

Guide on Developing, Analyzing, and Using a Cascade of the Continuum of HIV Care for MSM

This guide is intended for organizations, LGBTI community groups and their allies working in the field of HIV/AIDS prevention in the countries of Central and Eastern Europe and Central Asia. It will help countries collect, analyze and use data on the availability and level of coverage of services that are part of the comprehensive package of services for gay men and other men who have sex with men (MSM). These services are described in “Implementing Comprehensive HIV and STI Programmes with Men Who Have Sex with Men” (MSMIT).¹

In mid-2017, when this document was being prepared, there were no published cascades for MSM in Eastern Europe and Central Asia, except for a partial cascade for MSM in Moscow, Russia. At the global level, there is also a lack of effective guidelines and practices for developing cascades of HIV services for key populations. Therefore, this document is a practical attempt to encourage efforts to find optimal and effective forms of a cascade of HIV services for MSM, as well as to gain experience using the cascade as a tool in developing and advocating for the expansion of scientifically-based approaches to HIV prevention and treatment among MSM.

This guide views a cascade of services (hereinafter cascade) as a visual tool for monitoring and assessing the situation. In addition to collecting data for the cascade, it is also necessary to interpret this data, to examine the causes of the largest gaps in the continuous chain of interrelated services (the so-called continuum of services), to make recommendations on reducing these gaps, and to use such recommendations in targeted work aimed at effecting change beneficial to gay and other MSM. Each country or organization can adapt the content of the cascade based on its own context and needs. To this end, this document presents different examples of how this can be done, for instance by adding a pre-exposure prophylaxis (PrEP) component, or by more closely monitoring the entire package of services for HIV+ and HIV- MSM, etc.

In order to effectively work with this guide, it is important to first study the tool: “Implementing Comprehensive HIV and STI Programmes with Men Who Have Sex with Men” (MSMIT).

Please send all questions regarding the use of the tools proposed in this guide, as well as any recommendations to Gennady Roschupkin at the Eurasian Coalition on Male Health (ECOM) (gena@ecom.ngo, contact@ecom.ngo). The latest version of this guide is available on ECOM’s website at: www.ecom.ngo.

This guide was developed by Raminta Stukite for the Eurasian Coalition on Male Health within the framework of the regional program “Right to Health”, which is being implemented with support from the Global Fund to Fight AIDS, Tuberculosis and Malaria.

¹ Accessible at: http://ecom.ngo/wp-content/uploads/2016/02/MSMIT_en.pdf

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Abbreviations and Terminology

AIDS	Acquired immune deficiency syndrome, final stage of HIV infection
ART	Antiretroviral therapy
Cascade	An instrument for representing the comprehensive array of interconnected, consecutive services (continuum of services) and the levels of access of people in need of those services. A cascade begins with defining the group that needs the comprehensive package of services and step-by-step tracks the ‘movement’ of these people from one service to another. It shows at which step ‘leakages’ take place and helps to focus analysis and work for improving policies and programs. For example, an HIV testing and treatment cascade (the so-called strategy “90-90-90”) starts with assessing the number of all people who have HIV.
CD4	A type of lymphocytes (white blood cells); CD4 cell count and its ratio with other lymphocytes show how well the immune system of a person living with HIV is functioning.
Continuum of care	A comprehensive array of interconnected, consecutive services. A person’s inability to receive one service means they will be unable to receive any further services that follow. A cascade shows the continuum of services from the point of view of access to services for a target population.
HIV	Human immunodeficiency virus that leads to AIDS
LGBTI	Lesbian, gay, bisexual, trans* and intersex people
MSM	Men who have sex with men
MSMIT	Publication <u>“Implementing Comprehensive HIV and STI Programmes with Men Who Have Sex with Men”</u>
NGOs	Non-governmental organizations
PLH	People living with HIV
PrEP	Pre-exposure prophylaxis, whereby an HIV-negative person takes an antiretroviral drug to prevent HIV infection
IBBS or BBS	Integrated bio-behavioral study or bio-behavioral study. This large-scale study is a type of sentinel surveillance used to obtain representative measurements for a certain population group – for example, prevalence of HIV and other infections, knowledge levels, utilization of services, or behavioral characteristics. Sentinel surveillance is usually conducted every two or three years.
STIs	Sexually transmitted infections

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Significant and important recommendations were provided by LGBT organizations and other national experts from Armenia, Belarus, Georgia, Kyrgyzstan, and Macedonia, who participated in a workshop and training on the development and use of cascades that took place on October 11-12, 2017 in Tallinn, Estonia.

We would like to express our gratitude for the work and support of these experts.

Part 1. Cascade of Services for MSM

1.1. What is an MSM Cascade?

A cascade of the continuum of HIV care for men who have sex with men (MSM) is a tool for situation assessment, planning, advocacy, and monitoring activities, which reflects the correlation between people who need services, and those who receive them. The cascade can be viewed as a chain of similar indicators that measure the behaviors of people and systems, the values of which are rigidly connected, but which change under the influence of multiple external factors. These indicators are sequentially linked and form descending steps. The development of a cascade of services allows us to:

- identify which services in the comprehensive package of services are not available to some of those in need;
- analyze the causes of gaps and the ineffectiveness of existing programs (why do people not use the services they need?);
- identify ways to improve the functioning of the system and increase demand for services (to achieve the necessary service coverage for effective control of the HIV epidemic).²

Currently, the most common HIV cascades reflect the level of accessibility of services to people living with HIV (PLH). However, data on these cascades is rarely disaggregated, so it is impossible to determine to what extent these services are available to and effective for HIV+ MSM.

A cascade is a useful tool to visualize progress made in achieving national and global targets, agreed upon by representatives of national governments. In particular, the 2016 “Political Declaration on HIV and AIDS: On the Fast Track to Accelerating the Fight against HIV and to Ending the AIDS Epidemic by 2030” sets the following targets for 2020:³

- 90% of people, including MSM, are covered by prevention services, in addition to the following 90-90-90 targets:
- 90% of all people living with HIV know their HIV status;
- 90% of all people aware of their HIV+ status receive antiretroviral therapy (ART);
- 90% of all people receiving ART have suppressed viral loads.

In many countries of Eastern Europe and Central Asia, the 90-90-90 targets have been adopted as a national goal. Nearly every country in Europe and Central Asia has already developed a cascade of services for (PLH) in accordance with these targets. Cascades of services for PLH generally include data on the accessibility of services for HIV+ MSM. However, they often do not include a disaggregation mechanism to see the situation for HIV+ MSM alone. All country, regional, and international cascades are published by UNAIDS,⁴ the European Centre for Disease Prevention and Control,⁵ and by other informational and coordinating agencies.

² Adapted from MSMIT: United Nations Population Fund, Global Forum on MSM & HIV, United Nations Development Programme, World Health Organization, United States Agency for International Development, World Bank.

Implementing comprehensive HIV and STI programmes with men who have sex with men: practical guidance for collaborative interventions. New York (NY): United Nations Population Fund; 2015.

³ United Nations General Assembly. Resolution A/RES/70/266, adopted on 8 June 2016.

⁴ UNAIDS. Ending AIDS: progress towards the 90–90–90 targets, page 167

⁵ European Centre for Disease Prevention and Control (ECDC). Thematic report: Continuum of HIV care. Monitoring implementation of the Dublin Declaration on partnership to fight HIV/AIDS in Europe and Central Asia: 2017 progress report. Available at: <https://ecdc.europa.eu/sites/portal/files/documents/Continuum-of-HIV-care-2017.pdf>

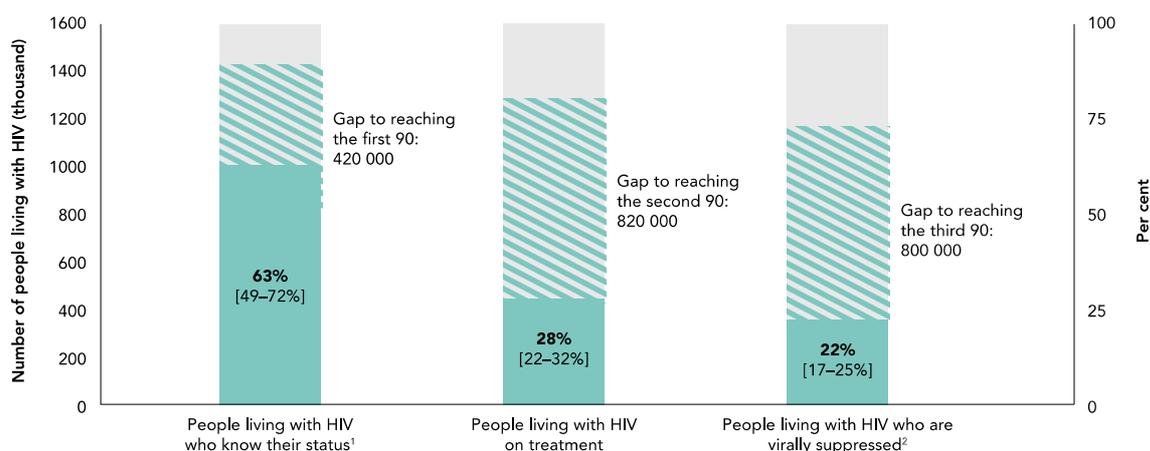


FIGURE 12.4. KNOWLEDGE OF HIV STATUS, ANTIRETROVIRAL THERAPY COVERAGE AND VIRAL SUPPRESSION AMONG PEOPLE LIVING WITH HIV, EASTERN EUROPE AND CENTRAL ASIA, 2016

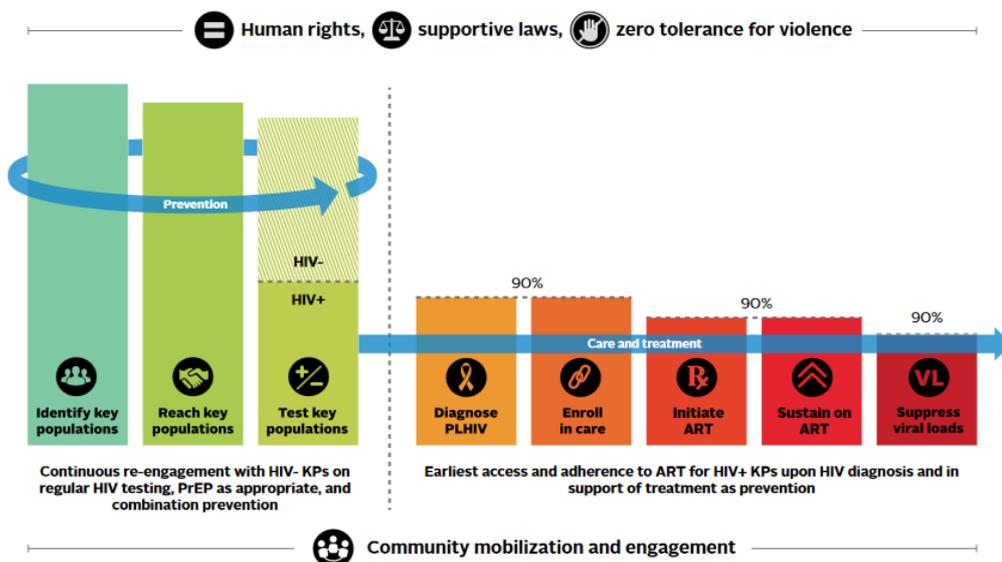
Source: UNAIDS special analysis, 2017; see annex on methods for more details.

¹ 2016 measure derived from data reported by 12 countries, which accounted for 99% of people living with HIV in the region.

² 2016 measure derived from data reported by 13 countries. In the region, 93% of all people on antiretroviral therapy were reported to have received a viral load test during the reporting period.

Cascades for key populations, including MSM, should assess the population size of the group and include issues such as testing/diagnosis, treatment, and prevention. The generalized diagram shown below depicts the cascade of the continuum of HIV care for MSM recommended by the MSMIT. In addition to the columns that measure the level of access to services, this diagram reflects other factors that influence the cascade, such as the organization of prevention services and medical care, the formation of an enabling environment, improving the observance and protection of human rights, the enactment and implementation of supportive legislation, zero tolerance for violence, behavior and demand for services, as well as community mobilization and engagement, which in turn affects service provision.

