ECDC EVIDENCE BRIEF

HIV testing in Europe and Central Asia

Monitoring implementation of the Dublin Declaration on Partnership to fight HIV/AIDS in Europe and Central Asia – 2021 progress report

July, 2022

Dublin Declaration

This evidence brief summarises key issues and priorities for action in Europe and Central Asia on HIV testing. It is largely based on data collected in 2021 by the European Centre for Disease Prevention and Control (ECDC) to monitor implementation of the 2004 Dublin Declaration.

The monitoring questionnaire was disseminated to the 53 countries that are part of the WHO European Region, plus Kosovo[1] and Liechtenstein via an online survey.

Key messages

- Approximately, one in five people living with HIV in Europe and Central Asia remain undiagnosed. Scaling up HIV testing is critical for the region to achieve the Sustainable Development Goal of ending the HIV/AIDS epidemic by 2030.
- Although most countries in Europe and Central Asia have a national testing guidance in place, some of these are more than five years old and others lack content on specific key populations, or recommendations on testing frequency or the implementation of specific methods to test for HIV.
- A range of HIV testing interventions are available, with more diverse options available since 2016. However, COVID-19 has impacted provision of HIV testing services in 2020.
- Legal and regulatory barriers to HIV testing persist in Europe and Central Asia. Countries should remove unnecessary restrictions on who can administer or receive an HIV test and review the costs for HIV testing; doing so will reduce mortality, morbidity and healthcare costs in the future, as new transmissions are averted.
- Data availability on testing volume and positivity in different settings, as well as on testing rates among key populations varies by country.
- Only a third of the countries in Europe and Central Asia recommend linkage to care within three months, which is the threshold for 'prompt' linkage to care.

Introduction

The international community has committed to the Sustainable Development Goal (SDG) of ending the HIV/AIDS epidemic by 2030. Regular HIV testing that leads to prompt diagnosis is critical for ensuring good health outcomes in people living with HIV and preventing onward transmission.

Approximately, one in five people living with HIV in Europe and Central Asia remain undiagnosed [1]. Therefore, scaling up HIV testing is essential to reduce the number of people living with undiagnosed HIV, and to achieve the Joint United Nations Programme on HIV/AIDS (UNAIDS) target that 95% of people living with HIV know their status. More frequent and readily available testing is also central to reducing the proportion of those diagnosed at an advanced stage of HIV infection, where the immune system is no longer functioning effectively ('late diagnosis').

In Europe and Central Asia, this proportion has remained stubbornly just above the 50% mark for many years [2]. Late diagnosis is a strong indicator of increased morbidity and early mortality, as well as an increased risk of onward transmission [3].

[1] This designation is without prejudice to positions on status, and is in line with UNSCR 1244 and the ICJ Opinion on the Kosovo Declaration of Independence.

Suggested citation: HIV testing in Europe and Central Asia. Monitoring implementation of the Dublin Declaration on Partnership to fight HIV/AIDS in Europe and Central Asia – 2021 progress report. Stockholm: ECDC; 2022

HIV testing policies, guidelines and strategies

Testing guidelines support national programme managers and service providers in designing and implementing HIV testing services. They set standards for best practices and inform strategic decision-making regarding the mix of approaches to deliver HIV testing services that will have the maximum impact. Keeping testing guidelines up to date ensures that innovations in testing are adopted by services, thus increasing their effectiveness.

Thirty-eight countries in Europe and Central Asia reported that there is a national policy, strategy or other recommendations from their government on HIV testing. Fifteen of these countries reported that their national guidance was published or revised within the last five years. However, 10 countries reported that their national guidance is older than 10 years. Table 1 (below) disaggregates data by World Health Organization European Region (WHO/Europe) sub-region (West, Centre or East) and the year in which the national policy/strategy was last published.

Twelve countries reported that they do not have any government guidance on HIV testing in place. However, seven (58%) of these countries used guidance on HIV testing from ECDC [4], WHO [5], or from other sources such as professional associations or non-governmental organisations (NGOs). Five countries plan to introduce national HIV testing guidance in the next two years.

Table 1. Number of countries with national HIV testing guidance and their year of publication, in Europe and Central Asia, by WHO/Europe sub-region

	Countries (n=38)	Year of publication of national policy/strategy (number of countries)
West	16	2020 (4); 2019 (2); 2018 (1); 2017 (3); 2014 (2); 2013 (1); 2010 (1); 2005 (1); 1994 (1)
Centre	11	2020 (2); 2017 (3); 2016 (1); 2014 (1); 2011 (2); 2009 (1); 2007 (1)
East	11	2020 (2); 2019 (2); 2018 (2); 2017 (2); 2012 (2); 2010 (1)

