diagnosed with HIV in the last 12 months** |

### *Gonorrhea screening*

*Neisseria gonorrhoeae* is among the most common bacterial sexually transmitted infections. This bacteria is responsible for infections of the lower urogenital tract: urethritis in men and cervicitis in women; and rectal and pharyngeal infections. This infection can be asymptomatic, and if it is not detected and treated promptly, it can cause severe complications.

| Tracer service | *Neisseria gonorrhoeae* (Ng) screening |
|---|---|
| **Periodicity** | Every 6-12 months |
| **Recommendations and quality** | Offering periodic testing for asymptomatic urethral and rectal *N. gonorrhoeae* infections using NAAT is suggested over not offering such testing for MSM and transgender people (**WHO GRADE, conditional recommendation, low-quality evidence**) [22]. |
| | Not offering periodic testing for asymptomatic urethral and rectal *N. gonorrhoeae* infections using culture is suggested over offering such testing for MSM and transgender people **(WHO GRADE, conditional recommendation, low-quality evidence)** [22]. |
| | Female sex workers should receive periodic screening for asymptomatic STIs **(WHO GRADE, conditional recommendation, low-quality evidence)** [10]. |
| | MSM and transgender people with symptomatic STIs should seek and be offered syndromic management and treatment **(WHO not GRADE)** [22]. |
| **Indicators** | 5.5  **Percentage of HIV-negative people in key populations who were screened for *Neisseria gonorrhoeae* in the last 12 months** |
| | 6.8  **Percentage of HIV-positive key populations that were screened for *Neisseria gonorrhoeae*, in the last 12 months** |

## 6.b Specific tracer services for HIV-negative people in key populations

### *Provision of non-occupational post-exposure prophylaxis (nPEP)*

Post-exposure prophylaxis (PEP) consists of the provision of antiretrovirals to prevent HIV infection in people who may have been exposed to the virus. Provision of antiretrovirals should start within 72 hours after exposure and be administered for 28 days. PEP should be available to all eligible people in key populations on a voluntary basis after possible exposure to HIV [29]. PEP should be provided after any potential exposure to HIV, including after consensual sex.

| Tracer service | Provision of non-occupational PEP |
|---|---|
| **Recommendations and quality** | A 28-day prescription of antiretroviral drugs should be provided for HIV post-exposure prophylaxis following initial risk assessment (**WHO GRADE, strong recommendation, low-quality evidence**) [29]. |
| | Enhanced adherence counseling is suggested for all individuals initiating HIV post-exposure prophylaxis (**WHO GRADE, strong recommendation, moderate-quality evidence**) [29]. |
| **Initiation** | Following the corresponding risk assessment |
| **Indicators** | 4.4.  **Number of health services that provide post-exposure prophylaxis (PEP)** |
| | 5.8.  **Number of HIV-negative key populations that received post-exposure prophylaxis (PEP) services in the last 12 months** |

### *Assessment and provision of pre-exposure prophylaxis (PrEP)*

Pre-exposure prophylaxis (PrEP) consists of the use of antiretroviral drugs to prevent HIV acquisition in uninfected people in case of potential exposure to the virus. The prescription of PrEP by health providers is done according to risk assessment criteria (see **Table 3**).

| Tracer service | Provision of PrEP |
|---|---|
| **Recommendations and quality** | Oral pre-exposure prophylaxis (PrEP) containing tenofovir disoproxil fumarate (TDF) should be offered as an additional prevention choice for key populations at substantial risk of HIV infection as part of combination HIV prevention approaches **(WHO GRADE, strong recommendation, high-quality evidence)** [28]. |
| **Initiation** | Following the corresponding risk assessment. |
| **Indicators** | 2.3 **Number and percentage of key populations that are followed-up in HIV prevention services** |
| | 2.4 **Number and percentage of HIV-negative key populations that remain HIV-free at 12 months** |
| | 4.3 **Number of health services that provide pre-exposure prophylaxis (PrEP)** |
| | 5.6 **Percentage of eligible people from key populations who initiated oral PrEP at least once in the last 12 months** |
| | 5.7 **Percentage of PrEP users who continue using oral PrEP for three consecutive months after initiating PrEP in the last 12 months** |

### *Assisted partner notification of HIV-positive people*

Notifying sexual and injecting drug partners about one's HIV status is a voluntary process in which trained health personnel (including lay providers) ask people with a positive HIV diagnosis about their sexual or drug-injecting partners and, with the consent of the HIV-positive person, offers that client's partners the option of having an HIV test. Services for assistance in notifying sexual and drug-injecting partners about one's HIV status refers to a trained provider helping previously consented HIV-positive people to either disclose their status or confidentially report possible HIV exposure to their sexual partners or injection drug partners. Next, the provider offers testing services to these partners [19].

| Tracer service | Assisted partner notification of HIV-positive people |
|---|---|
| **Recommendations and quality** | Voluntary assisted partner notification services should be offered as part of a comprehensive package of testing and care offered to people with HIV **(WHO GRADE, strong recommendation, moderate-quality evidence)** [19]. |
| | Couples and partners should be offered voluntary HIV testing and counseling with support for mutual disclosure **(WHO GRADE, strong recommendation, low-quality evidence)** [21]. |
| **Indicators** | 4.6. **Number of centers that provide assisted partner notification services** |
| | 6.10. **Percentage of partners of HIV-positive people that received an HIV-positive test result in the last 12 months** |

### *Services free from stigma and discrimination*

Health services for key populations should be provided in a facilitating context that is free from stigma and discrimination.

| Tracer service | Services free from stigma and discrimination |
|---|---|
| **Recommendations and quality** | Initiatives should be put in place to enforce privacy protection and institute policy, laws, and norms that prevent discrimination and promote tolerance and acceptance of people living with HIV. This can help create environments where disclosure of HIV status is easier (**WHO GRADE, strong recommendation, low-quality evidence**) [20].<br><br>Health-care workers should receive appropriate recurrent training and sensitization to ensure that they have the skills and understanding to provide services for adults and adolescents from key populations based on all persons' right to health, confidentiality and non-discrimination (**WHO, not GRADE**) [7]. |
| **Indicators** | **4.7  Percentage and number of centers that have human resources trained in stigma and discrimination reduction**<br><br>**4.8  Percentage of people in key populations that experienced discrimination in health services** |

## 6.c Specific tracer services for HIV-positive people in key populations

The monitoring framework also includes a series of proxy indicators for services for HIV-positive key populations. These indicators include those related to the cascade of attention linked to the 90-90-90 targets (**For more information visit**: https://www.unaids.org/en/resources/documents/2017/90-90-90). Additionally, the framework includes indicators of health services such as STI screening and treatment for people living with HIV. The HIV-positive persons from key populations should also receive the additional services summarized in **Table 7**. Indicators of tracer services for HIV-positive key populations are found in the following **Section 7**.

# DETAILED DESCRIPTION OF INDICATORS

## 7.a  Indicators of the size of key populations and the number of people who have been tested for HIV

| 1.1 | Estimated size of key populations |
|---|---|
| **Rationale** | Service planning requires identification of the number of individuals in key populations. Those figures allow national HIV/STI programs, ministries of health, donors and nongovernmental and multilateral organizations to efficiently allocate resources to respond to people's needs. |
| **What does it measure?** | Estimated number of people from key populations in a specific area and time. |
| **Numerator** | Estimated size of key population. |
| **Denominator** | N/A |
| **Method and measurement tools** | There are several estimation methods, such as capture-recapture, multipliers of services, respondent-driven sampling (RDS) surveys, or network scale-up [13]. Population size should be estimated every 4-5 years. For example, when an integrated biobehavioral survey is implemented, estimates of the size of key populations should be incorporated. Based on these studies, which are usually done in main cities, specific extrapolation methods should be applied to develop national estimates of population sizes. It is useful to have several estimates, using different methodologies, to triangulate results and obtain a better approximation of the actual size.<br><br>• **For the size of HIV-positive key populations:**<br> The number for the size of key populations, according to the estimates generated by the methods mentioned in the previous paragraph, can be introduced into the *Spectrum*[10] modeling package, which will provide the estimated size of HIV-positive key populations. If the *Spectrum* estimates are not available, the HIV-positive size of each key population will be calculated multiplying the national HIV prevalence in that group by its size. Values from both methodologies should be compared when possible.<br><br>• **For the size of HIV-negative key populations:**<br> The estimate of the HIV-negative key population will be obtained from:<br><br> Total key population size − size of HIV-positive key population |

