PUBLIC HEALTH CENTER

WESTERN-EASTERN EUROPEAN PARTNERSHIP INITIATIVE ON HIV, VIRAL HEPATITIS AND TB

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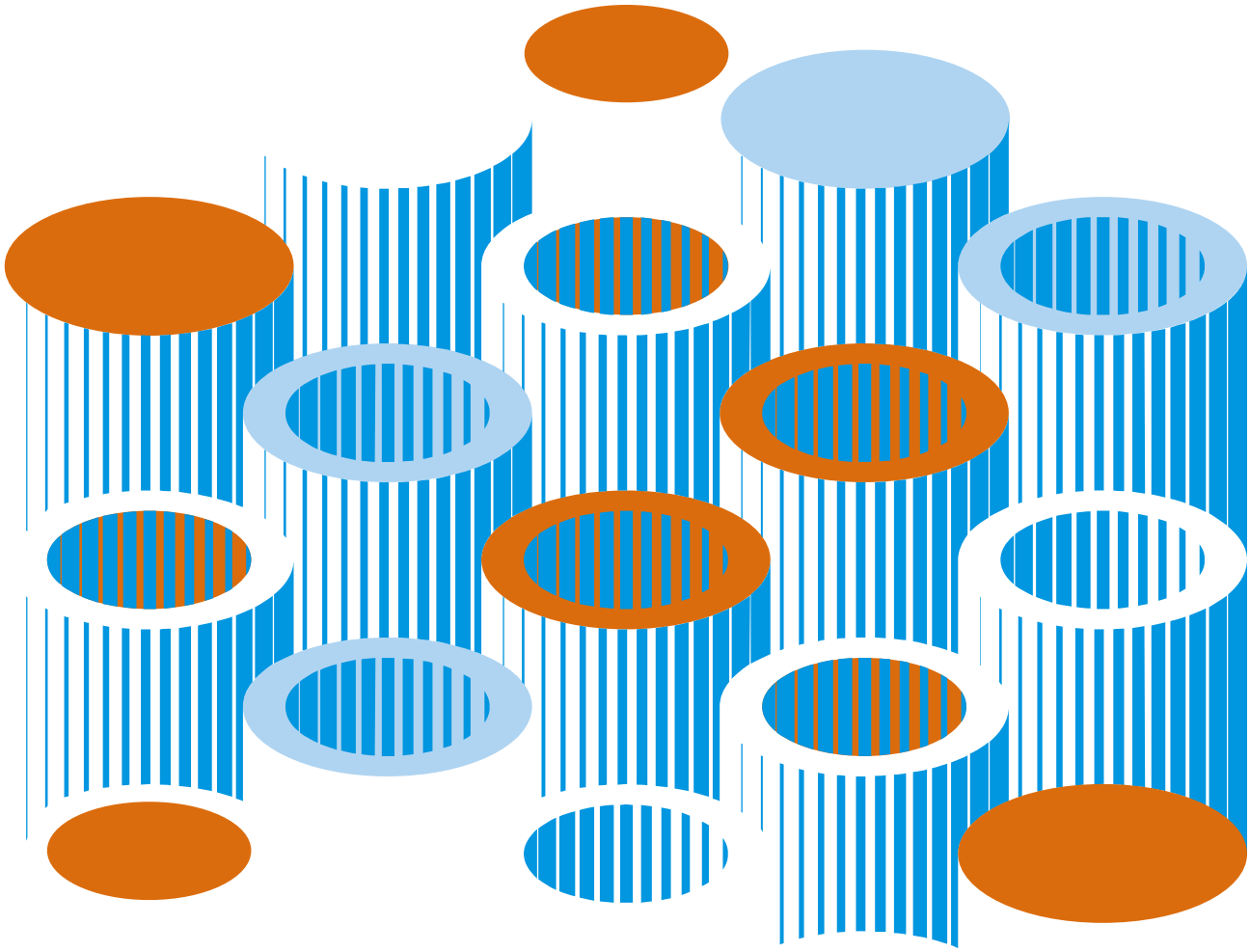
STUDY IMPLEMENTATION REPORT

FEASIBILITY AND POTENTIAL OF IMPLEMENTING HIV INDEX SELF-TESTING INTERVENTION IN UKRAINE



Kyiv 2026

Implemented by the State Institution "Public Health Center of the Ministry of Health of Ukraine" with financial support from the Western-Eastern European Partnership Initiative on HIV, Viral Hepatitis and TB

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List of Abbreviations

UPHC – State Institution "Public Health Center of the Ministry of Health of Ukraine"

WEEPI Foundation –The Western-Eastern European Partnership Initiative on HIV, Viral Hepatitis and TB

AIDS – acquired immunodeficiency syndrome

ART – antiretroviral therapy

CDC – Center for Disease Control and Prevention

FGD – focus group discussion

HCF – healthcare facility

HIV – human immunodeficiency virus

IP – index partner

IS SSD – Information System "Monitoring of Socially Significant Diseases"

IT – index testing

MSM – men who have sex with men

NGO – non-governmental organization

PLHIV – person/people living with HIV

WHO – World Health Organization

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Introduction

This study was conducted by the State Institution "Public Health Center of the Ministry of Health of Ukraine" (UPHC) with support and grant funding from the WEEPI Foundation. This study is a pilot project conducted in a single target region to evaluate the effectiveness of the intervention to improve the detection of HIV cases among key populations at higher risk of infection. In the future, the intervention can be optimized based on the results of the pilot study and scaled up to the national level, incorporating a research component for ongoing monitoring of its effectiveness.