Recommendations for key populations

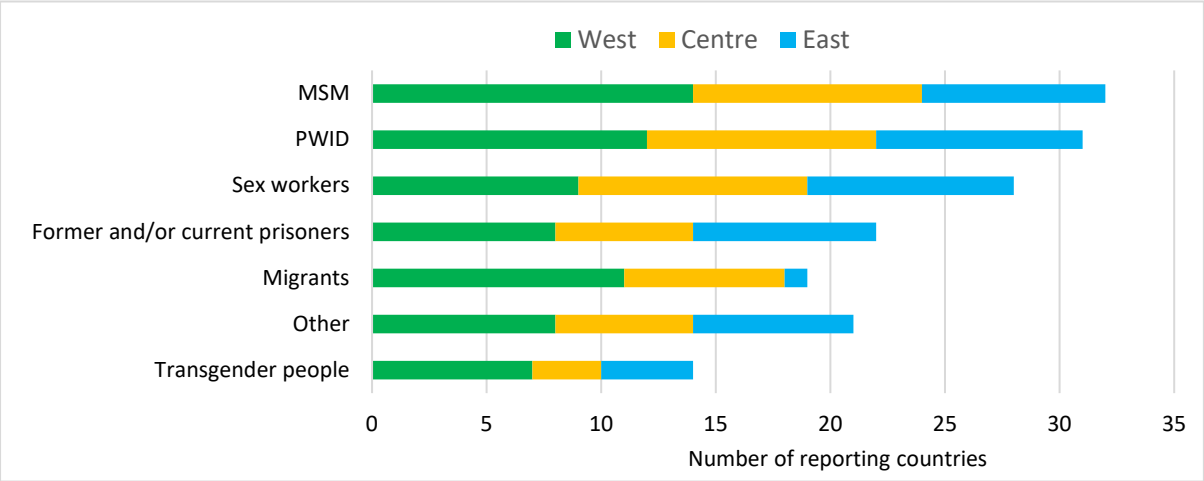
ECDC guidance on HIV testing recommends that key populations are offered HIV tests every 3–12 months depending on local epidemiology and individual risk assessment [4].

Out of the 38 countries which reported that they had national HIV testing guidance in place, 34 (90%) reported that these guidelines included content on specific key populations (Figure 1, in the next page). Overall, gay, bisexual, and other men who have sex with men (MSM) were included in national guidance most often. Thirty-two of the 38 countries (84%) reported that their national HIV testing guidance included specific recommendations for gay, bisexual and other men who have sex with men. Transgender people were included in the testing guidelines of less than half of the countries, with only 14 countries reporting their inclusion (37%).

People who inject drugs (PWID) were included in the testing guidance of 31 out of 38 countries (82%), and sex workers were included in the testing guidance of 28 countries (74%). Twenty-one countries reported that their guidance mentioned 'other' populations. These populations included pregnant people, youth, people experiencing homelessness, and people accessing sexually transmitted infections (STI) services.

Trends in key population inclusion vary by WHO/Europe sub-region. Prisoners are less represented in guidance than other key populations in the West and Centre, with only eight countries (50%) in the West and six (54%) in the Centre reporting their inclusion. However, eight countries (73%) in the East sub-region reported that their guidelines included prisoners, which is comparable to the inclusion rate of other key populations in this region. In the Centre sub-region, people who inject drugs and sex workers appear in testing guidance as frequently as gay, bisexual and other men who have sex with men, with 10 countries reporting their inclusion. They appear more frequently than gay, bisexual and other men who have sex with men in the East sub-region, with nine countries reporting that these key populations are included in their guidance. In the East sub-region, only one country (Tajikistan) included migrants in their testing guidance. However, migrants are included in the guidance of 11 countries (69%) in the West and seven countries (64%) in the Centre sub-regions, which is comparable to the inclusion rate of other key populations in these regions.

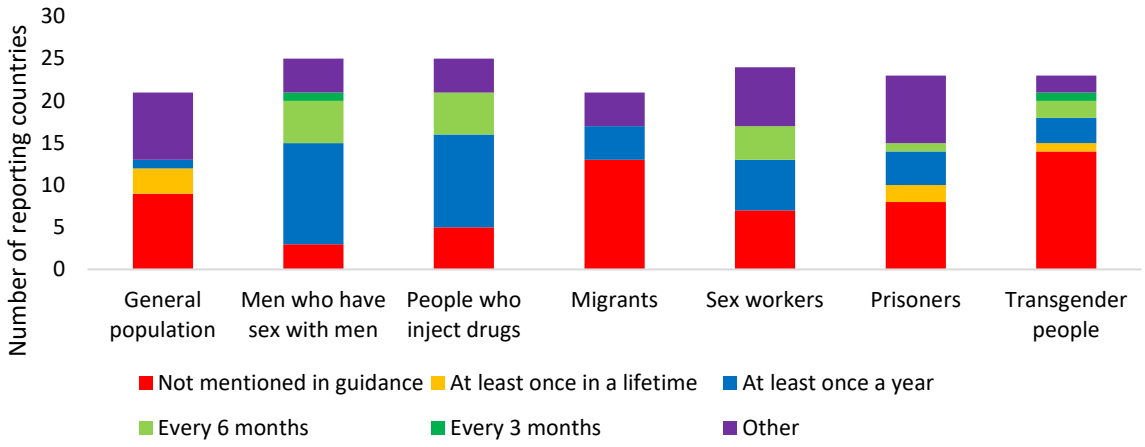
Figure 1. Key populations included in national HIV testing guidance/policy, in Europe and Central Asia, by WHO/Europe sub-region (n=38)



Twenty-six countries (68%) reported that they include recommendations on frequency of testing for at least some key populations (Figure 2). Countries were most likely to report recommendations on frequency of testing for men who have sex with men and people who inject drugs. Over half of those reporting recommended that these key populations get tested at least once a year, although around a quarter recommended more frequent testing than this (either every six months or every three months). Countries were least likely to include recommendations on frequency of testing for migrants and transgender people.

Those countries reporting that they made 'Other' recommendations, usually recommended that key populations test regularly based on risk behaviour (e.g. reporting condomless anal intercourse). For migrants, 'Other' recommendations included testing on arrival, and testing migrants from countries with high HIV prevalence. For prisoners, 'Other' recommendations included testing upon release from prison.