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10 The *Spectrum* software consists of a series of models that can be used to project the impact of the HIV epidemic. *Spectrum* was developed by the Futures Institute, now called Avenir Health, and can be downloaded at: https://www.avenirhealth.org/software-spectrum.php.

| Disaggregation | **By key population:** MSM, transgender women, and FSWs. |
| --- | --- |
| | **By serological status:** |
| | **1.1.a** Estimated total size of the HIV-negative key population |
| | **1.1.b** Estimated total size of the HIV-positive key population |
| | These estimates can be calculated at subnational levels (e.g., provinces, districts) if the information is available. |
| **Strong and weak points** | The quality of population size estimates varies according to the methods used, the fulfillment of the methods' assumptions, and the fidelity in the implementation of these methods. Potential biases should be evaluated, and the estimates and corresponding explanations should be adjusted accordingly. Population size estimates that correspond to small areas should not be presented as national estimates. A rational approach should be used for extrapolation, and this method should be explained. In general, health data are less robust for key populations due to sampling complexities, legal issues, and problems related to stigma and discrimination. In these circumstances, people are reluctant to be considered part of these groups. |
| **Other references** | This indicator corresponds to GAM indicator 3.2 [39]. For more information on population size estimations, consult [13]. |

## 1.2 Number and percentage of people in key populations that had an HIV test in the last 12 months

| Rationale | HIV counseling and testing services allow people to know their HIV status and help health providers identify the services they require. |
| --- | --- |
| **What does it measure?** | Progress in the delivery of HIV testing services among key populations. This indicator should be measured using health systems' routine information systems (programmatic measure). However, when conducting surveys with key populations, it is recommended to include this indicator as it is useful to compare the information from both methodologies. |
| **Numerator** | **Programmatic:** Number of people in key populations that had an HIV test in the last 12 months. |
| | **Survey-based:** Number of surveyed people in key populations that respond that they had an HIV test in the last 12 months (see **Method and measurement tools**). |
| **Denominator** | **Programmatic:** Estimated size of people in key populations (see **indicator 1.1).** |
| | **Survey-based:** Number of people in key populations that respond to the question about having an HIV test (see **Method and measurement tools**). |

| Method and measurement tools | **If the measurement is programmatic:** These data should be compiled from program registries of people referred for HIV testing services. |
|---|---|
| | **If the measurement is survey-based:** The questions should be as follows: |
| | 1. Do you know your serological status, as determined by HIV tests?<br>  a. No, I have never had those tests<br>  b. Yes, I have had those tests |
| | 2. If the response is yes, when was the last time you were tested?<br>  a. Within the last 6 months<br>  b. 6 to 12 months ago<br>  c. More than 12 months ago |
| | 3. What was the result of your last HIV test?<br>  a. Positive<br>  b. Negative<br>  c. Indeterminate |
| | People are considered aware of their serological status if they respond yes to question 1 (option b) *and* option a or b to question 2; or if they respond option a to question 3. Please note that the survey-based indicator will only provide the percentage of KP tested. |
| Disaggregation | **Key population:** MSM, transgender women, and FSWs.<br><br>**Age group:** <18, 18-24, >24.<br><br>**Test provision modality:** Community service, mobile unit, assisted partner notification, others. |
| Strong and weak points | There may be underreporting of routine information systems in the identification of people in key populations who have been tested, presenting values lower than those obtained by surveys. |
| Other references | This indicator corresponds to GAM indicator 3.4 [39] (presented as a survey indicator). |

## 1.3 Number and percentage of people in key populations that had a positive HIV test result in the last 12 months

| Rationale | It is essential that people living with HIV are aware of their status so that they can initiate their treatment immediately.<br><br>Focusing testing efforts on population groups with the highest burden of HIV infection can make it possible to identify people living with HIV promptly and link them to care and treatment services. This indicator can help to understand how well HIV testing is being targeted. |
|---|---|
| What does it measure? | Percentage of people in key populations that received a positive result on the HIV test during the last 12 months. |
| Numerator | Number of people in key populations that had a positive HIV test result in the last 12 months. |
| Denominator | Number of people in key populations that had an HIV test in the last 12 months (see numerator for **indicator 1.2**). |

### 1.3 Number and percentage of people in key populations that had a positive HIV test result in the last 12 months (continued)

| | |
|---|---|
| **Method and measurement tools** | These data should be compiled from program registries for HIV testing services (see an example of data analysis in **Section 5**, **page 20**). |
| | Note that some of the identified HIV-positive persons may correspond to persons with known diagnoses, so it will be useful to differentiate between total positivity rate (based on the total of positive tests) and adjusted positivity or yield (referred to the positives corresponding to new diagnoses). The information obtained about repeated tests can be useful to address aspects related to linkage to services. |
| **Disaggregation** | **Key population:** MSM, transgender women, and FSWs. |
| | **Age group:** <18, 18-24, >24. |
| | **Test provision modality**: Community service, mobile unit, assisted notification, others. |
| | **Diagnosis:** New, detected in previous years. |
| | Analyses can be done at different levels: national, subnational, or health center or modality of service provision, etc. |
| **Strong and weak points** | Data disaggregation makes it possible to interpret whether the testing implementation approach is being carried out in the most appropriate geographical areas or among the most appropriate population groups. |
| | A high percentage of HIV-positive people in a given place or context can indicate that HIV testing is being carried out in appropriate places or with appropriate people. It is useful to disaggregate the indicator by HIV-positive people who are known and new diagnoses. |
| | "Diagnostic yield" refers to the concept of how well HIV testing efforts are being targeted to identify new diagnoses. A high yield can be used to guide planning for future HIV testing efforts in geographical areas where many people have a positive diagnosis. |
| | At times it can be complicated to determine whether people with a positive HIV test result correspond to new diagnoses or whether they had previously received a diagnosis. |
| **Other references** | This indicator corresponds to indicator 1.2 in the HIV Continuum of Care Monitoring Framework [14]. |

## 7.b  Indicators in the prevention service continuum—prevention cascade

### 2.1  Number and percentage of people in key populations that had a negative HIV test result in the last 12 months

| | |
|---|---|
| **Rationale** | This indicator refers to people in key populations who were tested for HIV and obtained a negative result, which represents an opportunity to link them to prevention services to ensure that they remain HIV-negative. |
| | The population-based indicator is a proxy for the concept of "know your status" in HIV-negative people, understanding that HIV-negative status can change over time. |
| **What does it measure?** | The number of people in key populations that were tested for HIV in the last 12 months and had a negative result on the HIV test. The population-based indicator reports on the percentage of HIV-negative key population that know their status at a given time. |
| **Numerator** | Number of people in key populations who had an HIV test with a negative result in the last 12 months. |
| **Denominator** | Two denominators will be considered: |
| | a. Total number of people in key populations who were tested for HIV in the last 12 months period - **programmatic indicator**. |
| | b. Estimated total size of the key HIV-negative population (1.1.a) - **population-based indicator.** |
| **Method and measurement tools** | These data should be compiled from program registries for HIV testing services. |
| | The data should be the number of individuals that received the test at least once during the last 12 months (calendar years can also be used) and had a negative result. |
| **Disaggregation** | **Key population:** MSM, transgender women, and FSWs. |
| | **Age group:** <18, 18-24, >24. |
| | The analyses can be done at different levels: national, subnational, or health center, or modality of service provision, etc. |
| **Strong and weak points** | Measuring this indicator requires counting people and not the number of HIV tests performed. Efforts should be made to remove duplicate entries of people who have been tested more than once during the year, by using a unique identifier system. |
| | Negative results from distributed HIV self-tests will not be recorded. |