The HIV Prevention, Care, and Treatment Cascade



1.2. Three Main Types of MSM Cascades

In practice, it is quite difficult to develop such a comprehensive cascade as shown in the MSMIT diagram. Data is often incomparable. In addition, it is often very difficult to develop a consistent chain of prevention services that is the same for all clients (for example, service “B” can only be obtained after service “A” is received, thus the availability and effectiveness of service “B” depends on the quality and availability of service “A”). Therefore, we recommend that you consider three different types of cascades for MSM:

1. a **cascade on progress** in achieving the **90-90-90 targets among HIV+ MSM**;
2. a **prevention cascade** for measuring access to prevention services;
3. a cascade on the needs of, preparedness for, and access to **pre-exposure prophylaxis (PrEP)**, one of the key innovative prevention services for HIV-negative MSM.

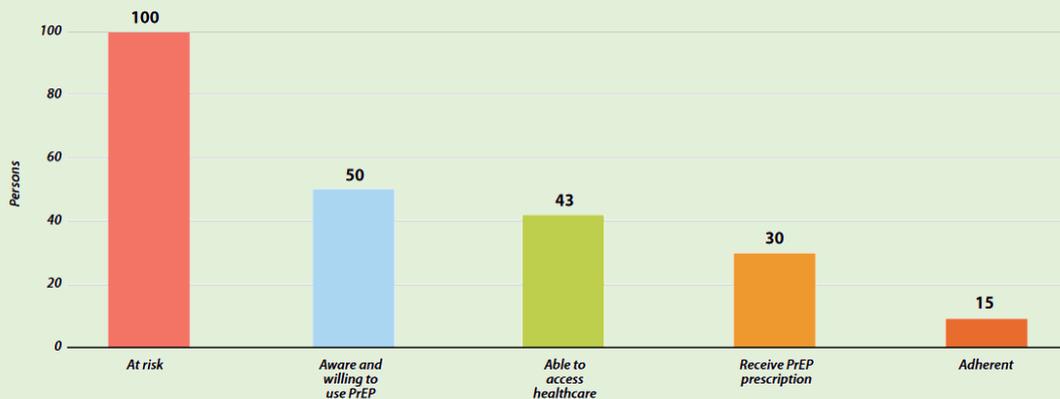
It should be noted that each of these cascades measures different sets of services, and is possibly applicable to different subgroups of MSM. However, the overall “positive side effect” is that each of these cascades helps to initiate and sustain dialogue on issues regarding the quality of existing data: to what extent does government data coincide with the experience and assessments of community experts; is it worthwhile for community organizations to collect data on their own if it is not available at the official country level (i.e. data from the government and/or academic institutions); to what extent are the methodology and data collection process of national epidemiological surveillance (IBBS) open and transparent, etc. Some of these issues have already proven difficult. For example, many experts and community activists believe that MSM population size estimates used by governments in the development of national HIV responses are often underestimated. It is also believed that the number of PLH who reported a homosexual route of HIV transmission is much lower than the actual number of MSM living with HIV, because such men often report heterosexual routes of transmission to avoid stigma and discrimination from the part of

healthcare workers.⁶

Inset: Examples of pre-exposure prophylaxis (PrEP) cascades

A pre-exposure prophylaxis cascade is a useful tool for analyzing data on HIV-negative at-risk MSM. The diagrams below present examples of detailed PrEP cascades, with one disaggregating MSM by sub-groups, and another presenting a side-by-side view with the 90-90-90 testing and treatment cascade.

Diagram 1. Pre-exposure prophylaxis cascade among MSM in Atlanta, USA, 2015:



Source: Kelley CF et al. Applying a PrEP Continuum of Care for Men who Have Sex with Men in Atlanta, GA. *Clinical Infectious Diseases*, online edition, 2015. doi: 10.1093/cid/civ664, as cited in the FHI/Linkages, 2015.

Diagram 2. More detailed PrEP cascade among young MSM by ethnic group in Washington, USA:

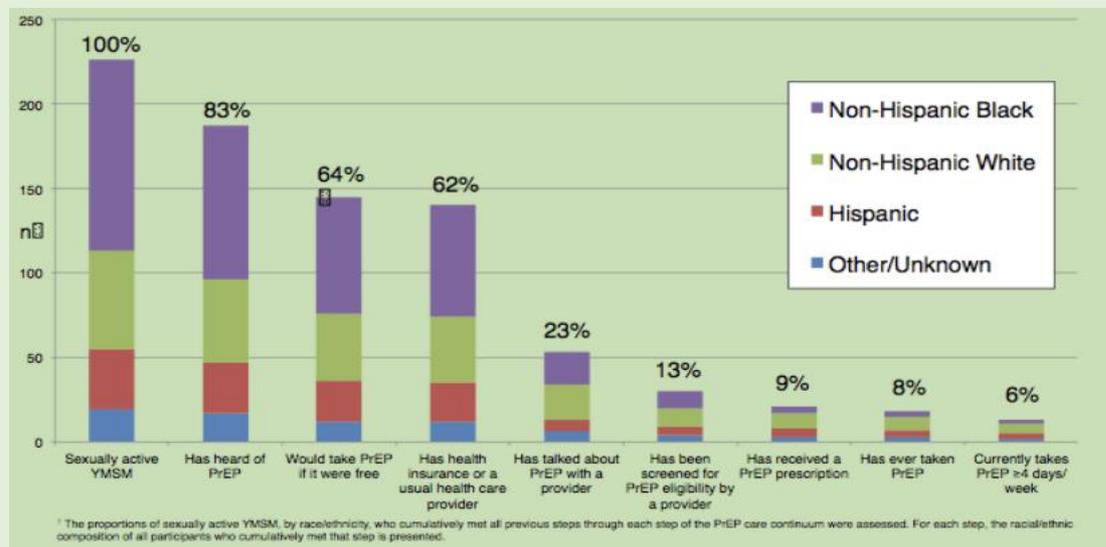
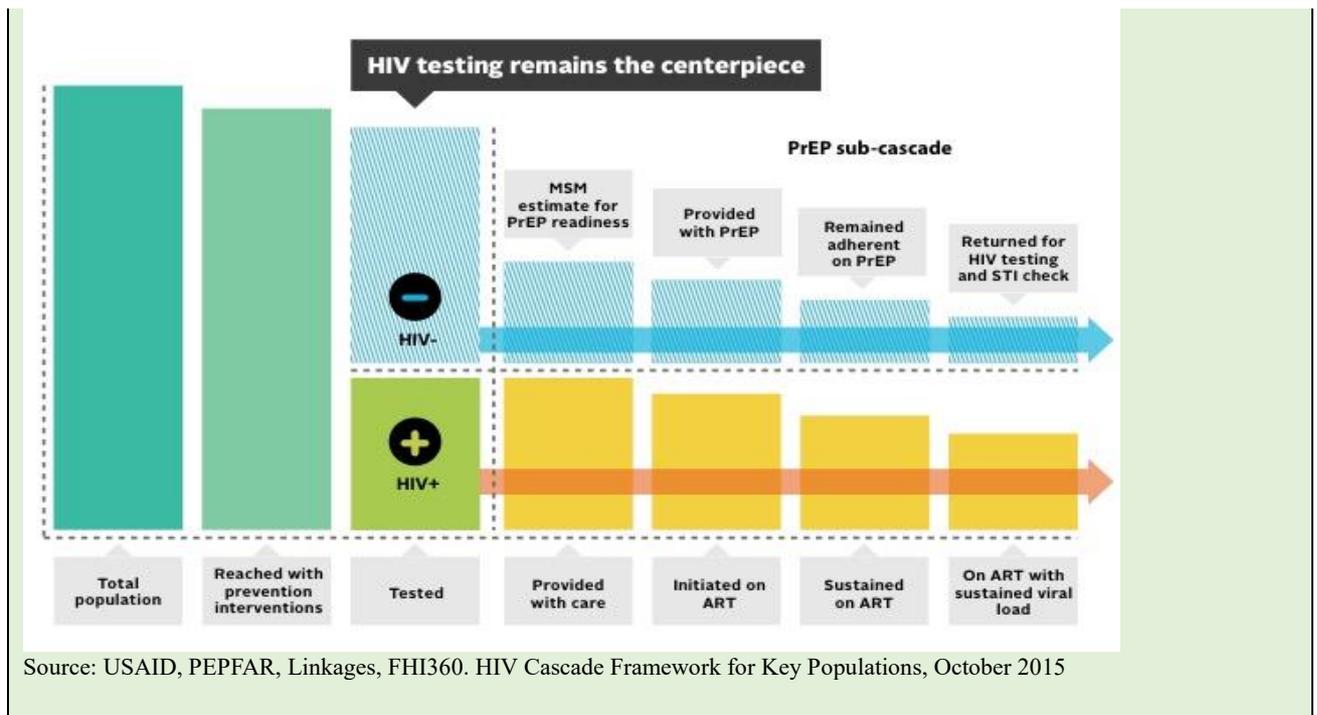


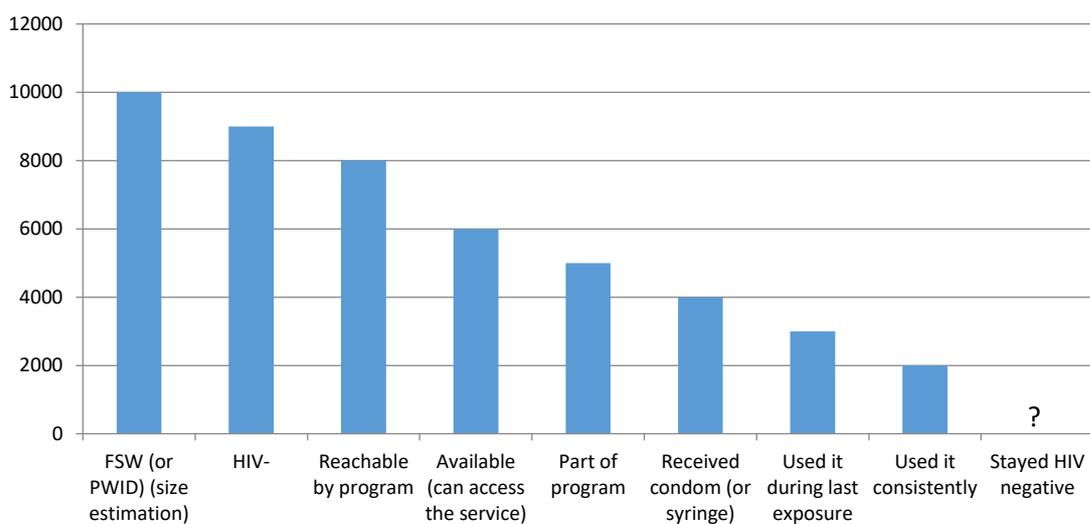
Diagram 3. PrEP cascade, integrated into the general cascade scheme, in parallel with the treatment and care cascade for HIV+ MSM:

⁶ “Improved Ascertainment of Modes of HIV Transmission in Ukraine Highlights Importance of Risk Due to Injecting and Homosexual Risk Behavior Among Males”, Poster, EACS 2017, Milan, October 2017.



Prevention services cascades are only covered superficially in this publication, as there are currently no effective guidelines or good examples of these types of cascades. During the UNAIDS consultation on this topic (which took place at the end of 2016), some participants recommended continuing to use key indicators, traditionally measured in epidemiological surveillance among MSM, as well as standard UNAIDS indicators on behavior, knowledge, use of prevention measures and services, health status, and on infections. For analysis of prevention services among key populations, it was suggested to consider, for instance, a cascade on access, receipt, and use of prevention drugs/products (see below). Data on such a cascade could be taken from program databases for these services.