Background

HIV index testing (IT) is a targeted HIV testing approach that provides HIV testing services to the index partners (IPs) – sexual and injecting – of people living with HIV (PLHIV), as well as to their biological children. This approach is already being implemented in Ukraine by encouraging PLHIV to disclose their status to partners and by motivating these partners and children of PLHIV to undergo HIV testing in healthcare facilities (HCFs). It has proven effective in detecting new HIV cases.[1] Results from numerous studies have demonstrated the effectiveness of IT in increasing HIV testing coverage and detecting new HIV cases. Specifically, according to the medical information system "Monitoring of Socially Significant Diseases" (IS SSD), 7,096 index partners were tested in 2020, and 997 new HIV cases were detected (a detection rate of 14.1%). At the same time, the number of PLHIV index partners covered by HIV testing is decreasing annually. For instance, in 2024, the number of tested index partners decreased by 16.2 % compared to 2023, which may be attributed to military actions and reduced access to medical care in certain regions. Therefore, there is a need to introduce a new, more effective system to engage PLHIV partners in HIV testing for early diagnosis of HIV infection and timely initiation of ART.[2] The low level of testing uptake is often a consequence of stigmatization and of PLHIV's fear of disclosing their status to a partner or family members. Since 2016, the WHO has recommended HIV self-testing for key populations as a safe and effective method for detecting HIV cases.[3] Implementing the IT intervention by providing HIV self-testing kits to PLHIV for distribution among their contacts as an additional method of engaging IPs, alongside expanding the HIV index testing program, is potentially effective in detecting HIV cases. Such an intervention is already used by some non-governmental organizations (NGOs), but it is novel for Ukrainian healthcare facilities and requires research to assess its feasibility and effectiveness. Studies on the effectiveness of similar interventions in African countries, namely the Republic of South

[1] Alyona P Ihnatiuk, et al. (2023). "Distinctive model for HIV index testing (IT) in Eastern Europe: results of Ukraine's physician-led, integrated IT programme." BMJ Open. 2023 Sep 20;13(9):e070542.

[2] Public Health Center of the Ministry of Health of Ukraine (2024). Information bulletin "HIV infection in Ukraine". Issue No. 55. Kyiv, 2024, 23–35. Page 22 of 32
https://phc.org.ua/sites/default/files/users/user92/HIV_in_UA_55_2024_2.pdf

[3] World Health Organization (2019). "WHO recommends HIV self-testing – evidence update and considerations for success." https://www.who.int/publications/i/item/WHO-CDS-HIV-19.36

Africa,[4] Malawi,[5] and Kenya,[6] have already demonstrated that HIV index self-testing is highly effective compared with previous IT methods.

Aim

The study aimed to assess the feasibility and effectiveness of the HIV index self-testing intervention, based on a pilot conducted in one target region of Ukraine, to enhance HIV IT programs. This intervention aims to lower barriers to testing and enhance the quality of prevention and care for PLHIV, including efforts to reduce stigma and focus on key populations. The results of the study will demonstrate the feasibility of large-scale dissemination of the index HIV self-testing approach and the prospect of its future national implementation. This will become a new approach to improving HIV testing, prevention, and treatment services and a basis for updating national guidelines and standards.

Objectives

The study aimed to achieve several key objectives:

1. To evaluate the effectiveness of the intervention at the regional level (in 1 oblast) using quantitative indicators, compared with the existing HIV index testing program.
2. To analyze medical workers' attitudes toward implementing the index self-testing program, assess their motivation to detect HIV cases, and identify the barriers they faced when engaging IPs in HIV testing.
3. To assess the adherence of PLHIV to engaging IPs, including through the provision of HIV self-test kits.
4. Based on the study results, to assess the feasibility and appropriateness of implementing a similar intervention in healthcare facilities providing ART services at the local, regional, and national levels.

Design and Methodology

The study included 3 data collection components:

1. Focus group discussion with medical professionals.
2. Survey of PLHIV at the ART site.
3. Assessment of how effectively the intervention was implemented.

The study employed a mixed-methods approach, integrating both qualitative and quantitative data collection to assess the intervention's implementation and results. This mix of research methods

[4] Vincent Zishiri, et al. (2022). "Secondary distribution of HIV self-test kits by HIV index and antenatal care clients: implementation and costing results from the STAR Initiative in South Africa." BMC Infectious Diseases, 971 (2022).
[5] Kathryn Dovel, et al. (2023). "Effect of index HIV self-testing for sexual partners of clients enrolled in antiretroviral therapy (ART) programs in Malawi: A randomized controlled trial." PLoS Med. 2023 Aug 4;20(8):e1004270.
[6] Kidist Zewdie, et al. (2022). "Targeted implementation of HIV self-testing increases testing uptake among partners of index persons known to have HIV in Kenya." J Acquir Immune Defic Syndr. 2022 Aug 15;90(5):524–529

provides a thorough understanding of the feasibility and effectiveness of the HIV self-testing intervention by incorporating insights from both healthcare workers and PLHIV. Additionally, routine data from the IS SSD were used to assess the intervention's impact.

Geography

The intervention and survey of PLHIV were conducted at the ART site in Chernihiv region – the "Center for Combating HIV/AIDS and Hepatitis," a separate structural unit of the Communal Non-Profit Enterprise "Chernihiv Regional Hospital" of Chernihiv Regional Council. This region was chosen as a pilot region for this study due to several key factors:

- This region previously achieved success in conducting a research project assessing IT intervention effectiveness, laying a strong groundwork for this pilot initiative.
- Chernihiv has a well-developed ART medical service delivery system, concentrated in a single regional healthcare facility, providing a convenient, centralized structure for piloting the intervention.
- Chernihiv is located near the war-actions zone, making it a high-risk area with unique challenges in accessing medical services. Piloting the intervention in this context makes it possible to assess the program's sustainability and its ability to address the needs of populations in such high-risk regions.

Timeline

The study was implemented from September 2025 to August 2026.

The study included 3 main stages:

1. **Preparation and planning.** This stage included developing the protocol and tools, obtaining approval from the Ethics Committee, engaging regional coordinators, and other matters related to study organization.
2. **Field stage.** The field stage included collecting qualitative data through a focus group with medical professionals and NGO representatives working in the field of HIV response, collecting quantitative data through a survey of PLHIV, and distributing test systems to ART site clients for subsequent transfer to IPs. In addition, statistical data were collected during the field stage to evaluate the effectiveness of the intervention.
3. **Analytical stage.** As part of the analytical stage, an analysis of the study's qualitative and quantitative data was conducted, along with a comparative analysis of the intervention's effectiveness indicators, after that an analytical report was prepared based on the results of the analysis.