### 2.2  Number and percentage of HIV-negative key populations that have been linked to prevention services in the last 12 months

| | |
|---|---|
| **Rationale** | The goal of an HIV prevention service is to keep people who are HIV-negative free from HIV infection. For this purpose, it is necessary to provide prevention services according to their needs and context. |
| **What does it measure?** | People in key populations who are linked to prevention services after an HIV-negative test result. Linking a person from a key population to prevention services can be defined in different ways and depends on services available in country. For measuring this indicator, we suggest following the definition on page 19. |

| Numerator | Number of people in key populations that, in addition to receiving an HIV test with a negative result in the last 12 months, received one or more of the following services: |
|---|---|
| | • *Received an STI screening test or treatment (for example, a syphilis test).* |
| | • *Received a risk assessment for PrEP or a prescription for PrEP.* |
| | • *Opened a new medical record (or updated a previous record) related to HIV/STI services.* |
| | If the person received both i) one of these services and ii) an HIV test in the last 12 months, the person will be considered as "linked to prevention services." |
| Denominator | Two denominators will be considered: |
| | a. Number of people who had a negative HIV test result in the last 12 months (see **programmatic indicator 2.1**). |
| | b. Estimated total size of the HIV-negative key population (**1.1.a - population-based indicator**). |
| Method and measurement tools | Ideally, this indicator should be measured using programmatic data. However, the information on this indicator can also be obtained from surveys. |
| Disaggregation | **Key population:** MSM, transgender women, and FSWs. |
| | **Age group:** <18, 18-24, >24. |
| | Analyses can be done at different levels: national, subnational, or health center. |
| Other references | [40, 41] |

## 2.3 Number and percentage of HIV-negative key populations that are followed-up in HIV prevention services

| Rationale | WHO recommends the continued provision of a series of prevention services and with time intervals no longer than 1 year, to be determined according to the person's risk assessment. |
|---|---|
| What does it measure? | Individuals in key populations who, once linked to prevention services, continue receiving these services according to their health needs. |
| Numerator | Number of people in key populations that, after receiving a negative HIV test result, had a repeat test 6 to 12 months after the previous test (3 months for PrEP users). |
| Denominator | Two denominators will be considered: |
| | a. Number of people in key populations that had a negative HIV test result in the last 12 months (2.1) - **programmatic indicator**. |
| | b. Estimated total size of the HIV-negative key population (**1.1.a - population-based indicator**). |
| Method and measurement tools | Ideally, this indicator should be measured using programmatic data. |
| | Operationally, the following should be considered: |
| | The group of HIV-negative people in key populations that received an HIV test at time 0 (for example, in 2017). |
| | Of this group of people, the number of people who repeated the test within 6 to 12 months after the previous negative test was recorded. |

| | |
|---|---|
| **Disaggregation** | **Key population:** MSM, transgender women, and FSWs.<br><br>**Age group:** <18, 18-24, >24.<br><br>**PrEP user:** Yes, No<br><br>Analyses can be done at different levels: national, subnational, or health center; or modality of service provision, etc. |
| **Strong and weak points** | Longitudinal monitoring of people's continuum of care requires unique identifiers.<br><br>Depending on context, other time intervals can be considered between the initial HIV test and the HIV test that determines that the person is followed-up in prevention services (e.g., between 6 and 12 months, at 3 months for PrEP users, etc.). Countries can adjust this cut-off point according to the recommendations in their national guidelines. |
| **Additional considerations** | People in key populations who are PrEP users have stricter retention criteria that require them to go to health centers every 3 months [12].<br><br>This indicator should be applied using different time spans for PrEP users, reducing the interval between HIV tests to 3 months and using as a denominator the total number of people who have received PrEP at least once in the last 12 months (see **indicator 5.6**). |
| **Other references** | [40, 41] |

## 2.4  Number and percentage of HIV-negative key populations that remain HIV-free at 12 months

| | |
|---|---|
| **Rationale** | The success of the HIV prevention services will be defined by the degree to which HIV-negative people in key populations remain free from HIV. |
| **What does it measure?** | The proportion of the key population that obtained a negative result on the initial HIV test and that remains free from HIV after 12 months. |
| **Numerator** | Number of HIV-negative key populations that remain free from HIV 12 months after the initial HIV test (time 0). |
| **Denominator** | Number of people in monitoring through HIV prevention services (tested at 12 months) (see **Programmatic indicator 2.3**). |
| **Method and measurement tools** | The calculation of this indicator will use the people with an HIV-negative test result who are being followed-up by the service. The denominator is the total number of people in follow-up (i.e., with an HIV test in the period of 6 to 12 months). |
| **Disaggregation** | **Key population:** MSM, transgender women, and FSWs.<br><br>**Age group:** <18, 18-24, >24.<br><br>**PrEP user:** Yes, No<br><br>The analyses can be done at different levels: national, subnational, or health center or another provider**.** |
| **Strong and weak points** | At the programmatic level, the indicator provides good information related to the quality of prevention services that are being offered to people in key populations.<br>Although the result of HIV testing is conceptually measured at 12 months, individuals may be tested in a variable time range (e.g., not less than 6 months and not longer than 12 months). This indicator should be interpreted considering the percentage of persons in follow-up and the number retested. If there are barriers to follow-up, and the percentage of persons in follow-up is low, the percentage of new HIV cases revealed by this indicator may be higher than expected, only referring to this smaller subgroup, and not representative of the total population linked to prevention services. |

## 7.c Indicators in the health care service continuum—care cascade

| 3.1 | Percentage of HIV-positive key populations that know their serological status |
|---|---|
| **Rationale** | Awareness of serological status is needed to access HIV prevention or care services. |
| **What does it measure?** | Progress in the application of HIV testing, counseling for HIV testing, and reporting of cases of HIV infection in key populations. |
| **Numerator** | Number of people in key populations who have been diagnosed and informed about an HIV infection and who remain alive in the reference period (for example, December 2019). |
| **Denominator** | Estimated total number of people in key populations living with HIV (see **indicator 1.1**). |
| **Method and measurement tools** | **Numerator:** Number of cases diagnosed and reported in the HIV surveillance information system that remain alive at the time of evaluation. Reported cases whose vital status has been updated as "deceased" are excluded from the numerator. Linkage with the national mortality database can make it possible to update cases' vital status and improve the reliability of the indicator (to reduce overreporting). Linkage with other information systems (e.g., laboratory, ART registries) can also improve the underreporting of cases._

**Denominator:** Estimated number of people in key populations living with HIV (see **indicator 1.1**) using models like the *Spectrum* projection. In this case, the data can be obtained from: *Results > total population > HIV-positive population (for the total population)*. If the *Spectrum* estimates are not available, the HIV-positive size of each key population will be calculated multiplying the national HIV prevalence in that population by its size. |
| **Disaggregation** | **Key population:** MSM, transgender women, and FSWs.

**Age group:** <18, 18-24, >24.

Analyses can be done at different levels: national, subnational, or health center or another provider. |
| **Strong and weak points** | For the denominator, the quality of these estimates is directly related to the quality of the programmatic and surveillance data used in the modeling process.

Many countries do not know how many reported cases of HIV are alive. Another way of attaining this information by key population is through serological surveys (see **indicator 1.2**). |
| **Additional considerations** | The numerator (people diagnosed with HIV who are alive) corresponds to the second pillar of the care cascade. |
| **Other references** | This indicator corresponds to indicator 1.2 in the HIV Continuum of Care Monitoring Framework [14]. |

## 3.2 Percentage of HIV-positive key populations linked to HIV health care services

| | |
|---|---|
| **Rationale** | It is important to monitor progress in linking diagnosed patients from key populations to HIV care. |
| **What does it measure?** | This indicator measures, in a cross-cutting manner, the proportion of people in key populations that receive HIV health care services (measured as receiving at least one CD4 lymphocyte count and/or one viral load determination and/or one pick-up of ART drugs and/or one HIV health care services visit) in the analysis period. A population or programmatic approach can be considered, depending on whether the denominator refers to the estimation of the entire HIV-positive population or only to those diagnosed. |
| **Numerator** | Total number of HIV-positive people in key populations that had at least one CD4 lymphocyte count or one viral load determination or one pick-up of ART or one HIV health care visit in the given year. |
| **Denominator** | Two denominators will be considered: |
| | a. Estimated total size of the HIV-positive key population (indicator 1.1.b) - **population-based indicator.** |
| | b. Number of people from key populations living with HIV aware of their status, (indicator 3.1) - **programmatic indicator.** |
| | Estimated number of people in key populations living with HIV during the analysis year (see **indicator 1.1**). |
| **Method and measurement tools** | **Numerator:** Health facility registries of patients from key populations that are in care. The number of patients with at least one CD4 count and/or one viral load determination and/or one pick-up of ART and/or one HIV visit within the reporting period. |
| | **Denominator (population):** Estimated number of cases from key populations living with HIV within a period (*Spectrum* calculations). |
| | **Denominator (programmatic**): from surveillance registries. |
| **Disaggregation** | **Key population:** MSM, transgender women, and FSWs. |
| | **Age group:** <18, 18-24, >24. |
| | Analyses can be done at different levels: national, subnational, or health center or another provider. |
| **Strong and weak points** | This indicator makes it possible to monitor the trend in linking people in population groups with an HIV diagnosis to health care services but does not measure the quality of care provided. Additionally, it does not capture retention in health care services during the period. |
| **Other references** | This indicator corresponds to indicator 2.1 in the HIV Continuum of Care Monitoring Framework [14]. |