Figure 2. Recommendations on frequency of testing, by key population, in Europe and Central Asia (n=26)



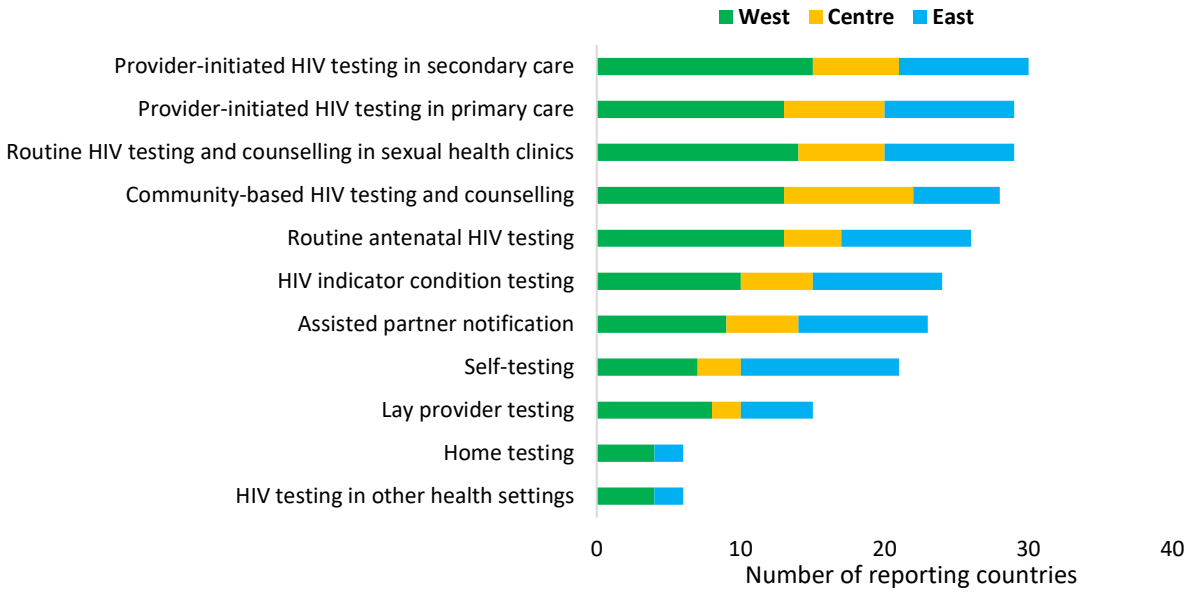
Recommendations on testing modalities

According to guidance from ECDC, the following HIV testing interventions are effective, acceptable to target groups and can increase the offer, uptake and coverage of HIV testing: community-based testing, home testing, self-testing, lay provider testing, routine antenatal testing, routine testing in sexual health clinics, provider-initiated testing in primary and secondary care, and testing in other health settings (such as pharmacies) [4]. The guidance also recommends implementing assisted partner notification and HIV indicator condition testing as strategies to focus HIV testing on groups of people at higher risk of acquiring HIV.

Recommendations on HIV testing modalities are included in HIV testing guidance for all the 38 countries that reported having national guidance (Figure 3, in the next page). The most cited testing modalities included: provider-initiated HIV testing in secondary care (30), provider-initiated HIV testing in primary care (29), routine HIV testing and counselling in sexual health clinics (29), and community-based HIV testing and counselling delivered by a medical provider (28).

The median number of interventions included in guidance for all 38 countries was five interventions. In the West, the median was six (range 1–11), in the Centre it was three (range 1–8) and in the East it was six (range 2–11).

Figure 3. HIV testing modalities included in national testing guidelines, by WHO/Europe sub-region, in Europe and Central Asia (n=38)



Recommendations on mandatory testing

In line with a rights-based approach, mandatory HIV testing is not recommended on grounds of public health [6]. However, three countries (Belarus, Cyprus, and Slovakia) reported that HIV testing is mandatory for all prisoners. In total, 34 countries report that voluntary HIV testing is available in prisons, with 17 providing opt-in testing and 15 providing routine testing on an opt-out basis. Two countries did not specify if testing was on an opt-in or opt-out basis.

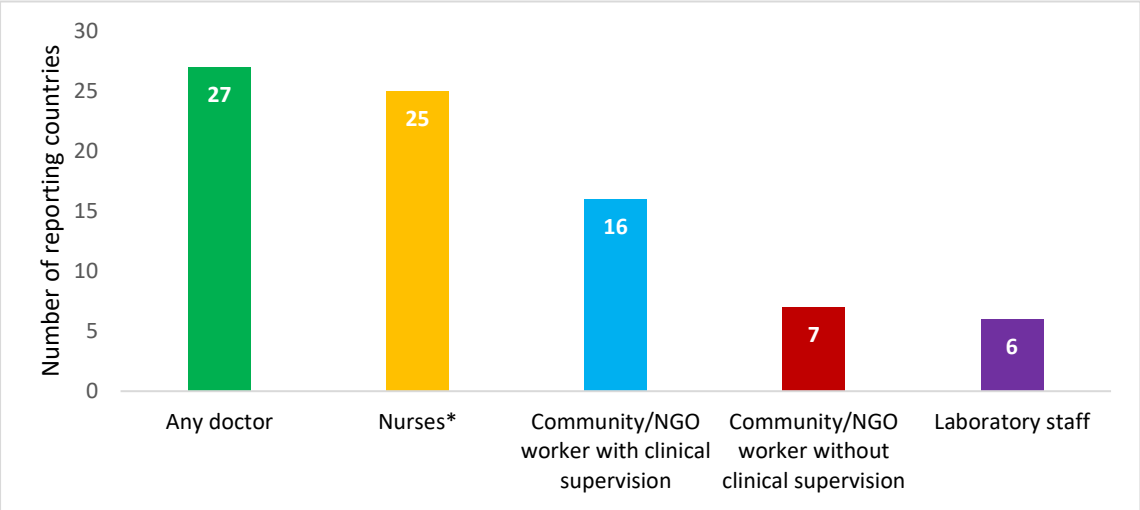
Legal and regulatory barriers to HIV testing