Diagram 4. Cascade on condom use by sex-workers (or by intravenous drug users)



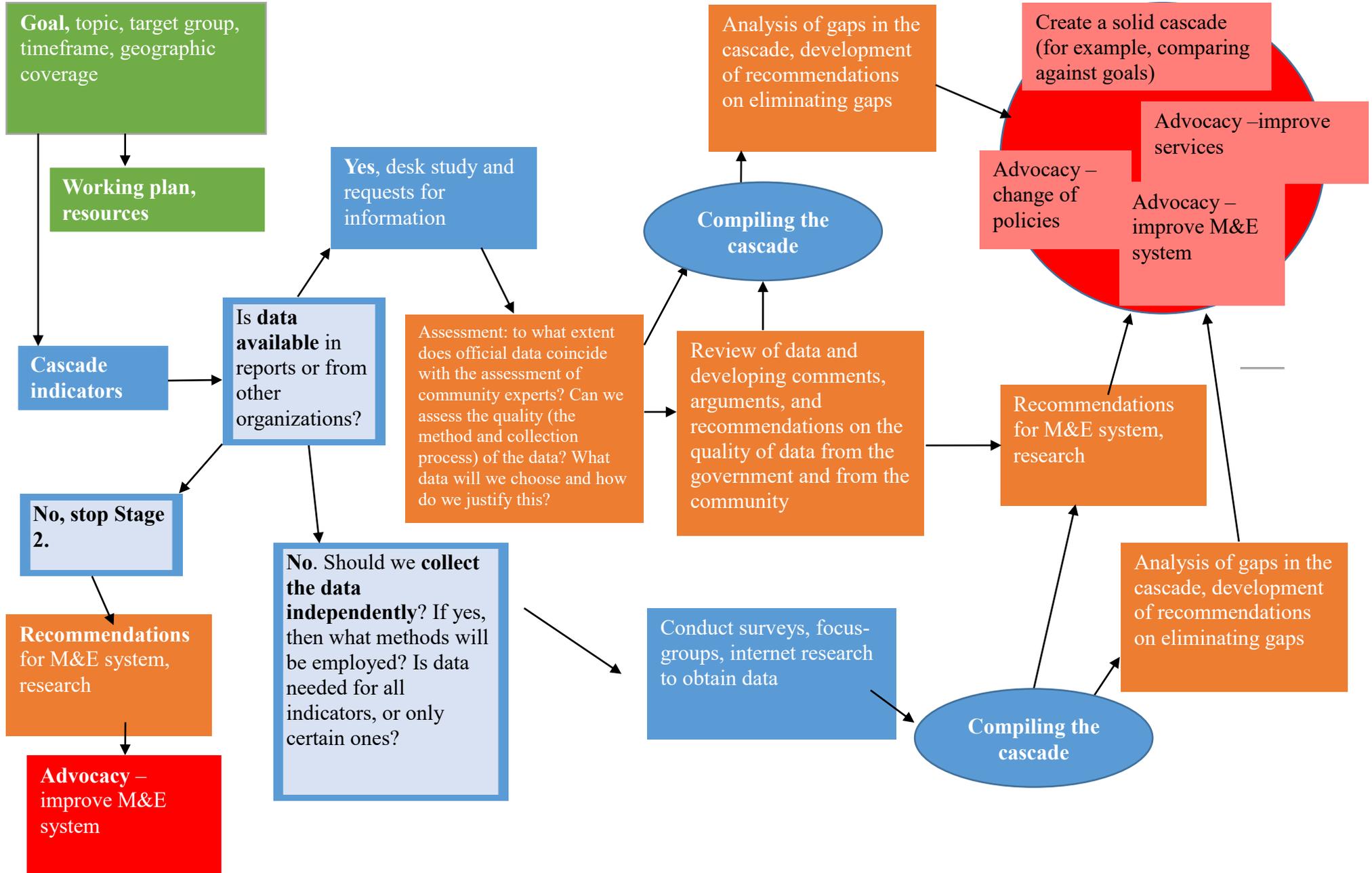
1.3. Overview of Stages in Cascade Development

Prior to developing the cascade, it is necessary to think through and plan all the stages of work. During the preparatory phase, it is necessary to determine the scope of work, the timeframe, and to decide what you are willing to do yourself, and where the help of experts/consultants will be required. Ideally, the process will be divided into the 4 stages listed below. In this chapter, we will focus on the second stage. The last stage concerns measures to improve services and develop advocacy activities, which requires a separate guide. Since such guides already exist, we will not duplicate them in this publication. The sections of this guide are color-coded and correspond to the 4 stages of work as listed below:

Stage 1: Preparations <ul style="list-style-type: none">• Identifying the goal, main characteristics of the cascade, and compiling the workplan.• Chapter 1.4	Stage 2: Compiling the cascade <ul style="list-style-type: none">• Defining the indicators of the cascade.• Identifying sources of data.• Data collection.• Part 2	Stage 3: Gap analysis and recommendations <ul style="list-style-type: none">• Developing recommendation for M&E.• Gap analysis and identifying barriers.• Developing recommendations for overcoming barriers.• Part 3	Stage 4: Using the cascade for advocacy <ul style="list-style-type: none">• Using the results.• Improving services.• Improving policies.• Improving the M&E system.• Part 4
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The algorithm of work and possible steps to be taken within these four stages will depend on the goals, accessibility of data, and on the resources available for developing the cascade. An approximate work scheme is presented below. Description of various components within these stages are included in the relevant parts of this publication.

Stage-by-stage diagram of the algorithm of work on the cascade.



1.4. Preparation Stage: Planning

Preparation Stage: Checklist of outputs

- ✓ Goals;
- ✓ Preliminary ideas and how they will be used;
- ✓ Main aspects of the cascade: type, indicators and potential sources of information, potential problems with the data;
- ✓ Description of work on the development of the cascade (for internal and external use);
- ✓ Expert committee with partners and experts (terms of reference, membership);
- ✓ Working plan, indicating the timeframe, resources, stages, experts and allocating responsibilities;
- ✓ Project team.

During Stage 1, the goals, objectives, and scope of work should be defined, and a preliminary action plan with a list of resources and responsible staff/consultants should be drafted. To facilitate planning, it is recommended to hold a meeting with your allies (this should also be done at the beginning and end of each stage of work on the cascade). Before the meeting, you can prepare proposals and questions that must be discussed with your partners. As the cascade is intended as a tool for dialogue with governmental structures and service-provision organizations, it is important to involve not only community representatives and representatives of service-provision organizations in the development of this dialogue, but also representatives of state and academic institutions, AIDS centers or infectious diseases clinics, UN agencies (UNAIDS, UNDP, UNFPA, World Bank, etc.), as well as representatives of international technical agencies, such as the US Centers for Disease Control and Public Health (CDC). They can help to improve methodology, recommend experts, or offer their assistance. This in turn will contribute to the recognition of the results of the work by important partners (governments, international structures), and will also facilitate advocacy work done on the basis of the data collected.

Below are five aspects that are especially important in the Preparation Stage:

1. **Identifying the goal and objectives, why is the cascade being developed and how will it be used.** At this stage, it is important to determine how you will use the cascade—what kind of work are you planning with the final product? Below we present several examples that may inspire your thinking:

- ✓ *Is it generally important for you to develop some kind of cascade for MSM, even a very simple one, since there was nothing like this before?*
- ✓ *Are you planning to improve services by conducting specific activities with service providers, where the biggest gaps in the cascade are possible?*
- ✓ *Would you like to make the cascade of services a key tool for monitoring the needs of MSM, and develop a pilot project to collect and compare data on the accessibility and quality of services?*
- ✓ *Is it important for you to compare the situations of different countries, i.e. to obtain comparable country-by-country data?*
- ✓ *Many other possible goals and objectives...*

Examples of goals and objectives

To impact the attainment of the national “90-90-90” goal among MSM:

- ✓ Identify the main gaps in data on MSM based on official statistics;
- ✓ Have community experts assess the quality of data and develop recommendations for improving the M&E system to improve the comprehensiveness and quality of data;
- ✓ Have community experts prepare alternative assessments on the achievement of the “90-90-90” goals, in cases where there are discrepancies in the official data;
- ✓ Develop community recommendations on what needs to be improved in the provision of services, including services at the community level;
- ✓ Promote the use of the collected data in national reports on the implementation of the national HIV program.

2. **Identifying the population (populations), geographic coverage, and timeframe of the cascade.** The geographic coverage of the cascade will influence the approach to selecting indicators and sources of information, and therefore should be defined at the very beginning. The defined group of MSM may only include those, for example, who were diagnosed with HIV in the last two years. Or it may include all MSM who have been diagnosed as HIV+ since the beginning of the epidemic in the country (national level). Or the group may be formed according to a behavioral principle (drug use, commercial sex, etc.), age, or based on place of residence.
3. **Cascade type and indicators.** Taking into account the main goal of the cascade, discuss and decide which questions you are seeking to answer through data collection. Perhaps you would like to focus on a certain service? What indicators are already being used in existing programs and projects in the country, and what indicators are used in international initiatives? i.e. with what do you need to align your cascade, and how will you do this? Are you collecting data for comparison with other cascades in your country, or for comparison with other countries? Do you want your cascade to be a part of regular national monitoring? (This may also affect the choice of indicators and sources of information).
4. **Assessing the availability of resources for work, identifying responsible persons and experts.** The first thing that must be done is allocating tasks among the members of your team. It is necessary to identify the people responsible for gathering information from official sources; those who will conduct assessments within the community regarding the quality of services or the reasons why access to services is lacking; those who will determine the wording of indicators and summarize data; as well as those responsible for presentations and advocacy activities.

During this process, you may want to consult experts, which means that you must have a contact list of such people. If, in addition to collecting data from official sources, you decide to conduct an assessment and focus groups with community representatives, you will need to involve experts with experience in sociological assessments and people that have access to the target group. It is very important to avoid collecting too many indicators in the cascade. From the beginning, you should instead focus on the development of the cascade, keeping in mind the steps that will be taken after data collection: gap analysis, developing recommendations, and implementing advocacy activities.

- 5. Opportunities for advocacy and cooperation within 1-2 years– how this affects the timeline and approaches.** It is important to carefully consider what changes you would like to implement in the future using your work on the cascade, and what important processes you will be able to use for your advocacy activities (for example, your own strategic planning, the evaluation of the national program, revision of national or global monitoring and evaluation systems, developing new country applications for Global Fund funding, etc.)? Are you focused on ensuring that, in the future, the academic institutions and services responsible for the monitoring and evaluation of the HIV/AIDS response and for epidemiological studies commit to developing a cascade of services using your example? If yes, then you will want to involve these institutions and services in the process of determining indicators. Is it possible that sentinel surveillance is planned in the next six months and that you can influence the development of a questionnaire and the approach to data collection? These opportunities and processes will initially help you to consider how you will use your product. Moreover, you will be able to determine the strict timeframe for completing the development of the cascade, as well as a list of organizations and projects with which it will be important to coordinate you work on data collection.

Based on the results of Stage 1, you will be able to determine exactly what kind of cascade best corresponds to your goals (one dealing only with the “90-90-90” goals, one dealing only with PrEP or only with prevention, or a combination of these), how detailed it must be, and how it must be adapted to be in line with your objectives. In general, this guide focuses on a standard HIV treatment cascade. However, it is important to remember that you can and should adopt the content of your cascade to the specificities of your country and your own work. This must be done prior to the data collection process.

<p>We strongly recommend that you develop cascades that, at a minimum, are comparable with the indicators of the national HIV program and with the indicators of the “Sustainable Development Goals”. The “90-90-90” targets are among such global indicators.</p>
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Key steps in Stage 2 for compiling the cascade of services for MSM

- ✓ Identifying the indicators of the cascade;
- ✓ Identifying the main sources and methods for data collection;
- ✓ Identifying your approach in case of a lack or unreliability of data;
- ✓ Developing and conducting desk review for data collection;
- ✓ Data collection via requests for information;
- ✓ Data collection by community representatives and experts.

2.1. Cascade Indicators

The selection and adaptation of indicators for a cascade of the continuum of care will depend on parameters identified during the Preparation Stage: what are the goals/objectives, geographical coverage, population or sub-population, etc.