## 3.3 Percentage of people from HIV-positive key populations that are receiving ART

| | |
|---|---|
| **Rationale** | ART is effective in reducing mortality and morbidity among people with HIV and, on lowering the viral load to undetectable levels, impedes HIV transmission. ART should be offered jointly with other health care and broader support services. |
| **What does it measure?** | Progress in the provision of antiretroviral therapy to all people from key populations who are living with HIV. |
| **Numerator** | Number of people in key populations that currently receive ART at the end of the reporting period. |
| **Denominator** | **Programmatic denominator:** Number of cases from key populations living with HIV that have been diagnosed (see numerator for **indicator 3.2**). <br><br> **Population denominator:** Estimated number of cases from key populations living with HIV in the reference period (see **indicator 1.1**). |
| **Method and measurement tools** | **For the numerator:** Health center registries of ART or drug supply management systems. <br><br> **For the denominator:** Program and surveillance registries and HIV estimates. |
| **Disaggregation** | **Key population:** MSM, transgender women, and FSWs. <br><br> **Age group:** <18, 18-24, >24. <br><br> Analyses can be done at different levels: national, subnational, or health center. |
| **Strong and weak points** | The indicator makes it possible to measure the gaps in the HIV service continuum among people in key populations. The indicator does not intend to distinguish among the different types of ART or measure treatment cost or quality, compliance with treatment, or efficacy of the treatment administered. |
| **Other references** | This indicator corresponds to indicator 3.1 in the HIV Continuum of Care Monitoring Framework [14]. |

## 3.4 Percentage of HIV-positive persons from key populations on ART who have a suppressed viral load

| | |
|---|---|
| **Rationale** | As the provision of antiretroviral therapy expands in countries throughout the world, viral load (VL) monitoring provides information on the success of an ART program and indicates the proportion of circulating virus and risk of transmission in the country. In addition to serving as a measure of the epidemic situation in terms of HIV viral load and HIV transmission risk, this indicator also provides information on compliance with treatment and prescription of effective therapeutic regimens. |
| **What does it measure?** | This indicator measures the estimated proportion of HIV-positive people in key populations that have achieved virologic suppression (VL less than 1,000 copies/ml). |
| **Numerator** | Number of patients from key populations with a VL under 1,000 copies at their most recent VL test during the year under study. |
| **Denominator** | **Programmatic denominator:** Number of people on ART that received VL testing in the last 12 months.<br><br>**Population denominator:** Estimated total size of the HIV-positive key population (see **indicator 1.1.b**). |
| **Method and measurement tools** | **Numerator:** Health establishment registries of patients from key populations that are in care. The number of patients from key populations with a VL count less than 1,000 copies, indicating virologic suppression, is recorded.<br><br>**Denominator:** Models that estimate key populations, like *Spectrum*. |
| **Disaggregation** | **Key population:** MSM, transgender women, and FSWs.<br><br>**Undetectability**: According to each country's laboratory capacity; for example, <50 copies/ml or <20 copies/ml. |
| **Strong and weak points** | The interpretation of this indicator requires a series of assumptions. If a population denominator is applied, it is assumed that anyone who has not received a viral load test is not suppressed. If the programmatic denominator is applied, it is assumed that the distribution of people with suppressed viral load is the same among those who received viral load test as among those who did not. If the percentage of patients from key populations in HIV care with VL measure is low (<70%), this indicator will present limitations in its use and interpretation. |
| **Additional considerations** | This is a fundamental indicator for the cascade of the continuum of care. There are several HIV-1 VL tests available on the market. The range of detectable levels of virus differs with each type of test. An undetectable viral load indicates the inability of the test to detect HIV in the plasma but does not indicate absence or clearance of the virus from the body. To date, it is unknown the occurrence of infection by HIV-positive individuals with VL <200 copies/ml. |
| **Other references** | This indicator corresponds to indicator 5.1 in the HIV Continuum of Care Monitoring Framework [14]. |

DETAILED DESCRIPTION OF INDICATORS

## 7.d Other indicators related to the capacity of health services to provide HIV/STI services to key populations

### 4.1 Ratio of the number of male condoms distributed to the estimated size of key populations in the last 12 months

| | |
|---|---|
| **Rationale** | Condom use during sex is a proven effective tool that helps to prevent HIV and other STIs. HIV prevention efforts with key populations should include the distribution of condoms. |
| **What does it measure?** | Number of condoms provided among people in key populations as a proxy for understanding condom availability to this group. |
| **Numerator** | Number of condoms distributed among people in key populations in the last 12 months. |
| **Denominator** | Total size of key population (see **indicator 1.1**). |
| **Method and measurement tools** | The suggested data source is a registry of condom distribution. The data should be generated by counting the number of condoms distributed. |
| **Disaggregation** | **Key population**: MSM, transgender women, and FSWs. |
| **Strong and weak points** | The distribution of condoms does not reflect the number of individuals using condoms. This is better measured by surveys as condoms may be redistributed by those receiving them. Moreover, measuring the number of condoms distributed to each individual is time consuming, and overloads human resources that could perform other prevention actions. |
| **Other references** | [42] |

### 4.2 Ratio of the number of lubricants distributed to the estimated size of key populations in the last 12 months

| | |
|---|---|
| **Rationale** | The distribution of lubricants is an essential strategy in the HIV response. Water- and silicone-based lubricants prevent condoms from moving or breaking. |
| **What does it measure?** | Number of lubricants distributed among people in key populations. |
| **Numerator** | Number of lubricants distributed among people in key populations in the last 12 months. |
| **Denominator** | Total size of key population (see **indicator 1.1**). |
| **Method and measurement tools** | The suggested data source is a registry or book of lubricant distribution. The data should be generated by counting the amount of lubricants distributed and NOT the number of people who receive lubricants. |
| **Disaggregation** | **Key population**: MSM, transgender women, and FSWs. |
| **Strong and weak points** | A limitation of this indicator is that distribution does not equal use. |
| **Other references** | [42] |

### 4.3 Number of health services that provide pre-exposure prophylaxis (PrEP)

| | |
|---|---|
| **Rationale** | People at substantial risk of HIV infection can benefit from pre-exposure prophylaxis (PrEP). Initiation of PrEP includes at the least a risk assessment, counseling, and provision of a package of antiretrovirals initiation for PrEP. |
| **What does it measure?** | Number of health facilities that provide on-site PrEP services for eligible people from key populations. |
| **Numerator** | Number of health services that provide PrEP. |
| **Denominator** | N/A |
| **Method and measurement tools** | The number is calculated by summing the number of health services that provide PrEP services. To obtain this information, national AIDS programs should have a registry of the health facilities that offer PrEP. |
| **Disaggregation** | **Sector:** Public, private. |
| **Strong and weak points** | The indicator does not capture the type and quality of PrEP services or their impact. The complete range of PrEP services includes a risk assessment, counseling, HIV testing every three months, analysis of renal function, screening for STI and patient monitoring and support. |
| | Monitoring the availability of PrEP through program registries does not ensure that PrEP services are adequately provided to the people who need them. However, it will measure whether PrEP services are available in subnational geographic areas where background HIV prevalence and incidence rates are known to be high, and therefore where there are likely to be large numbers of people who may benefit from PrEP. |
| **Other references** | [12, 28] |

### 4.4 Number of health services that provide post-exposure prophylaxis (PEP)

| | |
|---|---|
| **Rationale** | People in key populations potentially exposed to HIV should receive PEP. Initiation of PEP includes at the least a risk assessment, counseling, and provision of a 28-day package of antiretrovirals for PEP within 72 hours following exposure. |
| **What does it measure?** | Number of health facilities that provide PEP services to people in key populations potentially exposed to HIV through a non-occupational exposure through consensual or non-consensual sexual acts (sexual violence). |
| **Numerator** | Number of health services that provide PEP. |
| **Denominator** | N/A |
| **Method and measurement tools** | The number is calculated by summing the number of establishments that provide PEP services. To obtain this information, national AIDS programs should have a registry of the health facilities that offer PEP. |
| **Disaggregation** | **Exposure:** Occupational, non-occupational (consensual sex and sexual violence). |
| | **Sector**: Public, private. |
| **Strong and weak points** | The indicator does not capture the type and quality of PEP services provided or their impact. Monitoring the availability of PEP through program registries does not ensure that all services related to PEP are adequately provided to the people who need them. |
| **Other references** | [28] |