Legal barriers to testing are those enshrined in law, while regulatory barriers are those contained in guidance or common practices [7]. A substantial barrier to testing is the criminalisation of HIV transmission and the activities of the key populations affected by HIV – for example, criminalisation of sex work, drug use, and non-documented migration – which remains widespread in Europe and Central Asia [8]. Within the range of possible barriers to testing posed by legal or regulatory restrictions, this brief examines the restrictions regarding who can administer or receive an HIV test and the costs associated with HIV testing.

Lay provider testing, which has been recommended by WHO since 2015 [9], supports task-sharing in the health sector and may be is more acceptable to marginalised populations. However, restrictions on who can administer an HIV test persist in Europe and Central Asia, ranging from only doctors being able to take blood samples, to a clinician having to be present in the building while testing is taking place [7].

Twenty-nine out of 42 countries (69%) reported that they have restrictions regarding who can legally carry out an HIV test, while nine (21%) reported no restrictions. Three countries reported that they were unsure if restrictions existed. Among the 29 countries reporting restrictions, 27 allowed any doctor to administer an HIV test, and 19 allowed any nurse to do this (however, three restricted administering an HIV test to specialist nurses, two restricted this to any nurse on order of a doctor, and one restricted it to nurses who had specific training). Sixteen countries allowed community or NGO workers to administer a test with clinical supervision and seven allowed them to do so without clinical supervision (Figure 4, in the next page). Countries also reported other testing opportunities, including tests administered by laboratory staff in six countries, and by midwives in one country.

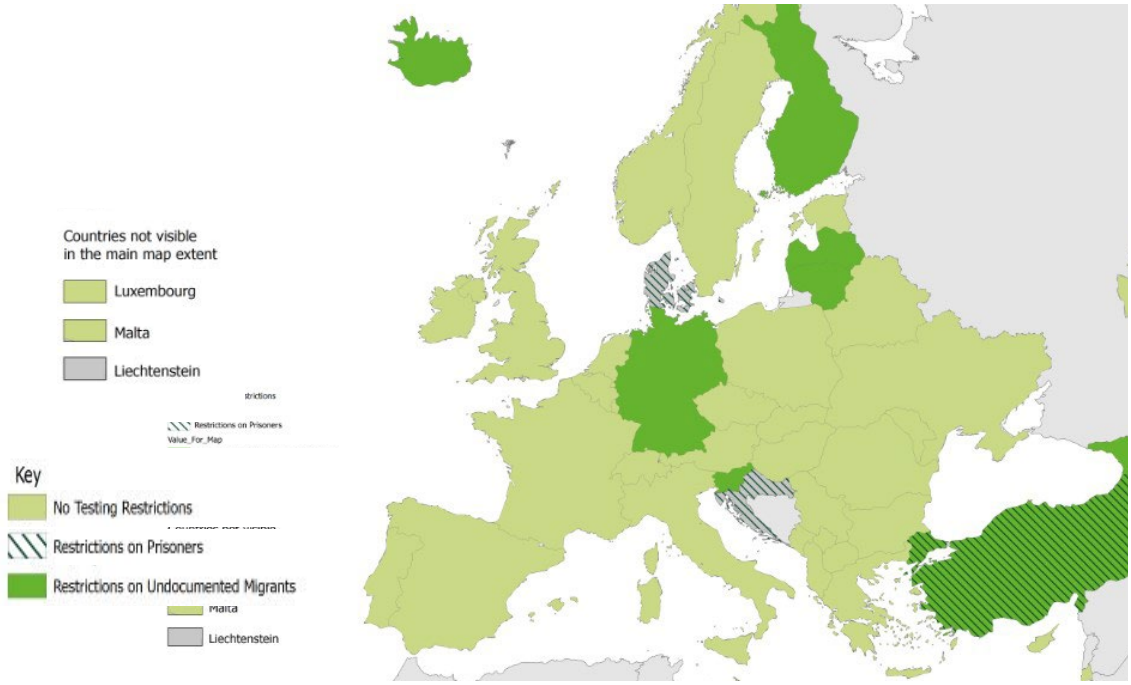
Figure 4. Professions able to administer HIV tests in countries reporting restrictions on who can provide tests, in Europe and Central Asia (n=29)



**Includes countries which responded: Any nurse (19), Specialist nurse (3), Nurses on doctors' orders (2), Nurses who have specific training (1)*