An indicative list of possible indicators can be found in the table below. These indicators cover a “prevention cascade”, the cascade of services for MSM/PLH on attaining the “90-90-90” goals, as well as the pre-exposure prophylaxis (PrEP) cascade for HIV-negative MSM. These indicators are not set in stone. If necessary, they can be adapted for specific situation and needs. Thus, you can add additional intermediate indicators, which will reflect intermediate stages of a person’s movement from one service to another. These are useful when you need to analyze the causes of “losing” clients between one service and the next (for example, an intermediate indicator between HIV testing and receiving ART could be enrolling in HIV care in a clinic or AIDS center). However, you may skip certain indicators to simplify the process and limit the cascade to the three main “90-90-90” indicators.

The more indicators you decide to use, the more data you will need to collect and verify.

Before discussing potential nuances in the collection of data from official statistics, and recommendations on potential additional or intermediate indicators, the next two sections will provide general recommendations on what principles should be followed during the collection of information, and what steps to plan for in the development of the cascade.

Table 1. Indicators of the cascade on HIV prevention, diagnostics and treatment among MSM

Part 1: Prevention cascade

Cascade indicator	1. Assess the MSM population size	2. Prevention coverage	3. Testing coverage
Indicator and additional indicators for MSM-PLH and for HIV-MSM	<p>1. Estimated number of MSM in the country 1.1. Estimated number of MSM-PLH and their percentage out of the total MSM population 1.2. Estimated number of HIV- MSM</p>	<p>2. Number and percentage of MSM covered by HIV prevention and support via outreach work and other approaches 2.1. Number and percentage of MSM-PLH covered by HIV prevention and support via outreach work and other approaches; 2.2. Number and percentage of HIV- MSM covered by HIV prevention and support via outreach and other approaches.</p>	<p>3. Number and percentage of MSM that received HIV testing and counseling services, and know their test results 3.1. Number and percentage of MSM-PLH that received HIV counseling and testing services, and know their test results; 3.2. Number and percentage of HIV- MSM that received HIV counseling and testing services, and know their test results.</p>
Percent = numerator / denominator	<p>1. Presented as both the overall number and percentage (%). 1.1. Estimated number of MSM-PLH = estimated level of HIV prevalence (%) * estimated number of MSM (indicator 1) 1.2. Estimated number of HIV- MSM = estimated number of MSM (indicator 1) — estimated number of MSM-PLH (indicator 1.1)</p>	<p>2. Option A: Numerator: Overall number of MSM reached through outreach work and other activities in the country for the time period (1 year or once per quarter, depending on national definitions of coverage); Denominator: Estimated number of MSM (indicator 1)</p> <p>2. Option B: Percentage of MSM stating that they received services in the last 12 months. The number of people according to this indicator = the given percentage of MSM * estimated number of MSM (indicator 1); 2.1. Percentage of MSM-PLH stating that they received services in the last 12 months. The number of people according to this indicator = the given percentage of MSM-PLH * estimated number of MSM-PLH (indicator 1.1) 2.2. Percentage of HIV- MSM stating that they received services in the last 12 months. The number of people according to this indicator = the given percentage of HIV- MSM * estimated number of HIV- MSM (indicator 1.2).</p>	<p>3. Option A: Numerator: Number of MSM that received HIV counseling and testing services in the last year (or in the last 2 years, depending on national guidelines), and know their test results. Denominator: Estimated number of MSM (indicator 1).</p> <p>3. Option B: Percentage of MSM stating that they underwent HIV testing in the last 12 months and know their test results, or that they were previously diagnosed as HIV-positive. The number of people according to this indicator = the given percentage of MSM (indicator 3) * Estimated number of MSM (indicator 1); 3.1. Percentage of MSM-PLH stating that they underwent HIV testing in the last 12 months and know their test results, or that they were previously diagnosed as HIV-positive. The number of people according to this indicator = the given percentage of MSM-PLH * Estimated number of MSM-PLH (indicator 1.1) 3.2. Percentage of HIV- MSM stating that they underwent HIV testing in the last 12 months and know their test results. The number of people according to this indicator = the given percentage of HIV- MSM * Estimated number of HIV- MSM (indicator 1.2)</p>
Possible sources of information	<p>Official statistics and published data from assessments conducted by both national and international experts and organizations (for example, governmental organizations, UN agencies, universities, international development programs, and other relevant sources). The data can also be retrieved from the national/local HIV programs.</p>	<p>Option A: Program data of organizations implementing outreach work or organizing/supervising such work.</p> <p>Option B. Data from the latest IBBS among MSM.</p>	<p>Option A: Program data of organizations providing testing services, such as MSM service organizations, state AIDS centers/clinics.</p> <p>Option B: Data from the latest IBBS among MSM. This approach is best used when the IBBS was carried out effectively, with community involvement and good geographic coverage, as well as when the quality of program data may be in question (for instance, if there is possible duplication of people).</p> <p>If IBBS has not been carried out in the country/city, it is possible to use data from program monitoring: testing within the framework of projects that provide such services, or testing in state AIDS centers or other medical institutions.</p>

Part 2: “90-90-90” Cascade for HIV+ MSM (MSM-PLH)

Cascade indicator	1.1. Assess the MSM-PLH population size	4. Know your positive HIV status	5. Receive HIV-related health care	6. Receive ART	7. Achieve suppressed viral load
Indicator	1.1. Estimated number of MSM-PLH and their percentage of the total MSM population	4. Number and percentage of MSM-PLH that were diagnosed with HIV	5. Number and percentage of patients that have begun specialized HIV care out of the total number of people who tested positive for HIV	6. Number and percentage of MSM-PLH receiving ART in accordance with national protocols	8. Number and percentage of HIV-positive MSM receiving ART with suppressed viral load
Percent = numerator / denominator	<p>1. Presented as both the overall number and percentage (%).</p> <p>1.1. Estimated number of MSM-PLH = Estimated level of HIV prevalence (%) * estimated number of MSM (indicator 1).</p>	<p>Option A: Numerator: number of MSM-PLH registered among HIV cases and currently alive; Denominator: Estimated number of MSM-PLH (indicator 1.1.)</p> <p>Option B: Percentage of MSM stating that they were diagnosed as HIV-positive out of the estimated number of MSM-PLH. The number of people according to this indicator = the given percentage of MSM (indicator 4) * estimated number of MSM-PLH (indicator 1.1.).</p>	<p>Numerator: Number of patients registered in HIV care, i.e. receiving medical services for HIV (regular medical check-ups and/or ART and/or treatment of concomitant infections such as tuberculosis and/or hepatitis C)</p> <p>Denominator: Number of MSM-PLH identified through case registration (indicator 4).</p>	<p>Numerator: Number of MSM-PLH receiving ART in accordance with national protocols at the end of the assessment period;</p> <p>Denominator: Number of MSM-PLH in registered in HIV care (indicator 5)</p>	<p>Numerator: Number of MSM-PLH receiving ART with suppressed viral load;</p> <p>Denominator: Number of MSM-PLH receiving ART in accordance with national protocols at the end of the assessment period.</p>
Possible sources of information	Official statistics and published data from assessments conducted by both national and international experts and organizations (for example, governmental organizations, UN agencies, universities, international development programs, and other relevant sources). The data can also be retrieved from the national/local HIV programs.	<p>Option A: Data from the latest IBBS among MSM; Database of registered HIV cases.</p> <p>Option B: Data from the latest IBBS among MSM.</p>	<p>Database of patients of AIDS centers/hospitals.</p> <p>Data from the latest IBBS among MSM.</p>	<p>Database of patients receiving ART.</p> <p>Data from the latest IBBS among MSM.</p>	<p>Database of patients receiving ART.</p> <p>Data from the latest IBBS among MSM.</p>

Part 3: Pre-exposure prophylaxis cascade for HIV-negative MSM (HIV- MSM)⁷

Cascade indicator	1.2*. Assess the population size of MSM in need of PrEP	9. Aware of pre-exposure prophylaxis	10. Start pre-exposure prophylaxis	11. Remain HIV-negative
Indicator	1.2*. Estimated number of HIV-MSM at substantial risk of HIV infection, according to current WHO recommendations ⁸	Number and percentage of these HIV- MSM that are aware of pre-exposure prophylaxis	The number and percentage of these HIV- MSM who began PrEP	The number and percentage of these HIV-MSM who remained HIV-negative after 12 months
Possible sources of information and comments	Data from research on risky behaviors from IBBS or program data. There is no consensus on who exactly needs PrEP. If no national guidelines exist, WHO recommendations and the guidelines of other international organizations may be used. ECOM plans to develop its own recommendations that will reflect the regional context.	Data from the latest IBBS or other survey among MSM.	Data from the latest IBBS among MSM or program data from the PrEP program.	Data from the latest IBBS among MSM or program data from the PrEP program.

⁷ There are no globally-accepted guidelines. The previous chapters of this Guide provide examples from Washington D.C. Another approach from San Francisco was suggested in Liu, A. et al. [The Spectrum of Engagement in HIV Prevention: Proposal for a PrEP cascade](#). IAPAC.

⁸ The WHO published a module on strategic planning as part of the [WHO implementation tool for pre-exposure prophylaxis of HIV infection](#). It provides guidance on prioritizing the groups for which PrEP is recommended.

2.3. Steps

We have identified possible sources of data in the lists of recommended cascade indicators. During the data collection process, it is necessary to assess the quality of the data collected with the assistance of experts from the community and professionals in the fields of sociology or epidemiology. If data is not available or, if community assessments determine the quality of data to be poor, you must determine how prepared you are and whether you have the necessary resources to initiate alternative data collection on your own (to provide an expert assessment, to conduct research or hold a focus group, and then to extrapolate data for the entire population for which the cascade is being developed, etc.). In addition to obtaining quantitative indicators for the cascade, you can simultaneously try to ascertain the reasons for gaps in the cascade (in other words, that which is planned in the next stage of work on the cascade) by conducting additional focus groups and surveys. (See Part 3).

While processing the data collected, you may need to request additional information or to clarify certain data and the method of its collection. Some important data may be collected as part of IBBS. However, certain data may be absent from the general published report, and you may need to specifically request IBBS researchers to conduct additional analysis of the data collected as part of IBBS.

Table 2: Data collection steps: sources and methods of data collection

<i>Step</i>	<i>Source example</i>	<i>Data example</i>
Step 1. Identifying cascade indicators		
	MSM population size estimate;	<ul style="list-style-type: none"> Estimated number of MSM in the country;
	Bio-behavioral assessment on HIV and STIs among MSM in the country or sentinel surveillance studies (the latest assessment);	<ul style="list-style-type: none"> HIV prevalence; Methodology quality (questionnaire); Access to prevention, testing, treatment services; Experience of violence, violations and protection of rights;
	National HIV program;	<ul style="list-style-type: none"> MSM and 90-90-90 target indicators in the national program; Definition of service coverage;
	Program monitoring data for various projects;	<ul style="list-style-type: none"> Prevention services coverage (including PrEP), testing, treatment, care and support;
	AIDS center or another clinic responsible for diagnosis and treatment;	<ul style="list-style-type: none"> Number of MSM diagnosed with HIV; Number of MSM-PLH engaged in HIV care; Number of MSM receiving ART; Number of MSM receiving ART with suppressed viral load;
	HIV monitoring center or organization responsible for prevention among MSM	<ul style="list-style-type: none"> Definition of service coverage; Prevention coverage among MSM.
Step 3. Drafting a cascade and assessing data quality and completeness		
Step 4. Determining whether to collect additional data or not. If yes, determine which parameters and data collection methods will be used. If not, proceed to the next phase of a cascade.		
	Establishing a focus group of HIV+ and other MSM;	<ul style="list-style-type: none"> Prevention gaps; Experience and practices in diagnostics, practices in engaging in HIV care and treatment, percentage of those achieving suppressed viral load, and possibilities for improving services and their relevance for

include questions on the causes of gaps in the cascade (See section 3.4)	Holding a focus group or conducting a survey among the experts from prevention service providers (expert consensus);	communities; <ul style="list-style-type: none"> • Expert assessment on the number of people according to a certain cascade indicator and on major gaps; • Assessment of reasons for using or not using prevention services; • Review of recommendations for improving services;
	Conducting a survey among MSM (via an anonymous online questionnaire with no more than 10 questions; this can be advertised through smartphone apps, on-line outreach workers, and web pages).	<ul style="list-style-type: none"> • Assessment of reasons for using or not using prevention services; • Reviewing recommendations to improve services (e.g. readiness to use PrEP, or even individual use of PrEP).