### 4.5 Percentage of HIV-positive persons that received a confirmatory HIV diagnosis after a positive HIV self-testing result in the last 12 months

| | |
|---|---|
| **Rationale** | HIV self-testing can be an effective approach to facilitate access to HIV testing for key populations. This indicator shows the efficiency of self-testing in identifying HIV-positive cases among the key population. |
| **What does it measure?** | Percentage of HIV-positive people of key populations that received a HIV diagnosis after having an HIV-positive result using a HIV self-test. |
| **Numerator** | Number of people of key populations with a positive result using HIV self-test in the last 12 months. |
| **Denominator** | Number of total HIV-positive persons from key populations that had a confirmed HIV diagnosis in the last 12 months. |
| **Method and measurement tools** | These data should be compiled from HIV case notification registries. The case notification sheets need to be adapted to collect the information regarding the use of HIV self-testing. |
| **Disaggregation** | **Key population:** MSM, transgender women, and FSWs. |
| **Strong and weak points** | This indicator helps to measure the impact of HIV self-testing in the identification of new HIV-positive cases, which is important in a context of implementation of this strategy. This indicator does not capture the success of HIV self-testing in linking the tested population to HIV prevention or care services. HIV self-testing is a screening test. After a positive result, the full nationally approved diagnostic algorithm needs to be followed to diagnose HIV infection. |
| **Other references** | [19] |

### 4.6 Number of centers that provide assisted partner notification services

| | |
|---|---|
| **Rationale** | Assisted partner notification of people living with HIV is a highly effective strategy for identifying undiagnosed HIV-positive people because the sexual partners and drug-injecting partners of people diagnosed with HIV infection have an increased probability of also being HIV-positive. |
| **What does it measure?** | The number of health facilities that provide assisted partner notification services to link the partners of HIV-positive persons to HIV prevention or care services. |
| **Numerator** | Number of centers that provide assisted notification services. |
| **Denominator** | N/A |
| **Method and measurement tools** | The number is calculated by totaling the number of centers that provide assisted partner notification services. To obtain this information, national AIDS programs should have a registry of the facilities that offer these services. |
| **Disaggregation** | **Sector:** Public, private. |
| **Strong and weak points** | The indicator does not capture the type and quality of services for assisted partner notification provided or their impact. |
| **Additional considerations** | This indicator makes sense in a context of emerging implementation of assisted partner notification. |
| **Other references** | [19] |

### 4.7 Percentage and number of health centers that have human resources trained in stigma and discrimination reduction

| | |
|---|---|
| **Rationale** | Stigma and discrimination increase the social vulnerability of people in key populations and significantly impact these populations' level of acceptability of health services.<br><br>For people who live with and are affected by HIV, stigma and discrimination in health care facilities are serious barriers to accessing and committing to medical care. |
| **What does it measure?** | This indicator measures the number and percentage of health care centers with human resources that are trained and sensitized in stigma and discrimination. |
| **Numerator** | Number of centers with human resources that have completed the training. |
| **Denominator** | Total number of centers. |
| **Method and measurement tools** | The number is calculated by summing the number of establishments that report that they have carried out training on stigma and discrimination in the last two years. There should be a registry of health facilities to obtain this information. |
| **Disaggregation** | **Sector:** Public, private.<br><br>**Type of service**: First level of care, specialized. |
| **Strong and weak points** | The indicator does not capture the type and quality of stigma and discrimination training carried out in health centers or their impact on the quality of services offered. |
| **Additional considerations** | To complement this indicator, satisfaction surveys can be conducted with the people in key populations seeking services (see **indicator 4.8**). |
| **Other references** | [39, 43] |

## 4.8 Percentage of people in key populations who experienced discrimination in health services

| | |
|---|---|
| **Rationale** | People in key populations experience stigma and discrimination as access barriers, reducing the acceptability of HIV/STI services. |
| **What does it measure?** | Progress toward reducing the discrimination experienced by key and vulnerable populations in health services. |
| **Numerator** | Number of participants from key and vulnerable populations that responded "yes" to at least one of the following questions:<br><br>1. In the last 12 months, have you been denied health services that you needed or requested because you are a _____ (sex worker, man who has sex with men, transgender woman or man, person who injects drugs, person belonging to another vulnerable population)?<br><br>2. In the last 12 months, have you experienced hostility or rejection from administrative personnel at a health facility because you are a _____ (sex worker, man who has sex with men, transgender woman or man, person who injects drugs, person belonging to another vulnerable population)?<br><br>3. In the last 12 months, has a health or administrative personnel told other people, without your consent, that you are a _____ (sex worker, man who has sex with men, transgender woman or man, person who injects drugs, person belonging to another vulnerable population)? |
| **Denominator** | Number of respondents. |
| **Method and measurement tools** | Exit surveys in health care centers, behavioral surveillance surveys, or special studies. |
| **Disaggregation** | **Key population:** MSM, transgender women, and FSWs.<br><br>**Sector:** Public, private.<br><br>**Type of service**: First level of care, specialized. |
| **Other references** | Regional indicators to measure progress towards zero discrimination — Additional guidance for Latin American and Caribbean countries — Global AIDS Monitoring 2019 [43] |

## 7.e  HIV/STI service coverage indicators among HIV-negative people in key populations

### 5.1  Percentage of HIV-negative key populations that, after receiving a negative HIV test result, had a risk assessment

| | |
|---|---|
| **Rationale** | A person's risk to acquire HIV is based on several factors including sexual practices that can vary over time, access to prevention services, and background prevalence among others. Therefore, it is important for people who receive a negative HIV test result to be evaluated for their risk of contracting HIV to offer them prevention services adapted to their needs. |
| **What does it measure?** | The proportion of the key population that received a risk assessment following a negative HIV test result, and that can, therefore, be offered a range of prevention services that are adapted to their risk. |
| **Numerator** | Number of people in key populations that received a risk assessment following a negative HIV test result in the last 12 months. |
| **Denominator** | Total number of people in key populations that received a negative HIV test result in the last 12 months (see **indicator 2.1**). |
| **Method and measurement tools** | **Numerator:** These data should be obtained from countries' post-counseling forms that make it possible to record the relevant information for each person's risk of HIV infection. (See **Table 3** for a proposed risk assessment form.)<br><br>**Denominator:** see **indicator 2.1**. |
| **Disaggregation** | **Key population:** MSM, transgender women, and FSWs.<br><br>**Age group:** <18, 18-24, >24.<br><br>Analyses can be done at different levels: national, subnational, or health center or another provider. |
| **Strong and weak points** | This indicator makes it possible to monitor the quality of HIV testing post-counseling services. It is important to ensure that the counseling forms adequately collect this information and that it is also appropriately entered into information system databases. |
| **Other references** | [12] |

### 5.2  Percentage of HIV-negative key populations that were determined to be at substantial HIV risk

| | |
|---|---|
| **Rationale** | Knowing the number of people in key populations at substantial risk of HIV infection makes it possible to identify those population subsegments that need services with greater frequency and intensity (for example, PrEP). These are people who due to their practices, and in a context of high HIV incidence, have been determined to be at high risk of HIV infection. |
| **What does it measure?** | The proportion of key populations that, after a negative HIV test result, are determined to be at substantial risk of HIV infection. |
| **Numerator** | Number of key populations that, after the risk assessment, are classified as having substantial risk in the last 12 months. |
| **Denominator** | Number of key populations that receive the risk assessment following a negative HIV test result in the last 12 months (numerator **indicator 5.1**). |

| Method and measurement tools | **Numerator:** These data should be obtained from countries' post-counseling or other service-related forms, which should contain relevant information on the HIV risk and if the person belongs to a key population (See **Table 3** for a proposed risk assessment form.)<br><br>**Denominator:** see **indicator 5.1**. |
|---|---|
| Disaggregation | **Key population:** MSM, transgender women, and FSWs.<br><br>**Age group:** <18, 18-24, >24. |
| Strong and weak points | Information on risk can be collected in a simple manner through tools that are similar to those shown in **Table 3**. However, people's substantial risk can vary in short periods, which means that this indicator will only provide a photograph of the person's level of risk at the time of HIV testing. |
| Other references | [12] |