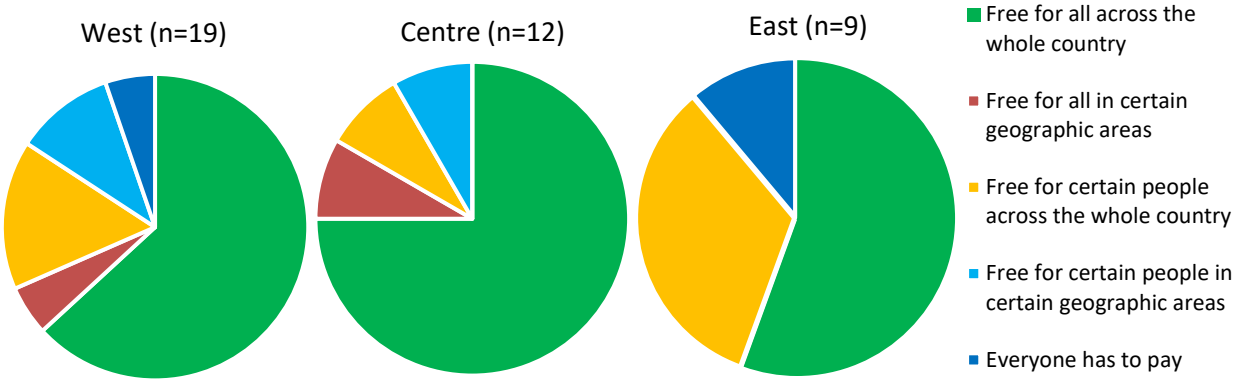
Restrictions on who can receive an HIV test often mean that HIV testing is not accessible for those who need it the most. The majority of countries (38 out of 50, 76%) reported that there were no restrictions on who can receive a test. However, nine countries (18%) reported that there is restricted access to HIV testing for undocumented migrants, while two of these countries restrict access for all migrants, regardless of their formal status. Three (6%) countries reported restricted access to HIV testing for prisoners (Figure 5).

Figure 5. Restrictions on access to testing for specific populations, in Europe and Central Asia (n=50)



Charging fees for HIV testing can also create barriers to access for those who cannot afford the fees. Of the 40 countries that provided data on costs associated with HIV testing, 26 (65%) reported that HIV testing is free for all across the whole country, seven (18%) reported that HIV testing is free for certain people across the whole country, two (5%) reported that it is free for all in certain geographic areas, three (8%) reported that it is free for certain people in certain geographic areas, and two (5%) reported that everyone has to pay. Figure 6 (in the next page) disaggregates the data by WHO/Europe sub-region.

Figure 6. Countries reporting costs associated with HIV testing by WHO/Europe sub-region, in Europe and Central Asia (n=40)



Provision of HIV testing

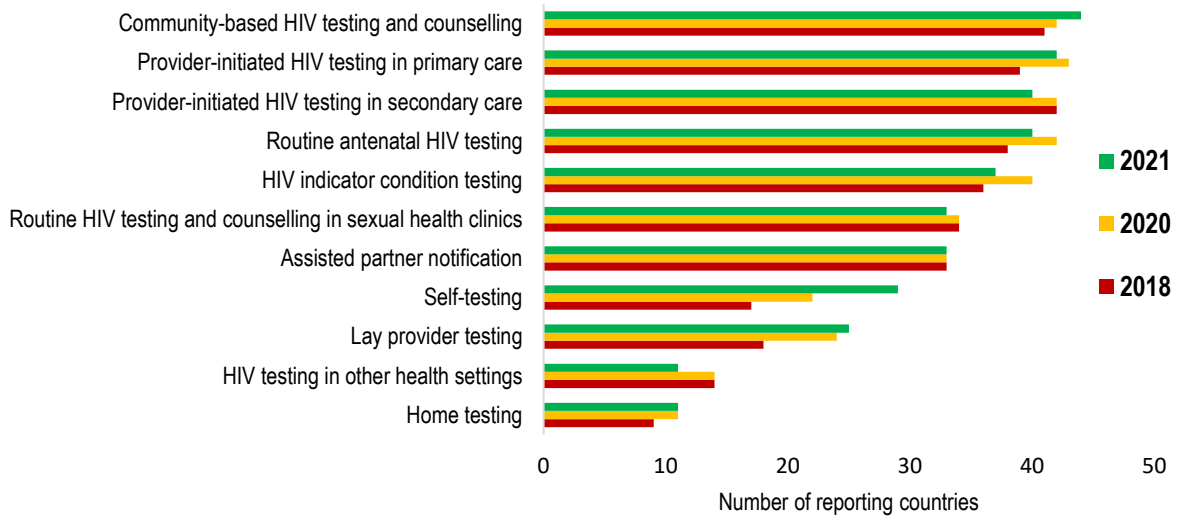
Progress in availability of different testing modes

The breadth of testing services available has improved over time, although data reported in 2021 suggests a scale-back of some types of testing services compared with the previous years (Figure 7).

Self-testing increased the most between 2020 to 2021 (32% increase from 22 to 29 countries). However, some testing modalities saw decreased implementation between 2020 and 2021, including HIV testing in other health settings and HIV indicator conditions testing. These changes may be a result of the COVID-19 pandemic which has both negatively impacted traditional HIV testing services and necessitated innovation in the form of increasing newer testing modalities such as self-testing.

Nevertheless, the number of different testing services that are provided remains greater for most modalities than the level of provision of testing services in 2018, with the exception of HIV testing in other health settings, routine HIV testing and counselling in sexual health clinics.

Figure 7. Implementation of HIV testing modalities over time, in Europe and Central Asia (n=51)



Uptake of HIV testing

HIV testing uptake in different settings

Monitoring uptake of HIV testing in different settings enables national health authorities to ensure that services are delivered effectively, while being cognisant of trends in HIV transmission. Positivity data can also help determine the effectiveness of testing strategies and validate the number of people reported as newly diagnosed through routine reporting systems.