At the final stage of the study in September 2026, a meeting with stakeholders, including national-level decision-makers, is planned to present the study results and outline the next steps for scaling up the intervention.

Results of the Qualitative Component of the Study

During the focus group discussion (FGD) with HIV response specialists, the implementation of index testing programs across various regions of Ukraine was discussed. Eight specialists participated in the focus group, including representatives from public healthcare facilities (HCFs) and NGOs from five regions.

The focus group was conducted online, with a full audio recording of the discussion. The FGD was facilitated by an external specialist who is a neutral party regarding HIV response issues. To prepare the facilitator, an introductory meeting was held in advance to discuss the FGD guide and all technical and substantive matters related to the main topic.

Following the FGD, a full verbatim transcript was generated, and a thematic analysis of the qualitative data was conducted using a simple coding method. Based on the analysis results, several key thematic areas were identified, allowing for specific conclusions to be drawn.

1. **Organizations and Projects**

Index testing programs are currently very widespread in Ukraine. Such activities are carried out in all specialized facilities for the prevention and control of HIV/AIDS. In addition, index testing is actively implemented by NGOs, in particular the Charity Organization “100% Life” and the International Charitable Foundation “Alliance for Public Health,” as part of relevant projects.

During the discussion, participants also noted that index testing is implemented with support from the US Government’s donor program, PEPFAR (President’s Emergency Plan for AIDS Relief). Under this program, various international technical assistance projects are underway, including “Re-envisioning Excellence and Accessibility in Clinic-based HIV Services” (REACH 95), “Innovations to Overcome the HIV Epidemic,” and, previously, the HealthLink project.

In addition to specialized medical facilities for HIV infection, index testing is also implemented by other primary and specialized HCFs. However, respondents report that among facilities implementing HIV testing, it is least implemented in facilities remote from regional centers or large cities. Furthermore, NGOs rarely implement testing in rural areas of remote districts. Therefore, according to the majority of respondents, the weakest link in HIV index testing is primary HCFs in rural areas.

2. **Information System “Monitoring of Socially Significant Diseases”**

The Information System “Monitoring of Socially Significant Diseases” (IS SSD) is the unified registry of all patients with HIV infection at the national level in Ukraine. Based on general feedback from FGD participants, the process for entering data on index testing is complex and resource-intensive. The IS SSD is positively evaluated for data coverage, as it contains detailed information about patients and their partners. However, the IS SSD requires further development, clearer data-entry instructions, and a simplified completion process.

> *“What we are lacking, to be honest, if it’s possible to note it somewhere, whether you’re involved in the ‘index testing’ module of the IS SSD, I would slightly improve the materials on index testing and data entry. Because they are a bit confusing… By the time the psychologist figured it out, a lot of time had been spent to make sure everything was done properly.”*

Discrepancies often occur between the actual outcomes related to people living with HIV, and their partners, and the data recorded in the IS SSD, mainly because of the complexity involved in entering all required information correctly.

> *"For example, there are 100 partners, but only 20 might be entered into the system. Therefore, it's impossible to accurately assess the implementation of index testing."*

Specialists highlight that the index testing module is particularly challenging to complete due to its time-consuming nature and that completing the IS SSD during interviews with PLHIV is very complex.

> *"In fact, it's not feasible to do this with the patient present. You need to let the patient go, and then you spend your time entering the card and handling other tasks. Well, I mean, these are sort of technical details, but they also take time."*

Some respondents mentioned that frequent updates to the IS SSD are seen not as improvements but as complications that hinder their work. Adjusting to these updates can be challenging, often needing extra time and, occasionally, training for HCF staff.

> *"Maybe slightly simplify entering information into the IS SSD, specifically in the Partners section… It's so difficult to enter all of that… The software is constantly updating, and changes happen quite often — every evening, every week… In the morning, the doctor logs in, and something is wrong again."*

3. Human Resources

In HCFs, index testing is typically carried out by physicians and often includes clinical psychologists. Nurses, as mid-level medical staff, may also participate. The inclusion of clinical psychologists is a relatively recent development, but it is highly regarded by healthcare workers.

> *"In our facility, the clinical psychologist handles this. She has more time, and she doesn't need to worry about the health status; her job is to find out the contacts and encourage the person to provide them. If not today, then in 3 days, when the patient visits the doctor again, and all the test results are ready. So, I thought that, after all, it shouldn't entirely be the doctors' job. And considering, well, the staffing potential of our oblast, where all the doctors are… well, over 60, for them to get clients to open up and talk is, well… understand me correctly, it's a bit difficult for them."*

In NGOs and sometimes in HCFs, index testing is conducted by social workers who receive appropriate training. The work of social workers is also evaluated very positively, but it is noted that there are not enough of them to fully meet testing needs, given the existing demand.

> *"Social workers from NGOs really help and save the day here if they are based at a healthcare facility, because they have, well, a much closer connection with the patient, and there is a… a greater opportunity to report information about the results of self-testing."*

Overall, physicians face an exceptionally high workload. Nearly all respondents working in healthcare facilities reported a shortage of time because of the large patient volume and the need to carefully input data into the IS SSD.

> *"I'll say that this is an additional workload for the doctors. In fact, our ART site doctors, well, that's just us at the regional center, where we deal with HIV infection. But at the sites, they are in the infectious disease offices, and besides HIV infection, they have a bunch of other work matters. Therefore, their time for patients here is limited."*

It was also observed that a physician cares for a very large patient load and must regularly prioritize tasks, often relegating index testing to the background.