2.2. Approach to Data Collection

Some recommendations that you will be able to make based on the analysis of data will concern the improvement of the quality of the data collected (see 3.1. *Recommendations for the Monitoring and Evaluation System*). These recommendations should be as precise and specific as possible.

The Regional Advisory Group on Strategic Information (RAGSI), established by ECOM, may assist you with data collection, using methodology adopted by the government or international structures. This group includes experts on epidemiology and strategic information from countries of the EECA region. This group of experts can also provide assistance in resolving disputes about data collection methods and about the quality of data collected.

We recommend that community organizations and their allies adhere to the following principles during the data collection process:

1. **In-depth understanding of data sources, quality, and limitations.** It is crucial to be able to evaluate the source of your data, how it was collected, and what limitations there are with respect to its quality and potential for use. Limitations on collected data are generally indicated in the description of the research methodology, and can also be determined through an analysis of the research process. In addition, talking with the experts who collected or processed the data can deepen your understanding of what the data shows and to what extent the data corresponds to your needs, etc. This expert can be included in the expert group of your cascade project.
 - *It is necessary to evaluate the quality of the data received, and determine its reliability. For example, some data may seriously contradict the experience and data of service organizations or community representatives.*
 - *In some cases, the data must be calibrated, for example, in order to determine how many people are aware of their HIV-positive status. To do this, you will need to exclude the number of deceased persons from the total number of registered HIV-cases in the country, which may prove to be quite complicated in the countries of Eastern Europe and Central Asia. If you fail to exclude such cases, your data will reflect that the identification of new cases works, but that clients “leak” out of the system in between diagnostics and engaging in HIV care. If you use data on the results of testing conducted in both medical institutions and community organizations, you must clarify whether these figures reflect the number of tests, or the number of patients that underwent testing, taking into account the number of patients being re-tested.*

- *Stigma and discrimination may influence the extent to which men are willing to disclose to healthcare providers that they engage in sex with men. Concealment of true practices can distort the data on registration of the path of infection in official figures.*
- *National data collected by professional researchers using representative methodology is considered to be the best quality data.*
- *However, the quality of data and its level of objectiveness may be called into question if, for example, wording in the questionnaire was inappropriate or insulting, or if the sampling size was insufficient in terms of numbers or geographic coverage.*

2. **Be prepared for gaps in the data.** The lack of data disaggregated by key populations, including MSM, may present challenges in the process of developing the cascade. The monitoring systems of many countries do not monitor statistics on certain key populations or on their access to treatment, care and support, or cannot do so properly due to ethical principles.

We recommend that you only collect missing data yourself if this does not require the use of complex methods and significant resources. Examples of methods and what kind of information may be collected using these methods are provided in Section 2.2 of Table 2 (Step 5).

3. **Consistency and comparability of data.** Data in various columns of the cascade should reflect the same geographical coverage, the same MSM groups or sub-groups, and, if possible, come from a single source. Ideally, this should be national data, such as the results of IBBS among MSM, officially obtained from an AIDS center. If such data is not available at the national level, in exceptional cases, harm reduction principles may be used: data may be collected only from large cities or 1-2 regions, or even on the basis of a limited sample of the community through a survey, focus groups, or through an expert assessment, after which data extrapolation is performed. The use of this approach should be clearly described in clarifications to the cascade.
4. **Data collected by communities.** If data is collected through surveys (physical, online, or through social networks/apps), focus groups, or by community activists, it is important that the methodology for such assessments is carefully prepared. In order to do this, it is worthwhile to involve sociologists and experts on research planning and methodology, data collection, and on data analysis. Such assessments can be a valuable asset for community organizations, especially if no other statistics are available.
5. **Definitions of what it means to be “covered” by a service and criteria for receiving services vary.** In the definition of cascade indicators, we mainly use international language. If data consistent with international language is not available, definitions used in the national HIV program may be used (for example, national protocols determine that a person has reached a suppressed viral load, only if he has received a condom in the last 12 months, etc.). If you compare how services are developed in accordance with national target indicators, it is helpful to use the definitions for indicators and coverage of the national program. If you suggest your own definitions in your work, it is very important that this is accurately reflected and explained in the narrative part of the cascade.
6. **Tracking methodology and limitations.** One of the outcomes of your work will be the description of methodology, sources of information, and limitations. This is important not only for data collected by the community, as indicated in paragraph 4, but also for other statistics. When presenting the results of your work and recommendations for improving data collection, you will have to describe your data sources and their limitations, etc. This part of the work is particularly important if the quality of data of your cascade is called into question. Therefore, from the very beginning it is important to pay special attention to tracking your sources of information. Although this work may be tedious, it is important to keep internal records of the

exact wording that is used in the answers you receive to official requests for information or in publications, and to indicate the data collection period, place of publication, as well as in what official response the data may be found in. It is also important to record what methodology was used for collection of the data, what limitations there are on this data, etc.

2.4. Comments on Indicators, Data Sources, and Additional Indicators

1. Assess the MSM population size: National MSM population size estimates in a number of countries of the region are adopted by means of a country consensus, meaning that the major players in the field of HIV/AIDS agree with the estimate, and that it is used in all major national documents. To better understand what such estimates are based on, you must consider the following questions regarding methodology used for population size assessments: 1) how is the term “MSM” defined, and how does this definition sound to those belonging to this group; 2) are only citizens of the country included in the estimate, or are foreigners living legally or illegally in the country included as well; 3) at the time of reaching a consensus on the MSM population size estimate, were there comments from the community and civil society that were not included in the final report; 4) to what extent did the methodology guarantee confidentiality and ensure the ability of respondents to speak openly about their sexual behavior. In order to compare data with other countries, it is possible to calculate the MSM population size as a percentage of the entire male population between the ages of 15 and 49.

However, not all countries have conducted such a national assessment, or community representatives do not agree with the approved national estimate. In such cases, it may be necessary to indicate this as a point of concern, and plan relevant work to improve population size estimates: studying the methods used to estimate the MSM population size, consulting with national and foreign experts if necessary, requesting expert assistance from the UN/international organizations, actively participating in the development of terms of reference and in determining methodology (if a new study is planned), as well as actively taking part in the research and in shaping outcomes. An example of an alternative approach to estimating population size is seen in an international EMIS study that compared different sources of information with data obtained through an online survey. On the basis of this work, they were able to extrapolate information about MSM population sizes in countries such as Belarus, Estonia, Macedonia, Moldova, Russia, and Ukraine.⁹

2. Prevention coverage: For data collection, it is necessary to determine which country information is the most reliable: program data on coverage, or IBBS data on MSM. Both sources have pros and cons. IBBS data is better used when the research was conducted with the involvement of the community and when it involved adequate geographic coverage. IBBS data may also be used when the quality of program data is called into question (for example, there may be a duplication of people in the database on provided services). You may also breakdown the IBBS data by various aspects, including by HIV status. However, IBBS does not take place every year, and, in certain countries, there may be difficulties in carrying out this work after the Global Fund withdraws financial assistance.

If you plan to collect and analyze a cascade every year, then the program data can show the dynamics. If program data is used (i.e. data provided by organizations and service providers), it is necessary to clarify all definitions used in order to obtain data on the number of people who received the required packages of services, not just the number of contacts or visits that service providers had.

The definition of coverage by prevention measures varies among different agencies and donors. The national HIV program may also have national definitions of coverage. If the goal of your advocacy work is to introduce changes to the national program, you will accordingly want to compare target coverage levels with the levels achieved. Therefore, it is important to collect coverage data based on

⁹ See: <https://bmcpubhealth.biomedcentral.com/articles/10.1186/1471-2458-13-919>

definitions used in the national program. However, if you do not agree with the national definition, then you should develop and justify a new formulation that will be used in the cascade. (In the Political Declaration on HIV/AIDS, signed by our governments in 2016, the recommended level of coverage of key populations by prevention services was 90%.)¹⁰

3. Testing coverage. Based on the specifics of the country and the needs of MSM living in it, it is necessary to determine how data on each indicator will be collected (using program data or IBBS data). Certain aspects requiring attention are indicated above in the comments to “Prevention coverage”. When using program data, statistics on testing and counseling often show the total number of tests, and not the number of people that used the service. One person may be tested several times in the same facility or in different ones. It is often necessary to refine the data in order to exclude repeat tests.

4. Know your positive HIV status. We need information about *living* individuals to determine the numerator of "number of MSM-PLH registered among HIV cases and currently alive". Published data often shows only cumulatively registered cases of HIV, regardless of whether the individual is alive or not.

In countries with high levels of stigma, MSM may conceal information about their sexual life and cases of HIV infection among MSM may be recorded with a different transmission route, not one related to sex between men. It is worth discussing the experience of MSM-PLH from the community during the registration of their diagnosis in a medical facility (for example, including this issue in a survey of HIV-PLH or in a future IBBS). If the level of stigma and discrimination based on sexuality and sexual behavior is high, this creates a very significant risk that officially registered cases of HIV infection during sexual intercourse between men will be substantially underestimated. In addition, this will affect the reliability of all other parts of the cascade. The issue should be included in the limitations of your assessment. In 2017, the Alliance of Public Health in Ukraine carried out an assessment of recorded transmission routes and real behaviors of PLH in Ukraine, which indicated that MSM-PLH quite often hide the fact that they engage in same-sex sexual practices from their doctors.¹¹

5. Receive HIV-related healthcare: Generally, a person is considered to be engaged in specialized HIV care if, in the past year, s/he has undergone all necessary tests (CD4 count, viral load, and other diagnostics), as well as if s/he has access to treatment of co-infections, including tuberculosis, hepatitis, STIs, and non-communicable diseases, such as those associated with mental health and aging. This should all be evaluated on the basis of a duly approved national standard/protocol. However, in many countries of Eastern Europe and Central Asia, being registered with medical services just means that a person's information is stored in a database without regard to whether there has been recent contact and an uptake of diagnostics or other medical consultations and treatment.

If this is true for your country, you will use definitions taken from the national program for your cascade. At the same time, you are entitled to indicate that these formulations may not correspond to international recommendations, and to add an indicator to show how the cascade would look if the packages of services and criteria recommended by the WHO are used in the provision of HIV care to those in need.

(On the other hand, if the national criteria are in line with WHO recommendations, it is essential to

¹⁰ United Nations General Assembly. Resolution A/RES/70/266, adopted on 8 June 2016. Political Declaration on HIV and AIDS: On the Fast Track to Accelerating the Fight against HIV and to Ending the AIDS Epidemic by 2030. Available at: http://www.unaids.org/sites/default/files/media_asset/2016-political-declaration-HIV-AIDS_en.pdf

¹¹ “Improved Ascertainment of Modes of HIV Transmission in Ukraine Highlights Importance of Risk Due to Injecting and Homosexual Risk Behavior Among Males”, Poster, EACS 2017, Milan, October 2017.

indicate this in the comments to the cascade to highlight the quality of national policies!)

6. Receive ART. The WHO and the European AIDS Clinical Society recommend starting ART immediately after the diagnosis of HIV infection. However, in a number of countries, the rules for starting ART have not changed. If your country is among them, you may additionally specify how many people receiving HIV-related care in the last year underwent appropriate testing to determine the period for starting ART. It is also necessary to clarify how many of these people met national criteria for starting therapy and how many patients were provided ART.

7. Achieve suppressed viral load. In the recommendations of various international agencies, the number of virus copies that constitutes a “suppressed viral load” or “suppression” of the virus differs. (The WHO guidelines on strategic information recommends monitoring data on the number of patients on treatment with a viral load below 1000 copies/million,¹² while the European and American recommendations define this level as less than 200 copies/million).¹³ When developing cascades, we recommend that you first use the national definition of what is considered a “suppressed” viral load.