Overall, 33 countries were able to provide data on testing volume and positivity, either for overall, facility-level, or community-level HIV testing services (Figure 8). Facility-level testing services include provider-initiated testing in clinics or emergency settings, antenatal care clinics, family planning clinics, voluntary counselling and testing within a health-facility setting, along with other facility-level testing. Community-level testing services include mobile testing and voluntary counselling and testing centres not within a health-facility setting, among other community-based testing.

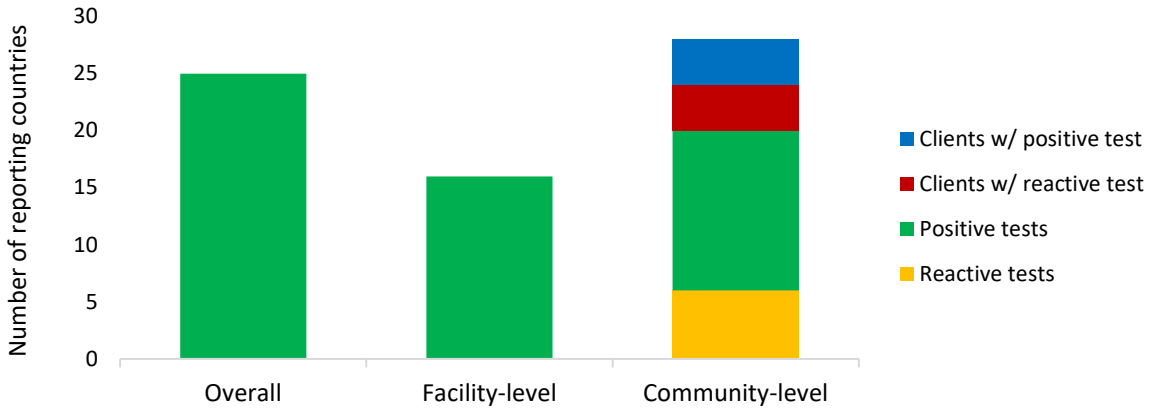
For overall and facility-level HIV testing services, countries were asked to provide a positivity rate based on the number of tests. Twenty-five out of 33 countries (76%) were able to provide overall data, with five countries reporting in the West, nine in the Centre, and 11 in the East. Positivity rates ranged from 0.02–0.88%. Sixteen out of 33 countries (48%) were able to provide facility-level data, with three countries reporting in the West, five in the Centre, and eight in the East. Positivity rates for provider-initiated testing settings ranged from 0.1–0.3%. Positivity rates for voluntary testing settings and antenatal clinics ranged from 0.0001–0.023%.

For community-level HIV testing services, countries were asked to provide data on reactivity rate or positivity rate (i.e. confirmed HIV diagnoses) based on either the number of tests or the number of clients.

Six countries (18%) were able to provide data on reactivity rate based on number of tests, with five countries reporting in the West and one in the East. Reactivity rates ranged from 0.4–1.6%. Fourteen out of 33 countries (42%) were able to provide data on positivity rate based on number of tests, with six countries reporting in the West, three in the Centre, and five in the East. Positivity rates ranged from 0.1–3.1%.

Four countries (12%) were able to provide data on reactivity rate based on number of clients, with one country reporting in the West and three in the Centre. Positivity rates ranged from 0.4–0.7%. Four countries (12%) were able to provide data on positivity rate based on number of clients, with two countries reporting in the West and two in the Centre. Positivity rates ranged from 0.3–0.6%.

Figure 8. Data availability for testing volume and reactivity/positivity rate based on overall, facility-level and community-level HIV testing services, in Europe and Central Asia (n=33)

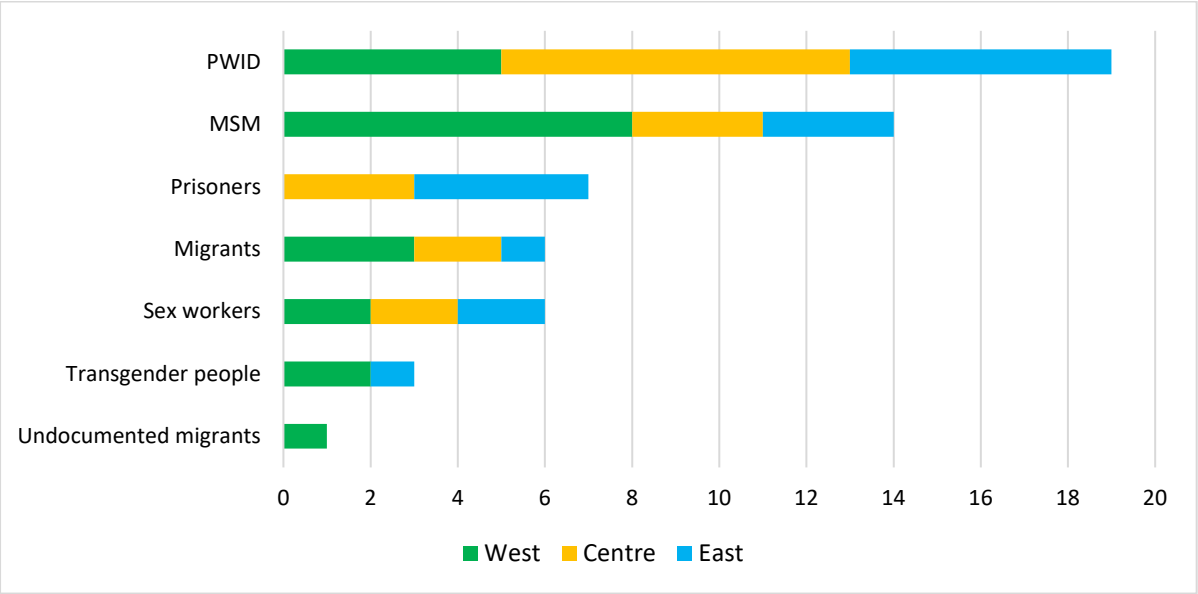


Data availability on testing rates and knowledge of HIV status among key populations

Ensuring that HIV testing is available and accessible to key populations at increased risk of acquiring HIV is crucial to combatting the HIV epidemic. Therefore, monitoring uptake of testing among key populations is an important indicator of whether implementation of testing is successfully targeting those most at risk.