> *"When a doctor has, for example, 600 patients in therapy and needs to efficiently process all their information during an appointment, they won't waste time."*

4. Methods of HIV Testing

When discussing the testing methods currently employed by specialists, various approaches to engaging index partners were identified. The traditional method involves interviewing ART site patients with a positive HIV diagnosis about their potential partners from the past five years. In HCFs, this activity can be carried out by social workers, clinical psychologists, physicians, and, less often, nurses. The process of directly engaging identified partners in testing varies and is dependent on the patient. For instance, a client may independently bring a partner for testing, contact partners directly to offer testing, or provide partner contacts to specialists at the ART site, who can then reach out and offer testing without revealing the identity of the person who provided the contact information.

The use of oral fluid rapid HIV tests for testing in HCFs and NGOs is also widespread. This kind of testing can be conducted directly in facilities and organizations with staff participation; tests can be distributed to individuals for self-testing, or provided as multiple kits for a client to independently distribute to their social circle at risk of infection. Tests can also be placed in an open-access area within the facility (for example, near reception) so that a person can easily and confidentially obtain a test kit and take a test.

> *"Additionally, we also distribute oral tests. This means the client doesn't necessarily need to bring their partner to the service-provision site. It's also possible to administer an oral test to the partner, conduct the testing, and then refer them to our social worker."*

Index testing not only identifies current index partners of PLHIV but also retrospectively uncovers risky contacts from as far back as 5 to 7 years before the diagnosis of HIV infection. In addition, partner identification is not limited to primary patients who recently received a confirmed positive status; it is also periodically repeated, roughly every 6 months, to update and track current and past partners.

> *"So, we want to find, so to speak, invisible partners, right? Those who aren't right by their side now, but rather partners from the past 5 to 7 years. That becomes a more long-term process, and when social workers provide case management for a person, they circle back to this… social workers keep it under control, and about once every six months or once a year, they still circle back to the people who were under their case management, and we understand that there are partners, even if we weren't told about them."*

In addition to the previously mentioned index testing methods, specific cases regarding detection among key populations at higher risk were discussed. For example, one respondent described a

program aimed at identifying partners of PLHIV who are in correctional facilities. However, this practice appears resource-intensive and difficult for partner tracing, as inmates often lack direct contact.

The practice of sending mobile outreach teams directly to conduct HIV testing among the population was also noted. These teams are implemented through the efforts of NGOs and regional Centers for Disease Control and Prevention. However, the effectiveness of such testing is questionable, as it is non-targeted and rarely yields positive results.

> *"We don't have mobile teams in our region, but there's a CDC mobile team; we saw their reports. Well… everything is zeros. Lots of screenings, but no positive cases detected."*

Involving a clinical psychologist in index testing is a positive practice. Identifying index partners calls for a personalized approach and building personal trust between the ART site worker and the client. It is crucial to assess the patient's psycho-emotional state individually and consider their acceptance of their status, as these factors are key to effectively identifying and engaging index partners.

> *"In fact, there's an individual approach for every patient. That is, there's no standard cliché you can just apply, because it depends on the person's condition. If this is a person with a history of drug use, that is one specific aspect of counseling. If these patients are tested based on clinical indications and come accompanied by relatives or trusted persons, that's a completely different principle of work."*

Some respondents noted that key populations, particularly men who have sex with men (MSM), actively use ordering and delivery formats for HIV self-testing kits (via postal mail), which allows them to test regularly. This responsible approach to HIV prevention demonstrates a high level of awareness among these groups and can help reduce the spread of infection.

> *"MSM order these safe boxes, party boxes online themselves. So, these are different sources. They test themselves, too."*

5. Performance Assessment

All respondents agreed that index testing is the most effective approach for identifying new HIV cases when discussing different HIV testing methods.

> *"Working with index partners always yields the highest detection rate."*

FGD participants noted that index testing allows for the early detection of cases at asymptomatic stages, helping to reduce the spread of the infection and improve outcomes for newly diagnosed HIV-positive individuals.

> *"Thanks to index testing, we identify cases that would hardly have ever reached us on their own. And thanks to index testing, we detect patients at the 'asymptomatic carrier' stage. In other words, this isn't based on clinical presentation."*

Regarding various testing methods, one respondent noted that mailing test kits to index partners is the least effective approach because they often receive no feedback. By contrast, an effective approach involves *case finders* — HIV-positive individuals who independently distribute test kits to partners,

within a specific community, or to a risk group. This method's success heavily relies on the motivation of the case finder. Street-based HIV testing, aimed at the general population, is seen as less effective because, although it reaches many people, it results in a low detection rate. Such testing is performed through campaigns, mobile clinic outreach, preventive events, programs like Health Space, and other initiatives, primarily using mobile clinics.

> *"In terms of effectiveness, starting from the bottom, right? Postal test deliveries yield the lowest results… Street-based testing is next. And then distribution via case finders, such as within risk networks. That yields the highest detection rate."*

> *"Testing this group gives us a 4–5 % detection rate. So, it's already quite effective too. It depends on the case finder we've found. There are some who find absolute gold [smiles]. There are those who just massively retest people who have already been tested. So it also depends on the people. On their motivation."*

One respondent noted that their facility's index testing has an effectiveness of approximately 14 %, indicating a relatively high detection rate of positive HIV test results.

> *"In 2025, 285 partners were offered index testing, and 39 primary positive results were detected. I think this is a very good indicator."*

6. Challenges in Index Testing

The analysis of challenges and barriers in HIV testing revealed several important insights into different parts of the HIV response system.

The biggest gap in HIV testing was found among the rural population in areas far from major cities in the oblast. Small primary healthcare centers in these rural areas rarely conduct HIV tests, even when indicator conditions are present, which is a serious issue. This is likely due to understaffing in rural HCFs and the high workload of medical staff.

> *"If it's some kind of a primary healthcare center remote from the regional hub, there's no index testing there, unfortunately. From what we see, well… we compile reports for the oblast. Vulnerable groups are practically not tested by primary healthcare centers. Although we provide training, explanations, and discussions, it still feels like a dead end."*

Another important fact is that the rural population is not covered by NGO services, which also reduces access to HIV testing.