## 5.3   Percentage of HIV-negative people in key populations that were screened for syphilis in the last 12 months

| Rationale | Syphilis screening tests in key populations are important for their health, and these efforts help to improve surveillance of the disease. |
|---|---|
| What does it measure? | Coverage of screening for syphilis among key populations. |
| Numerator | Number of HIV-negative people in the key population screened for syphilis in the last 12 months. |
| Denominator | Total number of people in key populations that received a negative HIV test result in the last 12 months **(indicator 2.1).** |
| Method and measurement tools | All people in key populations should be periodically screened for syphilis according to their risk assessment.<br><br>Any non-treponemal tests that measure the reaginic antibody (for example, VDRL or RPR) or treponemal tests that measure the treponemal antibody (for example, TPHA, TPPA, or rapid treponemal tests) can be used for screening.<br><br>Disaggregation of the indicator may consider the positives to the screening test alone or those with active syphilis (positive to both treponemal and non-treponemal tests). |
| Disaggregation | **Key population:** MSM, transgender women, and FSWs.<br><br>**Age group:** <18, 18-24, >24 |
| Strong and weak points | National program data may not be available. If unavailable, data from sentinel surveillance or studies can be reported. |

## 5.4 Percentage of HIV-negative people in key populations who had a syphilis-positive test and that received treatment in the last 12 months

| | |
|---|---|
| **Rationale** | Treating syphilis in key HIV-negative people who are receiving HIV prevention services related to HIV and that test positive for syphilis is a process indicator for the validation of the elimination of syphilis. |
| **What does it measure?** | Percentage of people in key populations that sought HIV prevention services in the last 12 months, had positive syphilis serology, and received adequate treatment. |
| **Numerator** | Number of HIV-negative people in key populations who had positive syphilis test results and received adequate treatment in the last 12 months. |
| **Denominator** | Number of HIV-negative people in key populations who received positive syphilis test results in the last 12 months. |
| **Method and measurement tools** | Data should be compiled annually. Seropositivity to treponemal or non-treponemal tests is sufficient for determining positivity to syphilis for this indicator. |
| **Disaggregation** | **Key population**: MSM, transgender women, and FSWs.<br>**Age group:** <18, 18-24, >24. |
| **Strong and weak points** | Compiling data on syphilis treatment can require the collaboration of other programs to ensure that such data are available at the national level. For the purpose of this indicator, documentation of a single dose of penicillin is sufficient. |
| **Other references** | This indicator is based on GAM indicator 2.4 [39]. |

## 5.5 Percentage of HIV-negative people in key populations who were screened for *Neisseria gonorrhoeae* in the last 12 months

| | |
|---|---|
| **Rationale** | Gonorrhea infection is a marker of unprotected sex and facilitates HIV transmission and acquisition. Furthermore, untreated gonorrhea can cause pelvic inflammatory disease, ectopic pregnancy, infertility, blindness. Screening for gonoccocal infection independently of symptoms improve surveillance and control of the disease. Increased resistance to the currently recommended treatment options may result in an untreatable infection. |
| **What does it measure?** | Percentage of HIV-negative people in key populations screened for gonorrhea in the last 12 months. |
| **Numerator** | Number of HIV-negative people in key populations that received a gonorrhea screening test in the last 12 months. |
| **Denominator** | Number of people in key populations who had an HIV-negative screening result in the last 12 months (see numerator of **indicator 2.1**). |
| **Method and measurement tools** | Routinely compiled program data. |

| Disaggregation | **Key population:** MSM, transgender women, and FSWs. |
| --- | --- |
| | **Age group:** <18, 18-24, >24. |
| **Strong and weak points** | Diagnostic capacity can vary from country to country since some countries carry out syndromic management and do not have the laboratory capacity to implement routine screening. |
| **Other references** | This indicator is based on GAM indicator 10.5 [39]. |

## 5.6 Percentage of eligible people from key populations who initiated oral PrEP at least once in the last 12 months

| Rationale | This indicator is key for evaluating the acceptance of PrEP among eligible people in key populations. People who received oral PrEP at least once include those that initiated PrEP for the first time and those who suspended and restarted PrEP within the reference period. |
| --- | --- |
| **What does it measure?** | Percentage of eligible people who initiated oral PrEP at least once in the last 12 months. |
| **Numerator** | Number of people in key populations who initiated PrEP (both daily and event-driven) at least once in the last 12 months. |
| **Denominator** | Number of people in key populations who were offered PrEP in the last 12 months. |
| **Method and measurement tools** | The numerator is obtained by counting the number of people who initiated oral PrEP at least once during the last 12 months, among those who were offered PrEP. This includes both people who received PrEP for the first time and those who restarted PrEP after suspending it. Regular PrEP users should be excluded from both the numerator and denominator. All people who i) received oral PrEP through national programs, demonstration projects, research projects, or private means and ii) take PrEP according to WHO and UNAIDS standards should be included. |
| | The denominator is generated by counting the number of eligible people who were recently offered PrEP. Each individual should be counted only once in the reference period, even if the person initiated PrEP more than once after suspending use. |
| **Disaggregation** | **Key population:** MSM, transgender women, and FSWs. |
| | **Age group:** <18, 18-24, >24. |
| | **PrEP dosage:** Daily or event-driven |
| **Strong and weak points** | The indicator does not capture the type and quality of PrEP services provided or the impact of PrEP. The complete range of PrEP services includes risk assessment, counseling, HIV testing every three months, analysis of renal and liver function, and patient monitoring and support. |
| **Other references** | This indicator is based on the PEPFAR indicator "PrEP new" [11], and it is related to the GAM indicator 3.5 [39], and indicators KP-6a, 6b and 6c in the Global Fund Measurement Framework [44]. |

## 5.7 Percentage of PrEP users who continue using oral PrEP for three consecutive months after initiating PrEP in the last 12 months

| | |
|---|---|
| **Rationale** | It is necessary to monitor if persons from key populations receiving PrEP (either daily or event-driven) continue on PrEP. This indicator provides a proxy measure of early continuation of PrEP by assessing if PrEP users receive the indicated follow-up services three months after initiating PrEP. This indicator is a disaggregation of **indicator 2.3.** |
| **What does it measure?** | Percentage of PrEP users that initiated PrEP (either daily or event-driven) in the last 12 months and are still engaged in services three months after initiating PrEP. |
| **Numerator** | Number of people who after initiating PrEP (either daily or event-driven) in the last 12 months continue on PrEP three months after initiation. |
| **Denominator** | Number of people who initiated oral PrEP (either daily or event-driven) in the last 12 months (see **indicator 5.6**). |
| **Method and measurement tools** | As a proxy for continuation on PrEP, the numerator is generated by counting the number of people who newly initiated oral PrEP (either daily or event-driven) in the last 12 months and had a follow-up consultation and HIV test three months after initiation. The denominator is generated by counting the number of people who initiated oral PrEP (either daily or event-driven) during the last 12 months (numerator for **indicator 5.6**). |
| **Disaggregation** | **Key population:** MSM, transgender women, and FSWs.<br><br>**Age group:** <18, 18-24, >24.<br><br>**PrEP dosage:** Daily or event-driven |
| **Strong and weak points** | This indicator provides a proxy of continuation in PrEP and the recommended clinical follow-up measured through the performance of an HIV follow-up test three months after initiation. The indicator does not capture adherence to PrEP, the uptake of the medication by patient type, the quality of PrEP services provided, nor the impact of PrEP. |
| **Other references** | GAM indicator 3.15 [39]. |