However, there are limited data on HIV testing rates among key populations. These data were reported in 2021, with only 26 countries able to report any data (Figure 9, in the next page).

Figure 9. Data availability on testing rates and knowledge of HIV status among key populations, by WHO/Europe sub-region, in Europe and Central Asia[2] (n=26)

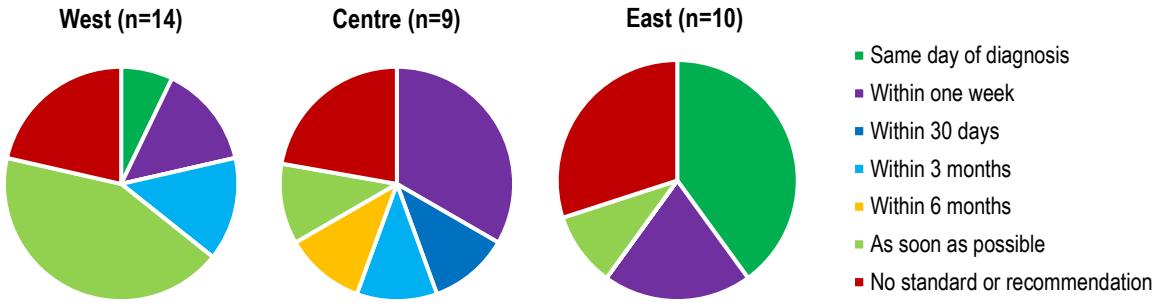


Linkage to care

Providing HIV testing services where there is suboptimal linkage to care, including antiretroviral therapy (ART), has limited benefits for those living with HIV. While increasing HIV testing in non-traditional settings is important for widening accessibility, it also increases the likelihood of people not being linked into care, which underlines the need for clear time standards and referral pathways. The most recent linkage to care data available is from 2020. However, this may be an optimistic portrayal of the current linkage to care situation in Europe and Central Asia, given the negative impact of the COVID-19 pandemic on the region.

Thirty-three out of 51 countries (65%) provided data on recommendations on when linkage to care should take place following an HIV diagnosis. Of these 33 countries, five (15%) recommended linkage to care on the same day of diagnosis, seven (21%) within one week, one (3%) within 30 days, three (9%) within three months, one (3%) within six months, eight (24%) as soon as possible, and eight (24%) had no standard or recommendation. Figure 10 provides further details disaggregated by WHO/Europe sub-region.

Figure 10. Countries reporting recommendations on timings for linkage to care, by WHO/Europe sub-region, in Europe and Central Asia in 2020 (n=33)

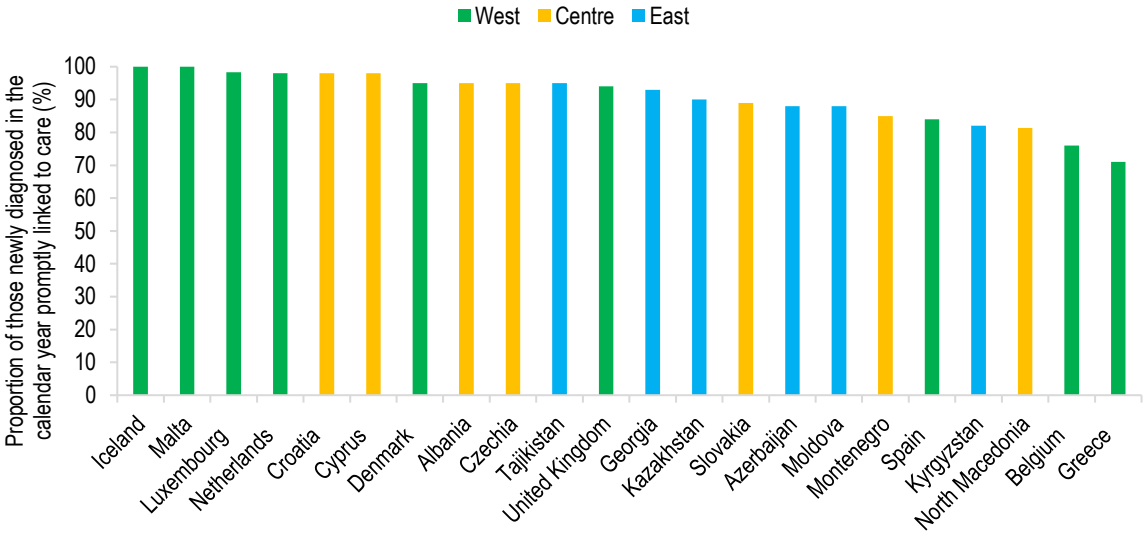


Linkage to care rates are not directly comparable between countries as their calculations vary considerably, depending on the settings. Definitions for linkage to care for both facility-level and community-level HIV testing vary depending on which start and end dates are chosen for calculating the time taken to link to care. The first clinic-attendance date after diagnosis is considered the gold standard marker for linkage to care, but the choice of definition generally depends on which data are available [10].