> *"NGOs only work in regional centers. They don't go 200 km away from the oblast center because it's not there yet, even though there's a lot of HIV infection in the community. It would be a good idea for them to start operating there."*

At the level of small settlements, HIV-related stigma plays a significant role, as individuals at risk fear that their positive status or the fact that they belong to risk groups will be exposed within the community, where everyone knows everyone. However, stigma also exists in cities, representing one of the largest unresolved barriers to engaging index partners, as most PLHIV fear the disclosure of their status.

"One of the main issues is that clients often feel stigmatized and afraid their HIV status might be uncovered. This is especially true if they come from a small community, which can make them less willing to engage their partners."

An additional major challenge in index testing is the active migration of the population. As PLHIV and their partners relocate within Ukraine or move abroad, contact with partners is lost, and PLHIV may no longer be reachable by healthcare providers. The absence of current partner contact information further hampers efforts. Migration, both within the country and internationally, has greatly complicated the process of involving partners in HIV testing.

"Another problem is the migration of our clients and their partners. They might move to other oblasts, to other regions, or to other countries. And because of this, we can't get in touch with them. And what's also sometimes difficult is that some clients do not have their partners' contacts — say, from the recent months, since these were just one-night stands or brief encounters, and that makes it hard to get their contact details or bring them in for testing."

Another challenge in index testing is the timing of HIV detection. When the primary patient is diagnosed at a late HIV stage, their partners often also have advanced infection (Stage 3–4), especially spouses and regular partners. As a result, the primary source of infection is often unidentified and remains undetected.

"In our oblast, however, many people, most of them, have been diagnosed at stage three or four. And there are also numerous married couples where neither person, so to speak, neither partner has ever been identified or detected."

Uneven project activity distribution across Ukraine was also identified as a barrier. For instance, some NGOs and HCFs involved in HIV testing and response initiatives operate only in specific regions. As a result, service coverage remains inconsistent, restricting many populations from accessing HIV testing.

"Zhytomyr Oblast was not a priority region for the projects. As a result, "100% Life" primarily operates there today; they also offer care and support and assist us in attracting index clients."

Incorrect or incomplete data entry into the IS SSD remains a recurring concern. The complexity of completing the IS SSD often results in errors and data discrepancies that require correction. This also affects the overall statistical indicators we obtain from index testing, as errors can make them inaccurate. Furthermore, participants reported that the lengthy process of data entry for index testing increases the likelihood of mistakes.

"We sometimes see social workers making mistakes, and an index partner may not connect correctly as an index partner. So, we need to fix all these issues."

7. Index Self-Testing

One of the discussion topics was the use of the self-testing method in HIV index testing, along with the proposed intervention to distribute test kits to ART site clients for distribution to their index partners.

According to focus group participants, oral fluid-based rapid HIV tests are widely used across all regions and facilities represented in the FGD. Specialists view the use of such tests positively because the testing process is simple and convenient, facilities are supplied with a sufficient number of test kits, and the kits meet high quality standards.

> *"The tests are very sensitive and very good. So, we would like them to be available and for this option to continue."*

A key advantage of providing test kits for index partners to self-test at home is that it removes certain barriers, such as the need to visit a medical facility, and decreases stigma.

> *"As an option, oral tests are available, and in principle, a fairly large number [of people] agree to them precisely because they don't need to go anywhere. And yet these are quite effective tests. Basically, because it's self-testing, well… depending on the result, it's not necessary to get examined immediately, say, by a family doctor or in a trust room. You can take this oral test first and then decide what to do next."*

Distributing self-testing kits through social workers is a common practice, but the intervention method proposed in this study is widely used as well. PLHIV are generally willing to take these tests to distribute among their partners, but tracking the results remains a major challenge. Some respondents mentioned rarely receiving feedback from partners about their test outcomes. Additionally, some professionals doubt that an index partner will seek medical care promptly even if they test positive for HIV.

> *"Difficulties are specifically with feedback. Because, for example, if we distributed 50 tests and 10 of them came back positive, well… we often lack that information; the patient may not always return. This breaks the chain a bit."*

Another issue with index self-testing is tracking patients who seek medical care. Partners who receive a reactive test result and visit an HCF often do not mention that they tested at a partner's suggestion, using a rapid test provided by an HCF, etc. This affects the quality of data regarding the effectiveness of index testing.

> *"Another drawback is that if the test result is positive, clients bypass the social worker and go straight to the medical facility. Sometimes it's difficult to reach them, and they don't always immediately disclose that they are an index partner."*

One respondent also expressed concern about the quality of self-testing results, noting that obtaining an accurate result requires strict adherence to the test kit instructions. Therefore, providing clear, easy-to-understand instructions on how to use rapid tests is essential for obtaining reliable results.

> *"We frequently observe multiple mistakes, often because the time was not properly monitored, and, well… that results in false-negative or false-positive outcomes. Numerous errors occur when the sample volume is not added to the test system. And the sample volume also influences the final result."*

Regarding the effectiveness of the proposed index self-testing approach, not all respondents expressed full confidence in its efficacy or in its advantages over other index testing methods. However, everyone

agreed that this is a beneficial practice that HCFs and NGOs should adopt. They also saw its potential to identify new HIV cases among index partners.

> *"In my opinion, the proposed self-testing system, which involves distributing self-testing kits to risk groups, is very effective, compared with existing approaches, in terms of coverage, acceptability, and linkage to further medical services."*

8. Needs

Additionally, the FGD explored the needs of specialists regarding the improvement of the HIV case-finding system, including index testing. Some respondents emphasized the importance of training sessions, workshops, and the development of educational materials. Key training topics include how to work with patients to identify index partners, training materials on operating within the IS SSD, and preparing social workers and nursing staff involved in index testing programs.

> *"We lack training, specifically some in-person or online training, that would provide not only theoretical information but also an exchange of experience among social workers and between organizations."*

An urgent need for the HIV response system is ensuring enough staffing to reach the entire population – including index partners – with testing services. The main challenge is offering testing in remote hromadas and rural areas, where specialists identify a coverage gap. This can be addressed by deploying regional HCF staff and engaging civil society organizations to operate mobile clinics outside major cities.