(Note that there is a difference between the concepts of a “suppressed” and an “undetectable” viral load. An “undetectable” viral load is reached at a level below 50 copies/million, i.e. below the limit of detection of most test systems.)^{14,15}

Other program indicators that can be used as proxies for main indicators or as additional indicators:

Supplement to the indicator on knowing of your positive HIV status: - The percentage and number of MSM-PLH that are registered in HIV care and whose partners were tested;

Supplement to the indicator on engaging in HIV care (and knowing your positive status): - The average level of CD4 counts upon HIV diagnosis among MSM;

Supplements to the indicator on receiving ART: - The percentage and number of MSM-PLH who started ART within 30 days after it was determined that they meet the criteria for starting therapy;

- The percentage and number of MSM-PLH receiving ART who pick up their medicines on time;

- The percentage of months with no interruptions in the supply of medication to delivery points for patients.

Additional "intermediate" indicators for tracking trends in services. The data above shows the general parameters for the entire period of registration of HIV infection and the organization of services. Additional indicators can be selected to track current trends and assess progress made in the last one-two years compared with previous years. Progress on improving the link between HIV testing (through rapid tests or ELISA tests) and HIV care for those diagnosed with HIV, and between the time of registration in HIV care and retention in HIV care, can be monitored on an annual and biannual basis. In order to track recent trends related to services, so-called “intermediate” indicators must be added:

- the percentage of newly diagnosed (during the past 12 months) MSM-PLH receiving HIV care, out of the total number of MSM-PLH who tested positive for HIV (in the last 12 months);
- the percentage of MSM that remained in HIV care in the last 12 months (or 24 months) after the first registering in care (registration in specialized HIV treatment), out of the total number

¹² WHO. [Consolidated strategic information guidelines for HIV in the health sector](#). 2015

¹³ Gourlay AJ, Pharris AM et al. [Towards standardized definitions for monitoring the continuum of HIV care in Europe](#). AIDS 2017, 31:2053–2058.

¹⁴ viral load tests have a point below which they cannot reliably detect HIV; generally, this limit is 40-50 copies/ml, thus if a person has a viral load below 50, his viral load cannot be detected.

¹⁵ European AIDS Clinical Society (EACS). [Recommendations 9.0](#), October 2017, page 13.

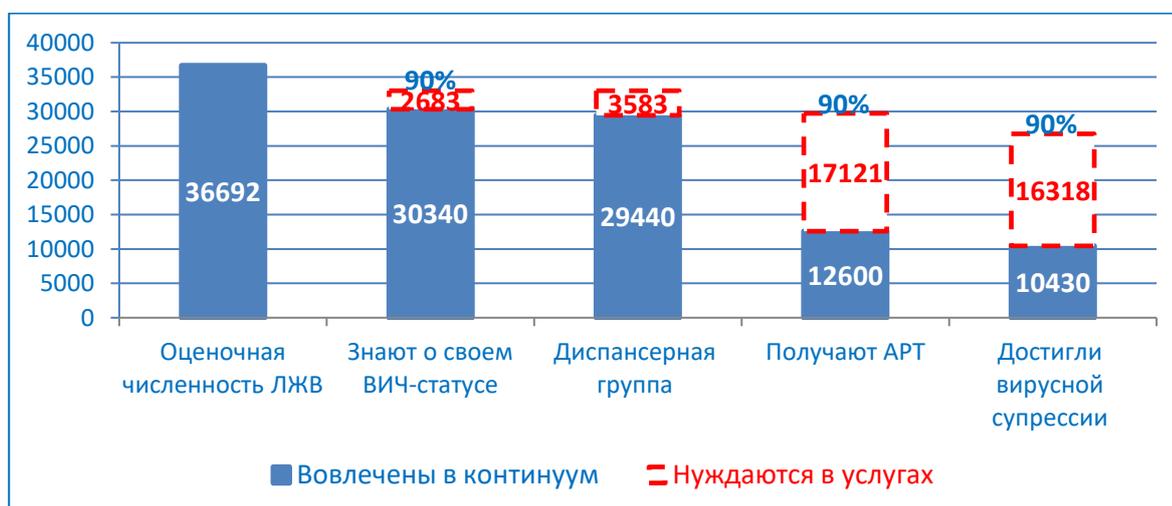
- of MSM who began receiving HIV services during the period analyzed;
- the percentage of MSM-PLH who are alive and on ART 12 months after initiating ART;
- the percentage of MSM-PLH who have been receiving training on literacy in ART and who receive counseling.

2.5. Converting Data to a Cascade Format

It is recommended to collect data in a spreadsheet and supplement it with methodological details. When data collection is completed, you should have one table showing the indicators, their values, the data source, and comments on data collection. In addition, you will have a document describing methodological aspects: when did data collection begin and end, where did you send official requests, and from where did you or did you not receive responses, etc.

With the help of *Excel* tables, you can create a diagram/graph of the cascade. An example of formatting is shown using the cascade below:

Diagram 5. Cascade example: name of data (who, where, when, which cascade?). Data sources



2.6. Collecting Additional Data Using MSMIT Methodology

In addition to quantitative information on access to basic services, important factors affecting these services can also be reflected in the cascade, for example, the availability of certain approaches, programs, etc. One such example of an integrated approach to a cascade is shown below, in the cascade of HIV testing and treatment for the countries of Eastern Europe and Central Asia, presented in a UNAIDS report:

	FIRST 90				SECOND 90				THIRD 90			
	Knowledge of status among all people living with HIV *	Is community-based testing and counselling and/or lay provider testing available?	Is self-testing available?	Is assisted partner notification available?	Percentage of people living with HIV who know their status who are on treatment*	Percentage of all people living with HIV who are on treatment*	Recommended antiretroviral treatment initiation threshold among people living with HIV per Ministry of Health guidelines	Is antiretroviral therapy provided in community settings (such as outside health facilities) for people who are stable on antiretroviral therapy in your country?	Percentage of people living with HIV on treatment who are virally suppressed*	Percentage of all people living with HIV who are virally suppressed*	Is there a national policy on routine viral load testing for adults and adolescents?	Percentage of people living with HIV on antiretroviral therapy who received a viral load test
ALBANIA	47%				64%	30%			79%	24%		
ARMENIA	60%				59%	36%			69%	25%		
AZERBAIJAN	58%				52%	30%			61%	19%		
BELARUS	>89%				50%	45%			79%	35%		
BOSNIA AND HERZEGOVINA ¹						81%						
GEORGIA	42%				74%	32%			88%	28%		
KAZAKHSTAN	74%				42%	31%			64%	20%		
KOSOVO ¹						37%						
KYRGYZSTAN	61%				46%	28%			62%	18%		
MONTENEGRO ^{1,2,3}	76%				67%	51%			69%	35%		
REPUBLIC OF MOLDOVA ^{1,2,3}	57%				38%	21%			69%	15%		
RUSSIAN FEDERATION												
TAJIKISTAN	48%				63%	30%			74%	22%		
THE FORMER YUGOSLAV REPUBLIC OF MACEDONIA						48%						
TURKMENISTAN												
UKRAINE	56%				66%	37%			59%	22%		
UZBEKISTAN ^{1,2,3}	52%				69%	36%						
EASTERN EUROPE AND CENTRAL ASIA	63%				45%	28%			77%	22%		

85% and above
70-84%
50-69%
Less than 50%

Yes
Not reported as available
Not reported as available

85% and above
70-84%
50-69%
Less than 50%

75% and above
55-74%
30-54%
Less than 30%

Treat all
Responses other than treat all

Yes
No

85% and above
70-85%
50-69%
Less than 50%

65% and above
40-64%
25-39%
Less than 25%

75% and above
50-74%
Less than 50%

Neither available
 Lay provider testing available; community-based testing and counselling not available
 Community-based testing and counselling available; lay provider testing not available
 Both available
 Yes, fully implemented
 Yes, not implemented or partially implemented
 No policy on viral load testing
 No, targeted viral load testing only

* The complete set of 90-90-90 measures and testing and treatment cascade data for countries can be found at aidsinfo.unaids.org. Source: UNAIDS special analysis, 2017; 2017 Global AIDS Monitoring; UNAIDS 2017 estimates; 2017 National Commitments and Policy Instrument; European Centres for Disease Control and Prevention Continuum of HIV care 2017 progress report.

¹ Estimates of people living with HIV that inform progress towards 90-90-90 are country-supplied and have not been validated by UNAIDS. All

² measures of progress toward 90-90-90 and the testing and treatment cascade are for 2015. Policy measures are as of 2016. ³ Data from European Centres for Disease Control and Prevention Continuum of HIV care 2017 progress report.

If you are ready to use this more integrated approach in developing a cascade, you can use the tools described in the MSMIT.

Below is a table summarizing WHO recommendations on comprehensive HIV services for MSM, with information on the factors affecting the cascade: legal aspects, human rights programs, reducing stigma and discrimination, as well as community mobilization. You can add columns to this table to collect information. Some of this data may be used in a simplified form to carry out a rapid assessment, for example, using three of the parameters, or only the first one (availability or legality):

<u>Availability of services in the country</u>	1. available in more than one service center, or	2. available only in one
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service center; 3. implementation is planned; 4. not available.	<u>Importance of changes to the service or its introduction for improving the health of MSM and the HIV response</u> 1. unimportant; 2. important, but there are other more relevant interventions; 3. important; 4. a priority.	<u>Comments</u>
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Since this data will be used in the cascade to illustrate the supporting factors and barriers for specific indicators, you should immediately establish the linkage between this factor and the corresponding indicator in your country. Such linkages are presented below in the table (see Table 3).

Table 3. Adapted plan of the prevention, care and treatment package for MSM (MSMIT, 2015) recommended by WHO. (Three columns on the right were added to be filled in using the scale above.)

* Examples were added from WHO recommendations or the MSMIT or were adapted from other sources.

Area and service (possible correspondence to indicators from Table - 2.1. Steps or cascade indicators)	MSM group	Availability of services in the country (rating of 1, 2, 3 or 4)	Urgency for changes to or introduction of service (rating of 1, 2, 3 or 4)	Comments
IDENTIFY THE MSM POPULATION SIZE (indicator 1)				
1. * Same-sex relationships between men are not prosecuted under criminal law.	--	Yes/no	--	--
2. *LGBT organizations are established and function.	--		--	
3. *LGBT representatives are involved in HIV policy making.	--			
PREVENTION (indicators 2, 3)				
	HIV-			
	HIV+			
5. Pre-exposure prophylaxis (PrEP) for men with a considerable and lasting risk of HIV infection.	HIV-			
6. PEP in case of suspected infection.	HIV-			
	HIV-			
	HIV+			
	HIV-			
	HIV+			
	HIV-			
	HIV+			

10. Prostate cancer screening.	HIV-			
	HIV+			
	HIV-			
	HIV+			
	For HIV-			
	For HIV+			
HIV TESTING (indicator 3)				
13. Testing at least every 12 months, and much more often if necessary, if there is a high lasting risk; the same is applied to sexual partners.	For HIV-			
14. Testing of sexual partners.	For HIV+			
15. *Community-based testing.	For everyone			
16. *Self-testing.	For everyone			
REPEAT AND CONFIRMATORY TESTING AND DIAGNOSIS (indicators 3, 4, 5)				
17. Retest before ART is initiated or when testing involves providing services after testing within the community.	For HIV+			
18. Retest at least every 12 months before PrEP is initiated, and more often if necessary, if there is a high, lasting risk.	For HIV-			
19. *Programs aimed at reducing stigma and discrimination in medical institutions.				
TREATMENT AND ACHIEVEMENT OF VIRUS REPLICATION SUPPRESSION, PREVENTION, OTHER HEALTH SERVICES (indicators 2, 6 and 7)				
	For HIV+			
	For HIV-			
	For HIV+			
	For HIV-			
22. Cotrimoxazole for chemoprophylaxis.	For HIV+			
23. Improve TB diagnostics and connection between TB diagnostics and treatment.	For HIV+			
24. Provision of preventive isoniazid therapy.	For HIV+			
PREVENTION AND ACHIEVEMENT OF VIRUS REPLICATION SUPPRESSION, OTHER SUPPORT SERVICES (indicators 2, 6, 7)				
	For HIV+			
	For HIV-			
26. Psychosocial counseling, support and treatment counseling.	For HIV+			
27. Support in status disclosure and psychological assistance for the partner.	For HIV+			
	For HIV-			

	For HIV+			
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In addition to the table on the package of services, the MSMIT has additional program indicators to ensure access to and increase demand for condoms and lubricants, to develop and empower communities, to raise awareness about gender-based violence, etc. These can also be used to assess the completeness of the package of services and measures to improve the cascade.