## 5.8 Number of HIV-negative key populations that received post-exposure prophylaxis (PEP) services in the last 12 months

| | |
|---|---|
| **Rationale** | PEP reduces the probability of HIV infection for people who have potentially been infected with HIV. For maximum effectiveness, PEP should be provided within 72 hours after exposure. PEP can be provided after occupational exposure (for example, in health care facilities) or non-occupational exposure (for example, after consensual sex) to HIV. PEP should also be offered to survivors of sexual violence. |
| **What does it measure?** | Number of people in key populations that, as part of the HIV prevention package, received PEP services after a risky exposure to HIV. |
| **Numerator** | Number of people in key populations that received PEP in the last 12 months. |
| **Denominator** | N/A |
| **Method and measurement tools** | Data that is routinely compiled by programs and reported to HIV information systems. |

| Disaggregation | **Key population:** MSM, transgender women, and FSWs. |
| --- | --- |
| | **Exposure:** Occupational, non-occupational (consensual sex, sexual violence). |
| | **Sector**: Public, private. |
| Strong and weak points | The indicator does not capture the quality of PEP services received by people in key populations or the impact of these services. The complete range of PEP services includes first aid, counseling, HIV testing before and after PEP, and patient monitoring and support. |
| | This indicator does not measure the correct adherence to PEP, which is essential for PEP to be fully effective; it should be taken according to the indications. |
| Other references | To obtain more information, consult the guidelines at: https://www.who.int/hiv/topics/prophylaxis/info/en/. |

## 5.9   Percentage of HIV-negative key populations that were screened for hepatitis B virus (HBV) in the last 12 months

| Rationale | Knowing people's hepatitis B serological status makes it possible to receive care and treatment for chronic hepatitis B or to assess their eligibility to receive the HBV vaccine. |
| --- | --- |
| What does it measure? | Percentage of people in key populations that were screened for hepatitis B, in the last 12 months. |
| Numerator | Number of people in key populations that received a hepatitis B screening test in the last 12 months (tested HIV negative in the past 12 months). |
| Denominator | Total number of people in key populations that received a negative HIV test result and who do not remember or were not previously vaccinated in the last 12 months (**indicator 2.1**). |
| Method and measurement tools | Clinical or laboratory registries. |
| Disaggregation | **Key population:** MSM, transgender women, and FSWs. |
| | **Age group**: <18, 18-24, >24. |
| Strong and weak points | This indicator monitors advances in hepatitis B testing activities but does not measure the global proportion of people who are coinfected with HIV and HBV, receiving care for HIV, and know about their coinfection with the hepatitis B virus. |
| Other references | This indicator is based on GAM indicator 10.6 [39]. |

## 7.f HIV/STI service coverage indicators among HIV-positive people in key populations

### 6.1 Percentage of HIV-positive key populations who initiated antiretroviral therapy (ART) within 7 days of diagnosis, during the last 12 months

| | |
|---|---|
| **Rationale** | Antiretroviral therapy (ART) is a key intervention that has proven to be effective in reducing mortality and morbidity among people with HIV. WHO recommends rapid initiation of ART following an HIV diagnosis. |
| **What does it measure?** | Progress in rapid initiation of antiretroviral therapy for all people with HIV. |
| **Numerator** | Number of people in key populations who initiated ART within 7 days followed their HIV diagnosis, among people diagnosed in the last 12 months. |
| **Denominator** | Number of people in key populations diagnosed with HIV in the last 12 months (**indicator 1.3**). |
| **Method and measurement tools** | Health center registries of HIV diagnoses and antiretroviral therapy or drug supply management systems. |
| **Breakdown** | **Key population:** MSM, transgender women, and FSWs. <br><br>**Age group**: <18, 18-24, >24. |
| **Other references** | [30] |

### 6.2 Percentage of HIV-positive key populations on ART that received a viral load (VL) test

| | |
|---|---|
| **Rationale** | An individual-level viral load (VL) is the recommended measurement of the efficacy of ART and indicates the level of treatment compliance and the risk of HIV transmission. |
| **What does it measure?** | Percentage of HIV-positive people in key populations that, while on ART, received a VL test in the last 12 months. |
| **Numerator** | Number of people in key populations on ART that had a VL test during the last 12 months. |
| **Denominator** | Number of people in key populations on ART (see **indicator 2.3**). |
| **Method and measurement tools** | Laboratory records of health centers, or study authorization management systems |
| **Disaggregation** | **Key population:** MSM, transgender women, and FSWs. <br><br>**Age group**: <18, 18-24, >24. |
| **Strong and weak points** | The indicator makes it possible to measure the efficacy of and adherence to ART among people in key populations. |

## 6.3 Percentage of HIV-positive key populations who received tuberculosis (TB) screening in the context of HIV care or treatment

| | |
|---|---|
| **Rationale** | HIV/STI services should carry out detection of TB cases, and the TB status of people living with HIV should be evaluated at every visit carried out during the reporting period. It is also important to monitor the application of the entire care process, from the detection of TB symptoms through TB diagnosis and treatment. |
| **What does it measure?** | Evaluate whether people in HIV care have had TB screening during all of their visits to HIV services. |
| **Numerator** | Number of people of key populations seeking HIV services whose TB status was examined and registered during the most recent visit carried out in the last 12 months. |
| **Denominator** | Total number of people of key populations who received HIV care or treatment services during the reporting period. |
| **Method and measurement tools** | Determine the total number of people with HIV who received TB screening by reviewing the registries for pre-ART and ART and, specifically, the columns related to quarterly or monthly TB monitoring and the TB treatment initiation date, respectively. Countries that have electronic health records with unique patient identifiers can incorporate these data into the medical histories. If the forms are paper-based, it will be necessary to systematically register and notify all stages of the care process, for example, through the systematic registration of suspected TB cases, and carry out monitoring of these cases throughout the TB diagnosis and treatment process. |
| **Disaggregation** | **Key population:** MSM, transgender women, and FSWs. **Age group**: <18, 18-24, >24. |
| **Other references** | This indicator corresponds to indicator B1 in A Guide to Monitoring and Evaluation for Collaborative TB/HIV Activities [45]. |

## 6.4 Percentage of HIV-positive key populations who received combination therapy for HIV infection and tuberculosis

| | |
|---|---|
| **Rationale** | TB is a leading cause of morbidity and mortality among people living with HIV, which also includes people who receive ART. Early TB treatment and ART are key to reducing TB mortality that is associated with HIV. |
| **What does it measure?** | Estimated percentage of new cases of TB in HIV-positive people who received treatment for both TB and HIV. |
| **Numerator** | Number of TB patients of key populations (new and recurrent) that are HIV-positive that initiated TB treatment during the reference period and that were already receiving ART or that initiated ART during TB treatment in the last 12 months. |
| **Denominator** | Estimated number of new TB cases in people of key populations living with HIV. |
| **Method and measurement tools** | **Numerator:** registries and reports on ART in health centers; program monitoring tools. Total count of TB patients of key populations (new and recurrent) that are HIV-positive that initiated TB treatment (as indicated in TB registries) and ART or patients that already receive ART (as indicated in ART registries). Information should be reconciled quarterly and annually with TB registries in the pertinent basic management units before being consolidated and reported. **Denominator**: program data and estimates of the estimated number of new TB cases among people of key populations living with HIV. WHO calculates annual estimates of the estimated number of new TB cases in people living with HIV. |

6.4 Percentage of HIV-positive key populations who received combination therapy for HIV infection and tuberculosis (continued)

| Disaggregation | **Key population**: MSM, transgender women, and FSWs.<br><br>**Age group:** <18, 18-24, >24. |
|---|---|
| Strong and weak points | This indicator quantifies the degree to which the collaboration between national TB and HIV programs ensures that people living with HIV and TB can access adequate treatment for both pathologies. However, this indicator will be affected by low levels of use of HIV tests, limited access to HIV health care services and ART, and poor access to TB diagnosis and treatment. |
| Additional considerations | Specific data at the municipal level should be provided for this indicator. |
| Other references | [45-47] |

## 6.5 Percentage of HIV-positive key populations who initiated preventive therapy for TB

| Rationale | All people receiving HIV care should be screened for TB at each visit, using a clinical algorithm recommended by WHO. HIV-positive adults and adolescents who do not present TB symptoms should receive preventive therapy for TB, that is, treatment for latent TB infection. |
|---|---|
| What does it measure? | The extent to which people living with HIV, who are registered for the first time in HIV health care services, initiate treatment for latent TB infection. |
| Numerator | Total number of people of key populations living with HIV who were registered for the first time in HIV health care services and that initiated treatment for latent TB infection in the last 12 months. |
| Denominator | Total number of people of key populations who were registered for HIV care for the first time, in the last 12 months. |
| Method and measurement tools | **Numerator.** Total number of people of key populations living with HIV who were registered for HIV health care services in the last 12 months and who initiated treatment for latent TB; that is, people who received at least one dose of anti-TB drugs such as isoniazid.<br><br>**Denominator**. Total number of people of key populations living with HIV who were previously receiving ART, plus people newly registered for ART in the last 12 months. |
| Disaggregation | **Key population**: MSM, transgender women, and FSWs.<br><br>**Age group:** <18, 18-24, >24. |
| Strong and weak points | This indicator quantifies the coverage of TB preventive therapies among people who are registered to receive HIV-related health care. However, it lacks information about acceptable performance. Unless additional data are compiled, this indicator does not provide information on the number of individuals who complete the course of treatment. |
| Other references | [45] |