> *"Maybe more encouragement for mobile clinics. That's such an effective way. Well, cooperation with NGOs specifically, more projects."*

HIV-related stigma among the general population remains a concern, negatively affecting testing coverage, the timeliness of seeking medical care, and complicating the index testing process. To combat stigma, broader coverage of HIV-related topics and the ongoing implementation of information campaigns targeting different population groups are needed. However, some respondents noted that it is important not to downplay the seriousness of the HIV problem, but rather to communicate information accurately.

> *"Well, in a way, when young people understand that HIV isn't a death sentence, that treatment is available and provided free by the government, they tend to become more careless and engage in riskier behaviors, you see."*

Conclusions

1. The main obstacle for ART site workers in implementing index testing is insufficient time for thorough data collection and completing the IS SSD, as participants mentioned that the system is fairly complicated and demands considerable time.
2. Stigma continues to be the main barrier for index testing among PLHIV and their partners, mainly because PLHIV fear disclosing their HIV status to partners, and partners often hesitate to visit medical facilities for testing.

3. The biggest obstacle in HIV testing, including for index partners, is the lack of services in rural areas, particularly in districts far from regional centers.
4. Specialists view collaborating with clinical psychologists in HCFs and social workers in NGOs as the most effective practice for engaging index partners. This approach alleviates much of the physicians' workload and offers greater chances to tailor support for PLHIV.
5. NGOs play a valuable and effective role in providing HIV testing services, helping to reduce the burden on healthcare systems. Yet a major limitation is their limited coverage in rural areas and the instability of project-based efforts.
6. Specialists have identified several needs to enhance the effectiveness of index testing programs. These include training (including on the use of the IS SSD), involving additional staff, such as psychologists and social workers, across different healthcare levels, and creating informational materials and public awareness campaigns to reduce stigma.
7. Specialists have ambiguous views on index self-testing, recognizing its benefits in lowering barriers to HIV testing but also concerns, such as the problem with tracking self-testing results. Consequently, this intervention requires more research and evaluation of its effectiveness.

Results of the Quantitative Component of the Study

The quantitative component of the study included a survey of 100 PLHIV receiving care at the "Center for Combating HIV/AIDS and Hepatitis" of the Chernihiv Regional Hospital, a municipal non-profit enterprise under Chernihiv Regional Council. Medical staff from this facility carried out the survey, which was only conducted after patients provided written informed consent and satisfied the other inclusion criteria indicated below:

- Known HIV-positive status of the individual.
- PLHIV receives medical services at the HCF serving as the study site.
- Age over 18 years.
- Willingness to participate in the survey.

After completing all questionnaire items, each respondent received 200 UAH in compensation for participating in the study, provided by the medical staff at the study site. Data collection was conducted using an online questionnaire programmed on the REDCap platform, which medical workers completed based on the respondent's answers. Given the difficult energy situation in Ukraine at the time of the survey, which included regular blackouts, medical workers often completed a paper questionnaire with the respondent. Afterward, all responses were converted to electronic format whenever possible. All paper questionnaires, along with signed informed consent forms, were stored at the site until the completion of the field stage of the study, after which they were handed over to the study coordinator for secure storage in the archive. The data collection period for this component of the study lasted 3 months, from February to April 2026.

In the socio-demographic analysis of the study participants, out of 100 respondents, 65% were men and only 35% were women. Most respondents lived in the target area, specifically Chernihiv Oblast

and the city of Chernihiv, with only 10% from other regions. The average age was 43 years; the youngest participant was 18, and the oldest was 72.

Among those surveyed, 67% are employed, either permanently or temporarily, while 33% are not working due to retirement, disability, study, or other reasons. Most participants reported having a partner at the time of the survey, whereas 37% said they do not have a partner, and 5% opted not to answer. Additionally, a large majority – 78% – have biological children, 11% do not have children, and another 11% declined to answer.

Therefore, despite its limited size and the absence of sample stratification, the survey achieved adequate diversity among participants in terms of gender, age, and other socio-demographic factors.