Part 3. Analyzing the Cascade of Services and Developing Recommendations

During the stage of cascade analysis, the collected data should be presented to your partners to obtain preliminary recommendations and evaluations on various aspects. Only after this can data be used for improving services and planning advocacy.

3.1. Recommendations for the Monitoring and Evaluation System

The development of the cascade will enable you to develop recommendations on how to improve the monitoring and evaluation and data collection systems.

The following three groups of questions will assist in developing those recommendations:

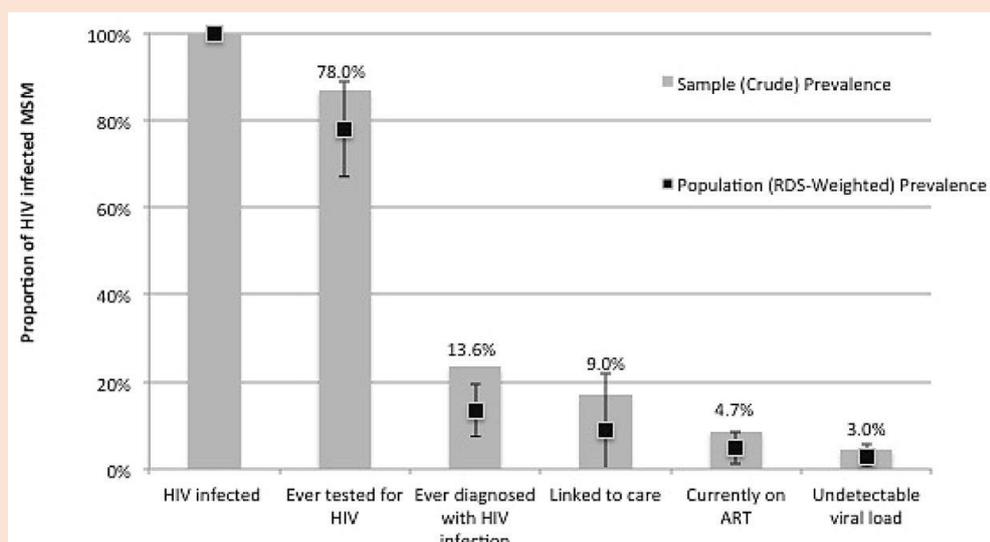
- 1. What are the key areas on which data about MSM is lacking?**
 - How crucial is this missing data for assessing the access of MSM to the full package of services?
 - How can the missing data be collected? What is the role of community organizations in this process?
 - How can you ensure that the data collection process is inexpensive, sustainable (rather than a one-time exercise), and adheres to the ethical principles and interests of the community?

Example. Integrating cascade data in sentinel surveillance studies

Experts from Johns Hopkins University (USA) together with colleagues from the Regional Public Organization “AIDS Infoshare” conducted a bio-behavioral surveillance study in Moscow, Russian Federation. The survey contained questions that allowed researchers to track the progress of MSM-PLH along the cascade. This included information on how many PLH are involved in specialized HIV care, how many receive ART, and how many have attained a suppressed viral load. It is important that data in different columns of the cascade is comparable, because one group is being compared across the cascade columns.

Such use of sentinel surveillance among MSM can be a reliable approach for obtaining data for an HIV cascade among MSM, especially given that a number of MSM fail to disclose a homosexual route of infection upon being diagnosed with HIV. In order to use sentinel surveillance, it is necessary to supplement it with several additional questions/cascade indicators. However, it is important to note that in countries with low HIV prevalence among MSM, the sample of HIV+ MSM may be too small to obtain statistically reliable data. Therefore, you may need to discuss with the sentinel surveillance researchers the possibility of reducing data limitations.

Diagram 6: The cascade on testing and HIV care among HIV-infected MSM in Moscow (number of people - 184)



Source: Wirtz AL, Zelaya CE et al. The HIV care continuum among men who have sex with men in Moscow, Russia: a cross-sectional study of infection awareness and engagement in care. *Sex Transm Infect.* 2016 March; 92(2): 161–167.

2. Has the reliability of data been called into question by community experts?

Why? How can data reliability be improved within 1 or 2 years? What can community groups do to improve data reliability and what resources are needed?

3. The availability of what services needs to be analyzed in more detail?

What information will be important for this? Who can collect this data? Using what method?

3.2. Comparing MSM Data with National Goals and with Progress among Other Groups

Generally, all cascades compare progress against international goals. If there is an effective system for setting national goals in the country, and if international goals are not recognized in the national AIDS program, then comparison of cascades with national goals will be more appropriate. It should also be noted that, in addition to one conception of the cascade, you may make several variants, where you can compare parts of or the entire cascade with other population groups. For example, it is possible to compare the level of awareness of one's HIV status among MSM with the level of awareness among other PLH. You may also compare their level of linkage to HIV care, to what extent MSM are receiving treatment, and to what extent they are reaching a suppressed viral load with other PLH. Furthermore, you may determine how the MSM cascade in your country differs from cascades in neighboring countries.

3.3. Identifying Successes

Within the steps of the cascade, you should pay increased attention to the areas and stages of the cascade in which MSM successfully receive and use services. After ascertaining that significant progress towards achieving international and national goals has been made in these areas, the following aspects should be discussed:

- **What made this possible**, what interventions and approaches enabled these successes, and what needs to be continued in the future?
- **What does this mean in terms of the overall response to HIV?** If a high level of coverage and sustained viral suppression is observed among HIV+ MSM, this means there will be a lower risk of transmission of HIV from this group to other MSM and their sexual partners.

3.4. Identifying the Main Gaps (Leakages) in the Cascade and Recommendations for Eliminating Them

The following questions should be discussed to identify leakages and to develop recommendations on how to reduce these leakages in the future:¹⁶

- **Where are the largest gaps (leakages)?** There will be disruptions and dropouts of people throughout the entire cascade. However, these gaps will be larger in some areas than in others. Therefore, it is very important to identify such gaps in order to improve the continuity of care. Often, major disruptions occur between stages, for example between “reaching MSM” and “undergoing testing”, or between “knowing your HIV+ status” and “engaging in HIV care”. Determining where to direct efforts to improve the quality of services is critical in interpreting the cascade data.
- **Why are there disruptions?** Together with representatives of gay and MSM communities, service organizations, and other stakeholders, you should examine the factors and causes behind these gaps. The causes of gaps may be any of the following:
 - Availability of and demand for services (are the services accessible both financially and in terms of location, are the opening hours of service provision points convenient, do people know about the services, etc.);
 - Structural barriers to the development of services and their uptake (legislation and policies may either enable or impede access; the influence of stigma, etc.)
 - Data quality: due to data limitations, it is possible gaps are not fully reflected, or, on the contrary, may be exaggerated.
- **Who suffers most from disruptions in the cascade?** Is there available data on MSM disaggregated by various characteristics, such as age, income level, etc.? If yes, what are the main differences between the sub-groups in terms of their access to services, uptake of services, and retention in services?
- **What is the best way to address the gaps?** What can be done to significantly improve access in areas where there are the biggest gaps in the cascade so that people use services, and that these services are accessible and acceptable to representatives of the community, especially to those who are not currently receiving services? A number of recommendations on how to improve services, their uptake, and the environment can be found in the MSMIT.

In order to identify key gaps between different levels of services, you should create a graphical representation of access. Discussion should be organized in such a way that the factors and causes of each gap can be identified, and so that recommendations can be developed:

¹⁶ Adapted from the publication of USAID, PEPFAR, Linkages, FHI360. HIV Cascade Framework for Key Populations, October 2015.

Gap 1	Gap 2	Gap 3	...	All recommendations 1+2+3...
Factors / causes 1	Factors / causes 2	Factors / causes 3	...	2-5 main factors / causes
Who is affected 1	Who is affected 2	Who is affected 3	...	
Recommendations 1	Recommendations 2	Recommendations 3	...	

The factors and causes may be specific to MSM or common to the general population, other key populations, or to all PLH. This should be indicated in the process of reviewing the problems and determining recommendations on how to improve the situation for MSM and closing key gaps in HIV care for MSM.

The analysis process should be conducted in several parts:

1. **Literature review**, if such literature exists, for example:

- Report of the WHO mission on assessing HIV services in the country;
- The assessment of cascades and gap analysis developed in 2016 by the East Europe and Central Asia Union of People Living with HIV (Ukraine) and the European Harm Reduction Network (Lithuania) in the following countries: Azerbaijan, Belarus, Estonia, Kazakhstan, Kyrgyzstan, Russian Federation, and Uzbekistan;
- The assessment of access to HIV and TB services for key populations in 5 cities carried out by the Alliance of Public Health (Ukraine) and AFEW International (Netherlands) jointly with city teams in Almaty, Bălți, Odessa, Sofia, and Tbilisi (documents will be available by September 2017).

2. **Interviews or focus groups¹⁷ with community representatives.** At this stage, differences between community representatives and their diverse experiences can be highlighted: do they receive services or have difficulties obtaining them, do they live in the capital city or in another city/village, are they a member of the majority ethnic group in the country or of another ethnic group, do they use psychoactive substances, do they engage in sex work, are they involved in club culture, etc.

3. **Separate focus group** with experts from institutions, services, and organizations whose work is related to areas where the most significant gaps were identified, as well as to other important services.

4. **Meeting for cascade developers and their closest partners** to discuss gaps, recommendations, and priorities, using intermediate results from all stages of work on the cascade.

The recommendations can be divided into three parts:

¹⁷ It is highly recommended that focus groups be led by trained specialists with experience in planning, carrying out, and documenting this type of research. In this context, it is not necessary to conduct a detailed coding analysis of interviews and focus groups. It is preferable to compile summary reports focusing on key issues and featuring quotations, if possible. More information about conducting focus groups is available at: https://www.unodc.org/documents/balticstates//EventsPresentations/Management_HR_Programmes/Needs_assessment.pdf

- a. For service organizations (for example, how services are provided, which services are lacking, how to improve the skills of staff members, how to best structure the interaction between services);
- b. For the role of community structures (for example, how to increase the uptake of services in the community);
- c. For policy change and dialogue, i.e. for advocacy activities (for example, identifying structural barriers: analyzing whether legal and political environments help in obtaining services or whether they are barriers).

In addition to these recommendations, other recommendations developed by you to improve the monitoring and evaluation system will also be used during the next stages of work. A similar meeting can be held to plan the next part of the cascade, the presentation and use of its results.

Part 4. Presenting Results and Using Them for Improving Services and Advocacy

In the previous stage, you developed recommendations on the following four areas (or on parts of them):

- improvement of services (including those provided by your organization);
- role of communities;
- improvement of policies and protection of rights;
- improving the monitoring and evaluation system.

4.1. Preparing a Visual Cascade, Methodology, and Summary of Results

Based on the results of the previous stage, you should have developed a cascade and a summary of the methodology for collecting information, interpreting the cascade, identifying gaps, and developing recommendations. This can be presented as a PowerPoint presentation or even as a short document of 4-6 pages. Depending on the goals, you can add data to this document on the importance of investing in programs targeting MSM (for example, data from OPTIMA studies) or an example of an important approach from the MSMIT.

Pay special attention to the design of the cascade itself, which will certainly be used many times and will be shown to different audiences. General recommendations, taking into account more complex elements and errors, are presented in the text box.