## 6.6 Percentage of HIV-positive key populations that were screened for syphilis in the last 12 months

| | |
|---|---|
| **Rationale** | Syphilis screening tests in key populations are important for their health, and these efforts help to improve surveillance of this disease. |
| **What does it measure?** | Test coverage for syphilis detection in people in key populations. |
| **Numerator** | Number of HIV-positive persons in key populations that had a syphilis test in the last 12 months. |
| **Denominator** | Total number of HIV-positive persons in key populations linked to HIV care services (numerator of **indicator 3.2**) |
| **Method and measurement tools** | All people in key populations diagnosed with HIV should have periodic syphilis screening. This indicator should be measured annually.<br><br>Any of the non-treponemal tests that measure the reaginic antibody (for example, VDRL or RPR) or treponemal tests that measure the treponemal antibody (for example, TPHA, TPPA, or rapid treponemal tests) can be used for screening. For this indicator, it is sufficient to carry out testing with any type of test. |
| **Disaggregation** | **Key population:** MSM, transgender women, and FSWs.<br><br>**Age group:** <18, 18-24, >24 |
| **Strong and weak points** | National program data may not be available. If unavailable, data from sentinel surveillance or studies can be reported if they are considered to be representative of the national situation. It is important to specify the data source and coverage (for example, data from national programs in all of the country's provinces). |

## 6.7 Percentage of HIV-positive key populations with a positive syphilis test that received treatment in the last 12 months

| | |
|---|---|
| **Rationale** | Treating syphilis in key HIV-positive people who are in care and that test positive for syphilis is a process indicator for the validation of the elimination of syphilis. |
| **What does it measure?** | Percentage of HIV-positive people in key populations with positive syphilis serology that received adequate treatment in the last 12 months. |
| **Numerator** | Number of HIV-positive people in key populations that had positive syphilis test results and received adequate treatment in the last 12 months. |
| **Denominator** | Number of HIV-positive people in key populations that received positive syphilis test results. |
| **Method and measurement tools** | Data should be compiled annually. Seropositivity to treponemal or non-treponemal tests is sufficient to determine positivity to syphilis for this indicator.<br><br>The ideal would be to use national program registries that aggregate data from health facilities. However, if national program data are not available, data from sentinel surveillance or special studies can be reported if they are considered to be representative of the national situation. The data source and coverage (for example, data from national and/or provincial programs) should be specified in the observations and comments. |
| **Disaggregation** | **Key population**: MSM, transgender women, and FSWs.<br><br>**Age group:** <18, 18-24, >24. |

### 6.7 Percentage of HIV-positive key populations with a positive syphilis test that received treatment in the last 12 months (continued)

| | |
|---|---|
| **Strong and weak points** | Data on syphilis treatment among people who seek HIV/STI services are usually supervised routinely. Compiling data on syphilis treatment may require the collaboration of other programs to ensure that such data are available at the national level. For the purpose of this indicator, documentation of a single dose of penicillin is sufficient. |
| **Other references** | This indicator corresponds to the GAM indicator 2.4 [39]. |

### 6.8 Percentage of HIV-positive key populations that were screened for *Neisseria gonorrhoeae*, in the last 12 months

| | |
|---|---|
| **Rationale** | Gonorrhea infection is a marker of unprotected sex and facilitates HIV transmission and acquisition. Furthermore, untreated gonorrhea can cause pelvic inflammatory disease, ectopic pregnancy, infertility, blindness, and disseminated disease. |
| **What does it measure?** | Percentage of HIV-positive people in key populations who were screened for gonorrhea in the last 12 months. |
| **Numerator** | Number of HIV-positive people in key populations that received a gonorrhea screening test in the last 12 months. |
| **Denominator** | Total number of HIV-positive people in key populations linked to HIV care services (numerator of **indicator 3.2**) |
| **Method and measurement tools** | Routinely compiled data from the HIV program. |
| **Disaggregation** | **Key population:** MSM, transgender women, and FSWs.<br>**Age group**: <18, 18-24, >24. |
| **Strong and weak points** | Diagnostic capacity can vary from country to country since some countries carry out syndromic management and do not have the laboratory capacity to implement routine screening. |
| **Other references** | This indicator is based on GAM indicator 10.5 [39]. |

### 6.9 Percentage of HIV-positive key populations that were screened for hepatitis B virus (HBV), among those diagnosed with HIV in the last 12 months

| | |
|---|---|
| **Rationale** | The presence of hepatitis B surface antigen indicates chronic infection with HBV. Knowing one's serological status for both HIV and hepatitis B makes it possible to prescribe antiretroviral drugs that are effective against both infections. |
| **What does it measure?** | Percentage of HIV-positive people in key populations who were screened for hepatitis B, among those diagnosed with HIV in the last 12 months. |
| **Numerator** | Number of newly diagnosed HIV-positive people in key populations who received a hepatitis B screening test in the last 12 months. |
| **Denominator** | Total number of HIV-positive people in key populations diagnosed with HIV in the last 12 months. |
| **Method and measurement tools** | Clinical or laboratory registries. |
| **Disaggregation** | **Key population:** MSM, transgender women, and FSWs.<br><br>**Age group**: <18, 18-24, >24. |
| **Strong and weak points** | This indicator regularly monitors advances in hepatitis B testing activities but does not measure the global proportion of people who are coinfected with HIV and HBV, receiving care for HIV, and know about their coinfection with the hepatitis B virus. If the information is available, the denominator may include only those newly diagnosed HIV-positive people who were not vaccinated against HBV. |
| **Other references** | This indicator is based on GAM indicator 10.6 [39]. |

### 6.10 Percentage of partners of HIV-positive people that received an HIV-positive test result in the last 12 months

| | |
|---|---|
| **Rationale** | The efficacy of assisted partner notification strategy is measured through the percentage of captured couples who are identified as being HIV-positive. |
| **What does it measure?** | Efficacy of the assisted partner notification strategy for identifying HIV-positive partners of HIV-positive people who were previously undiagnosed. |
| **Numerator** | Number of partners of HIV-positive people in key populations who were diagnosed with HIV through an assisted partner notification strategy in the last 12 months. |
| **Denominator** | Total number of partners of HIV-positive people in key populations who were listed/nominated through assisted partner notification in the last 12 months. |
| **Method and measurement tools** | Program registries. |
| **Disaggregation** | **Key population:** MSM, transgender women, and FSWs.<br><br>**Age group**: <18, 18-24, >24. |
| **Other references** | Refer to the WHO Guidelines on HIV Self-testing and Partner Notification [19]. |

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In Latin America and the Caribbean, between 50% and 65% of new HIV infections occur in key populations of the HIV epidemics and their sexual partners. Improving the availability and coverage of HIV/STI services for these populations requires the support of monitoring systems that are sustainable and adapt to the needs of the countries of the region.

To respond to this need, the Pan American Health Organization, through an agreement with The Global Fund to Fight AIDS, Tuberculosis and Malaria, has developed the Framework for Monitoring HIV/STI Services for Key Populations in Latin America and the Caribbean. It introduces a novel system in which the impact of HIV services on key populations is determined, not only by how HIV-positive people maintain an undetectable viral load but also by how HIV-negative people remain HIV-free.

This document lists the essential HIV/STI services that, based on a combination prevention approach, should be offered to people from key populations. The monitoring framework establishes one or more indicators for each of the essential services together with the methodology for their measure. Likewise, a new HIV "prevention cascade" is introduced, which adds to the existing HIV care cascade. Countries are encouraged to disaggregate by key population group (i.e. gay men and other men who have sex with men, female sex workers, and transgender women) the HIV prevention and care cascades as well as the indicators.

Finally, it is important to show the contribution of civil society organizations in the HIV and STI response to ensure their sustainability as external funding to the region decreases. To this end, the framework encourages breaking down the prevention and care cascades information by the service provider, to identify the contribution of health ministries, civil society organizations, and other actors.