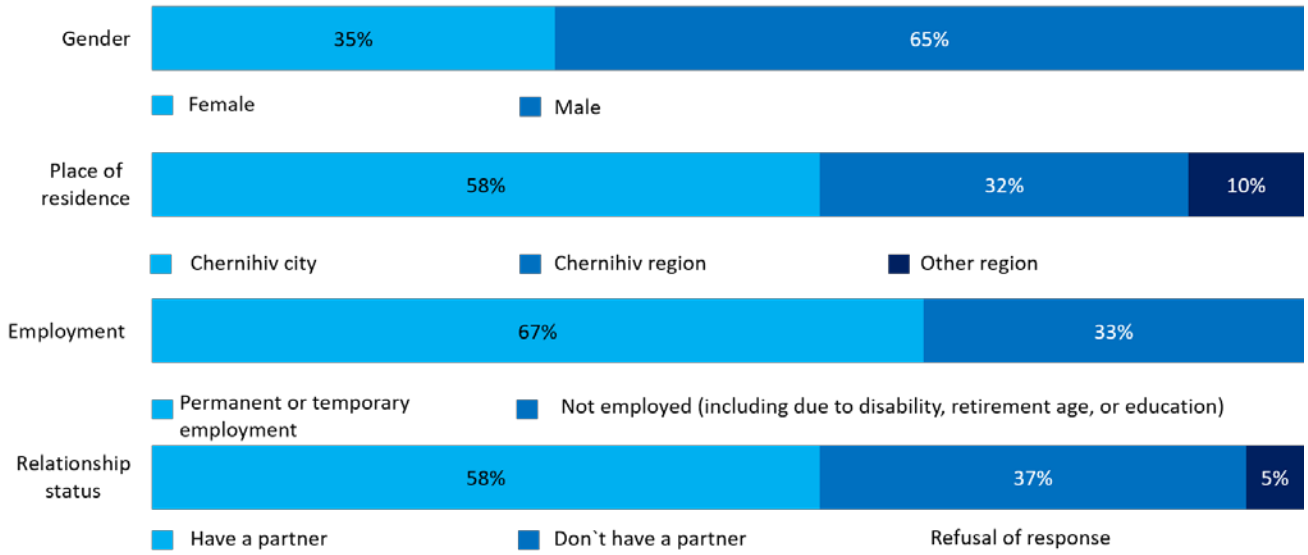

Figure 1. Distribution of respondents by key socio-demographic indicators

Analysis of responses about the HIV diagnosis timeframe showed that nearly half of the respondents (46%) received their diagnosis less than a month ago. An additional 42% have known their HIV status for over a year, while a small segment was diagnosed between one month and one year before the survey. The majority first received a positive HIV test result at specialized facilities providing care to PLHIV or other public HCFs. Only two participants learned their diagnoses during testing at an NGO. No respondents were diagnosed at private medical facilities, and none had reactive results from self-testing with rapid tests.

Regarding the reasons for getting tested for HIV, most patients did so voluntarily (26%), during hospitalization (21%), or prompted by friends or relatives (17%). Less frequently, testing was initiated by a medical specialist in an outpatient clinic or by a family doctor. In rare cases, it was prompted by NGO staff. Additionally, 10% of respondents discovered their HIV status during a military medical exam; notably, almost all of these individuals belonged to a risk group – people who inject drugs.

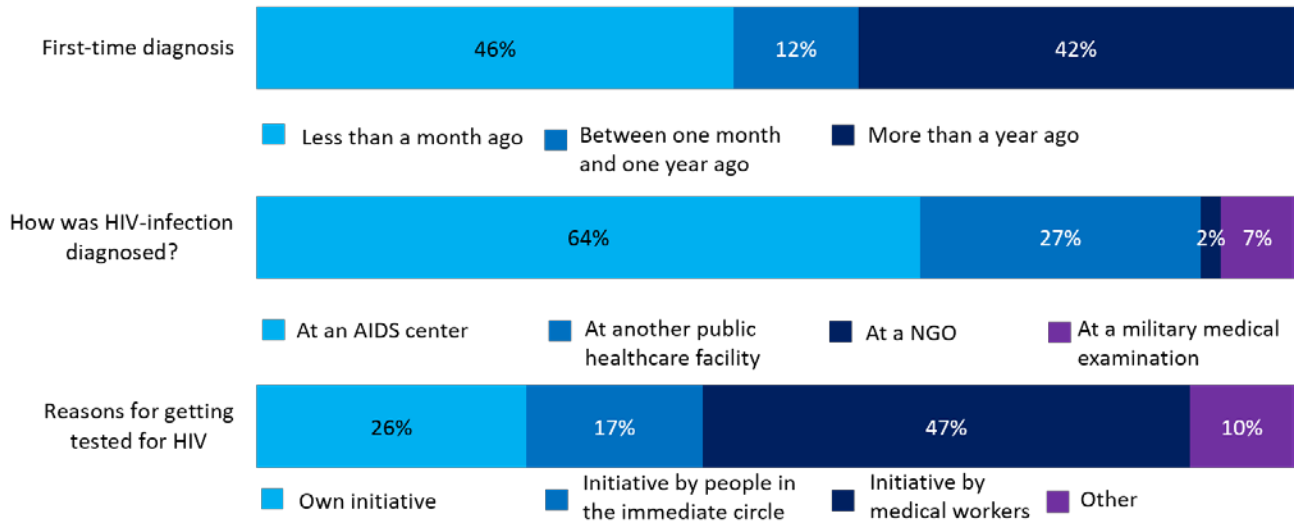

Figure 2. Data on newly diagnosed HIV infection among survey participants

More than half of the participants (52%) reported belonging to a key population at higher risk of HIV infection, primarily people who inject drugs, followed by sexual partners of PLHIV. Some respondents reported belonging to such groups as people providing sexual services, sexual partners of people who inject drugs, and individuals in or recently released from penal institutions or detention centers. Most of those who identified as part of a risk group also reported having people in their circle who also belong to key populations, often the same group as themselves. Interestingly, individuals from high-risk groups were less likely to have their index partners tested compared to those not identifying with any risk group. Additionally, these respondents mainly tested for HIV on their own or through close contacts, rather than through medical professionals.

Belonging to one of the key populations at increased risk for HIV infection

Distribution of participants among key populations at increased risk for HIV infection