[2] Latest available data reported by countries in 2021. Year of data collection ranged from 2015–2020.

Prompt linkage to care was defined as being within three months from diagnosis [10]. Twenty-two countries were able to provide data on the proportion of those newly diagnosed with HIV in the calendar year who were promptly linked to care, with rates ranging from 71–100% (Figure 11).

Figure 11. Proportion of those newly diagnosed with HIV in the calendar year promptly linked to care within three months, by WHO/Europe sub-region, in Europe and Central Asia (n=22)[3]



Conclusions

Most countries in Europe and Central Asia have national testing guidance in place or are drawing on guidance from international and professional bodies, such as ECDC, WHO/Europe and EACS (European AIDS Clinical Society). However, guidelines in some countries are likely out of date, with 14 countries reporting guidelines published prior to 2016.

While most countries include content on key populations and how frequently they should test within their guidance, four do not. Targeting testing towards populations with a higher risk of acquiring HIV, and ensuring they test regularly, is important for promoting better health outcomes for those living with HIV by preventing late diagnosis and ensuring efficient use of resources.

There has been progress in the provision of different testing modalities across Europe and Central Asia since 2016. Since 2020, some testing services have seen a decrease in the types of modalities that are provided, such as routine testing in sexual health clinics and provider-initiated testing in primary healthcare. However, the provision of self-testing services increased between 2020 and 2021. This may have been due to the COVID-19 pandemic and the resultant country-wide lockdowns preventing more traditional testing methods and providing impetus for new modalities. The implementation of other innovative testing interventions outside of healthcare facilities, such as lay provider testing, remains low. It is reasonable to assume that countries which do not include these interventions in national HIV testing guidance are less likely to provide them. This underlines the importance of recommending a wide range of testing modalities within national guidance.

Having a wide range of ways to test for HIV is important for increasing accessibility to testing. However, in some countries, laws and regulations can actively create barriers to testing. Twenty-nine countries have legal restrictions on who can administer an HIV test, with only seven of these countries allowing community or NGO workers to administer an HIV test without clinical supervision. Yet many lay provider testing services operate successfully across Europe and Central Asia without clinical supervision, highlighting that these legal restrictions may be unnecessary [7].

Three countries in Europe and Central Asia still implement mandatory HIV testing for prisoners. This is despite international guidance discouraging mandatory HIV testing on the grounds of public health and human rights. Testing in prisons is an important mechanism for identifying HIV cases among high-risk, marginalised populations and providing opt-out testing can increase uptake [11]. Opt-out testing in prisons should be implemented in an informed manner which makes its voluntary nature clear.

It is concerning that nine countries restrict access to HIV testing for undocumented migrants, a group which may be at an elevated risk of HIV acquisition due to their precarious and insecure circumstances [12].

[3] Latest available data reported by countries in 2020. Year of data collection ranged from 2017–2020.

Such restrictions are harmful both to individual human rights and public health, as those left undiagnosed are at higher risk of onward transmission as well as morbidity and mortality.

Costs can also create a barrier to HIV testing [13]. Although many countries in Europe and Central Asia provide free testing services to certain groups and/or in certain geographical areas, only 26 provide free HIV testing for all populations across the whole country.

Monitoring HIV testing in different settings and among key populations is key for national authorities to understand the impact of HIV prevention and treatment on HIV transmission. Thirty-three countries were able to provide some data on testing volume and positivity rate overall and/or disaggregated by settings, and 25 could provide some data on testing uptake among key populations. Increasing monitoring of testing in different settings and among key populations will also increase understanding of the effectiveness of different testing interventions aimed at different at-risk groups, and how well they are working in differing country contexts.

In 2020, only 16 countries recommended linkage to care within three months or less, the threshold outlined by the definition of prompt linkage to care. Prompt linkage to care has been found to be significantly associated with faster time to viral suppression, which has benefits for individual and public health [14]. While an additional eight countries recommended linkage to care 'as soon as possible', they should consider whether a more defined standard is necessary to promote consistent, rapid access across services. Finally, around a quarter of countries in Europe and Central Asia do not have a standard or recommendation for linkage to care, and neither is it calculated for facility- or community-level settings. There have been multiple European initiatives (including OptTest [15] and INTEGRATE [16]) focusing on improving linkage to HIV care. Countries should draw on the resources produced by these initiatives to improve policy, monitoring and practice.

Priorities for action

- National HIV testing guidance should be reviewed to ensure it is in line with the latest international and professional guidance, particularly in terms of the inclusion of content on specific key populations, and recommendations for frequency of testing as well as the range of testing modalities to be implemented, prior to rapid implementation.
- Provision of the range of testing modalities should be expanded to ensure increased accessibility for those who may feel uncomfortable or have difficulties accessing traditional HIV testing services.
- Countries are encouraged to remove restrictions on who can administer an HIV test and who can access HIV testing.
- Costs for HIV testing should be reviewed, and provisions considered for those who are unable to afford HIV testing services. This will reduce mortality, morbidity and new HIV infections in the future.
- Mandatory testing policies for prisoners should be reconsidered. Countries implementing 'opt-in' testing in prisons, should consider shifting to informed and voluntary 'opt-out' testing.
- Monitoring capacity for HIV testing volume and positivity should be increased where possible – this should include community-level and facility-level settings. Disaggregated data on key populations should be collected wherever possible.
- As community testing becomes increasingly available in Europe and Central Asia, all countries which do not have protocols for prompt referral to care, need to consider developing and implementing them.

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