The cascade can also be depicted as a table using traffic light color indications (red-yellow-green) to indicate which indicator targets have been achieved and which ones the country is close to achieving (for example, 80-100% of the goal has been reached); which

indicators show that more than half of those needing services received them, but for which serious efforts are still required to achieve the target goals; and which indicators show less than half of those needing services received them, and for which work on improving these services is critically important. This format is more useful if you are missing precise data, but managed to receive an expert assessment. This format is also helpful when working with data that lacks consistency. For example, the indicator being used might not be directly connected to the previous ones, and the values of previous indicators may not be used in its calculation, as is the case for the main WHO indicators on MSM prevention coverage and MSM testing coverage: “How many MSM use condoms” and “How many MSM were tested in the last 12 months”. This format is also useful when comparing large numbers of countries; the European Centre for Disease Prevention and Control used this format

General recommendations for developing the cascade

- **Name** should reflect the type of services, geography, target group (MSM), and period/year of data collection.
- **Vertical axis** can represent people (numbers, hundreds, thousands...) or percentages of the group. It is important to indicate what exactly the axis represents.
- **Horizontal axis.** Names of the steps in the cascade should comply with the names commonly used in your country.
- **Values of the columns in the cascade.** Specifying a numerical value helps service providers to interpret and use data to improve services.
- **Proportions.** It is necessary to indicate between the columns the difference in the number of people moving from the previous step to the next.
- **Data source.** Where appropriate, specify the sources and year of data (this may be indicated at the bottom of the graph, even in an abbreviated form).

Adapted from the publication of USAID, PEPFAR, Linkages, FHI360. HIV Cascade Framework for Key Populations, October 2015

to compare the data of the HIV care cascades across a number of European countries in their 2014 report on the implementation of the Dublin Declaration on HIV.¹⁸

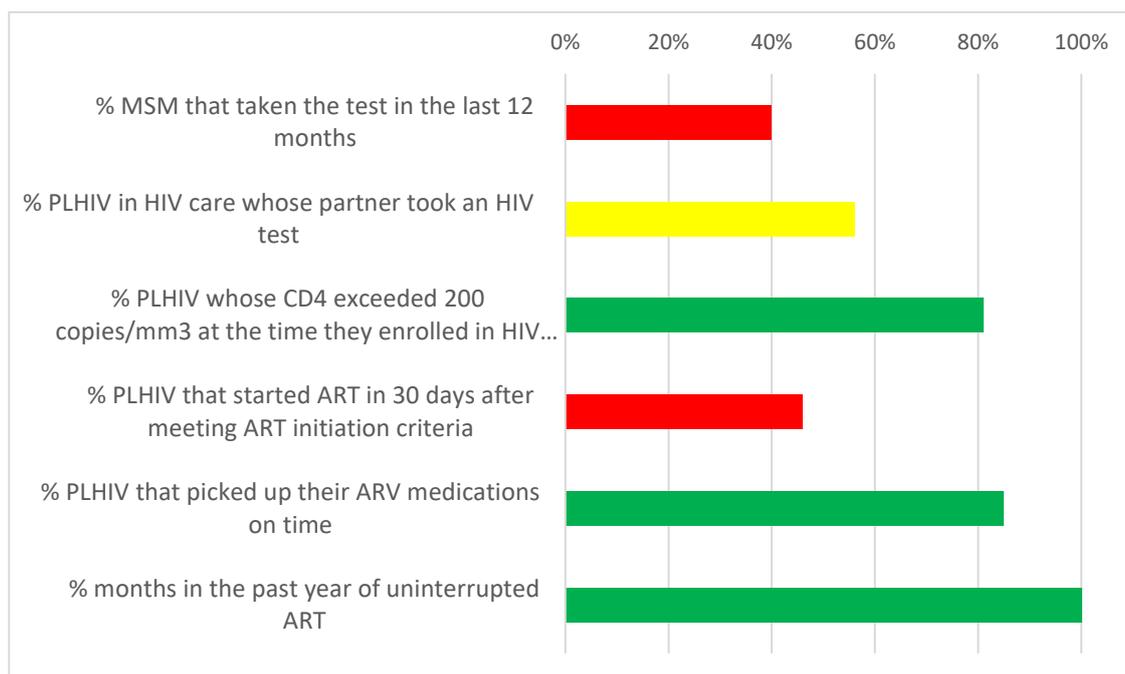
Below are examples of using such a data table.¹⁹

Data Presentation. Option 1

Program indicators	Value	0-49%	50-79%	80-100%
% MSM that have been tested in the last 12 months.	40%	[Red bar with diamond]		
% PLH receiving specialized HIV care whose partner was tested for HIV.	56%		[Yellow bar with diamond]	
% PLH whose CD4 exceeded 200 copies/mm3 at the time they enrolled in specialized HIV care.	81%			[Green bar with diamond]
% PLH that started ART within 30 days after meeting ART initiation criteria.	46%	[Red bar with diamond]		
% PLH that picked up their ART medication on time.	85%			[Green bar with diamond]
% months in the past year of uninterrupted ART.	100%			[Green bar with diamond]

Data Presentation. Option 2

(Key: red 0-49%; yellow 50-79%; green >80%)



It is impossible to overstate the importance of a high-quality, detailed description of your data collection methodology, which will be read by specialists in statistics and epidemiology. It will help

¹⁸ European Centre for Disease Prevention and Control (ECDC). Thematic report: Continuum of HIV care. Monitoring implementation of the Dublin Declaration on partnership to fight HIV/AIDS in Europe and Central Asia: 2014 progress report. Available at: <https://ecdc.europa.eu/sites/portal/files/media/en/publications/Publications/dublin-declaration-continuum-of-care-2014.pdf>.

¹⁹ Adapted from WHO, CDC, USAID, PEPFAR. Metrics for monitoring the cascade of HIV testing, care and treatment services in Asia and the Pacific.

you to respond to issues about the sources and quality of data, if such issues arise. In addition to a more detailed version, you should also prepare a short version of the methodology and its limitations, which can be presented before presentations on the cascade itself. A short presentation on the methodology should take no more than 2-6 minutes. By addressing methodological limitations at the very beginning, you can avoid having to respond to a large number of questions and comments about the data, and have more time to discuss the results of the cascade itself.

4.2. Presenting Results

Your recommendations should help to define the best ways for sharing the results of the cascade. In particular, you should consider how best to reach those stakeholders who can facilitate or directly implement your recommendations. You should use relevant parts of the MSMIT to illustrate how the suggested recommendations can be implemented.

Below are examples of conclusions and recommendations:

- Improving services
 - Meeting with your team to discuss MSMIT recommendations for relevant areas;
 - Individual meetings with key service providers to discuss their results; using the meetings as an opportunity to present MSMIT recommendations;
 - Discussing the results with organizers of technical assistance for service organizations and integrating your recommendations into the technical assistance plan;
 - Meeting with the trainers holding workshops for service organizations, and discussing ways to integrate discussions and introduce recommendations during these events.
- For the community
 - Discussing possible messages (for example, eliminating myths within the community) and strategies for reaching communities with LGBT leaders and communication experts;
 - Establishing relationships with key websites in order to conduct an online information campaign.
- General awareness, recognizing problems, discussing structural solutions
 - Distributing information to members of the country coordination mechanism on HIV and proposing to give a presentation at the next CCM meeting;
 - Meeting with the country HIV monitoring and evaluation team;
 - Distributing information to partners working in the fields of HIV and human rights;
 - Proposing to integrate your conclusions in a country report on the progress made towards implementing the political declaration on HIV or in shadow reports on human rights;
 - Press release and information for journalists;
 - Preparing abstracts for presentations at various national and international conferences;
 - Distributing information through international networks and on your website.

Your material should acknowledge and thank contributors for sharing their time, information and ideas with you. These include community representatives, the staff of organizations and institutions, specialists conducting sentinel surveillance, as well as institutions that replied (or did not reply) to official requests for information, etc. Importantly, all contributors should receive the results of your work on the cascade and updates about your progress with using it. While conducting surveys among community representatives, you have the opportunity to ask whether respondents would like to share their contact data to obtain the results. At the final stage, you can send them results, information about

using the results, a list of additional sources, and additional opportunities for involvement in the next stages of work to improve the lives and health of gay and other MSM.

Useful Resources

Monitoring, Evaluation and Research Mechanisms in the Country

- amfAR, IAVI, JHU–CPHHR, UNDP. New Guidelines to Respect, Protect, and Fulfil the Needs of Men Who Have Sex with Men (MSM) in HIV Research. <http://www.amfar.org/new-guidelines-to-respect-protect-fulfill-needs-of-men-who-have-sex-with-men-msm-in-hiv-research/>.
- WHO/UNAIDS. [Guidelines on estimating the size of populations most at-risk to HIV](#), 2010.
- WHO/UNAIDS. [Guidelines on surveillance among populations most at risk for HIV](#).
- WHO. [Consolidated strategic information guidelines for HIV in the health sector](#), 2015.
- Markus, U et al. [Estimating the size of the MSM populations for 38 European countries by calculating the survey-surveillance discrepancies \(SSD\) between self-reported new HIV diagnoses from the European MSM internet survey \(EMIS\) and surveillance-reported HIV diagnoses among MSM in 2009](#). *BMC Public Health* 2013 (13).
- Abdul-Quarter, A, et al. Estimating the size of key populations: Current status and future possibilities. *Current opinion in HIV and AIDS* · V 9 (0), January 2014.

HIV Prevention among MSM, Coverage and Mobilization

- MSMIT: United Nations Population Fund (UNFPA), MSMGF Men Who Have Sex With Men Global Forum, United Nations Development Programme (UNDP), World Health Organization, United States Agency for International Development (USAID), World Bank. The MSM Implementation Toolkit (MSMIT) Implementing Comprehensive HIV and STI Programmes with Men Who Have Sex with Men. PRACTICAL GUIDANCE FOR COLLABORATIVE INTERVENTIONS (MSMIT). New York: United Nations Population Fund (UNFPA); 2015. <http://msmgf.org/wp-content/uploads/2015/11/MSMIT-for-Web.pdf>.
- International HIV/AIDS Alliance. [Resources for Action for HIV and health programming with and for MSM](#) , 2016.
- UNAIDS. [Key programmes to reduce stigma and discrimination and increase access to justice in national HIV responses](#).
- European Centre for Disease Prevention and Control. [Public health guidance on HIV and STI prevention among men who have sex with men](#), 2015.

Treatment and Care

- WHO. [Consolidated guidelines on person-centered HIV patient monitoring and case surveillance](#), June 2017.
- WHO [Consolidated guidelines on HIV prevention, diagnosis, treatment and care for key populations](#), 2016.
- WHO [Tool to set and monitor targets for HIV prevention, diagnosis, treatment and care for key populations](#), 2016.

Pre-exposure prophylaxis, PrEP

- WHO. [Implementation tool for pre-exposure prophylaxis of HIV infection – Module 9: strategic planning and other Modules](#), 2017.

Community-Led Research and Assessment

- The people living with HIV STIGMA INDEX www.stigmaindex.org.

- International HIV/AIDS Alliance. [All together now! Community mobilisation for HIV/AIDS](#).

Examples of Cascades, Development and Analysis

- ECOU. Review of barriers to HIV care continuum for PLWH, Intravenous drug users, sex-workers and MSM <http://ecuo.org/otchyot-po-obzoru-barerov/> Report about research results, 2016 (Authors: M.G. Kasianczuk, A.A. Neduzhko, N.N. Moyseyeva).
- UNAIDS. Ending AIDS: progress towards the 90–90–90 targets, 2017.
- European Centre for Disease Prevention and Control (ECDC). [Thematic report: Continuum of HIV care. Monitoring implementation of the Dublin Declaration on partnership to fight HIV/AIDS in Europe and Central Asia: 2017 progress report](#).
- Gourlay AJ, Pharris AM and others. [Towards standardized definitions for monitoring the continuum of HIV care in Europe](#). AIDS 2017, 31:2053–2058.
- USAID, PEPFAR, Linkages, FHI360. HIV Cascade Framework for Key Populations, October 2015.