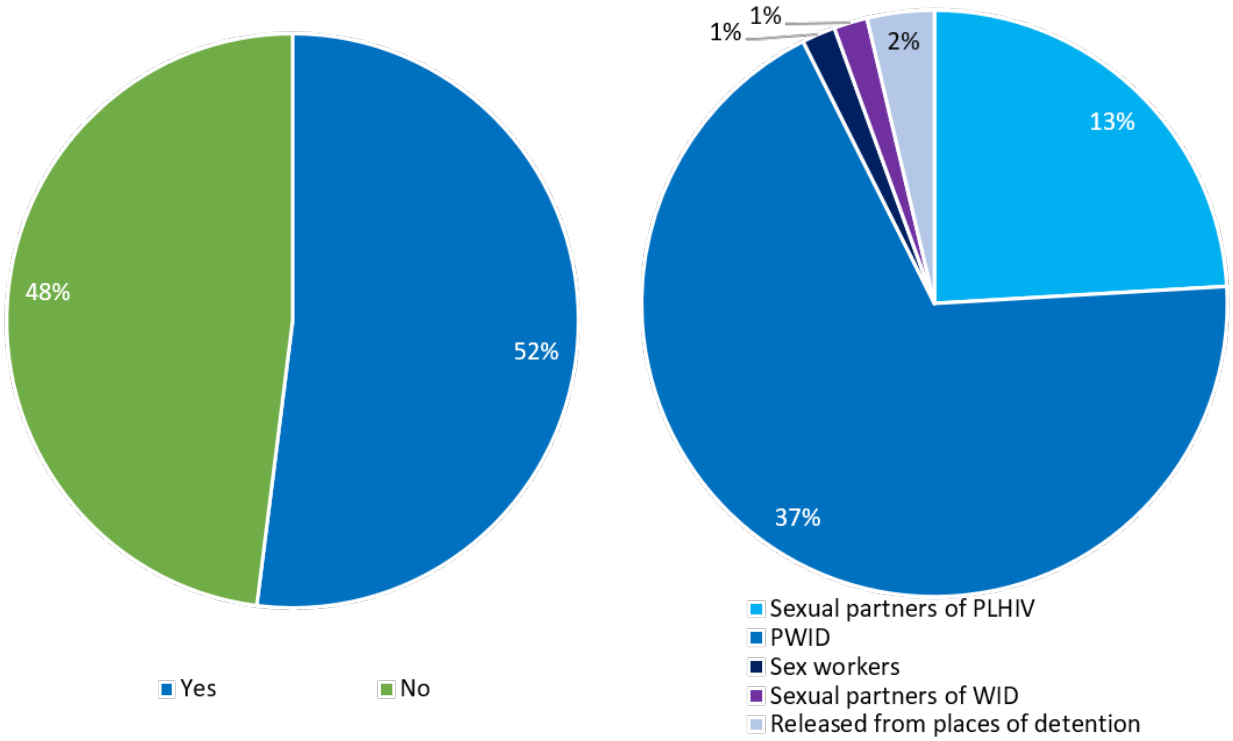

Figure 3. Distribution of respondents among key populations at increased risk for HIV infection

Nearly three-quarters of respondents were informed about the principle of index testing and had already received a proposal from medical workers to engage their index partners in HIV testing. Among those who received such a proposal from a medical worker, only half of the respondents engaged their index partners in testing – most frequently sexual partners, less frequently family members, and in isolated cases, injection partners. In most cases, the result of such testing determined the absence of HIV infection in the tested index partners. In addition, respondents often do not know the result of such testing.

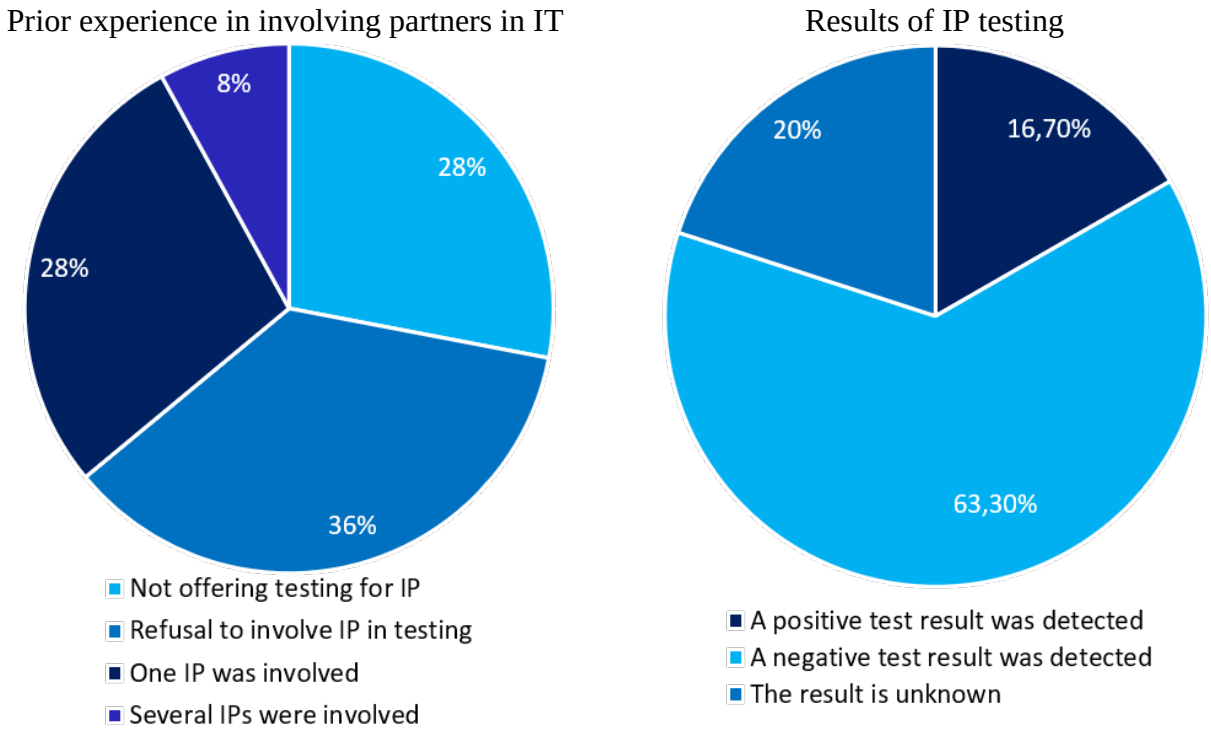

Figure 4. Data on prior experience participating in index testing programs

The overwhelming majority of respondents expressed readiness to distribute HIV self-testing systems to index contacts within their networks (73%). Another quarter of participants expressed uncertainty, and only 2 respondents refused. Only 20% of participants had personal experience using HIV self-testing systems. At the same time, 80% of respondents noted that rapid HIV self-testing kits are a convenient method for HIV detection, and only 2% replied that they did not consider it convenient.

To assess respondents' adherence to the proposed index self-testing intervention, several questions were asked, requesting that they rate their level of agreement with a statement on a scale from 1 (strongly disagree) to 5 (strongly agree).

The following average scores were obtained for each of the given statements:
Table 1. Assessment of respondents' adherence to the implementation of the index self-testing intervention

Statement	Agreement level (5-point scale)
I would like to receive test kits and give them to my acquaintances who are at risk of HIV infection	**4.09**
I believe that distributing HIV self-testing kits can engage more people in testing than on-site testing (at medical facilities, NGOs, etc.)	**4.3**

Active case-finding of HIV infection within the close contacts of a person with a confirmed positive status is an effective method for identifying new HIV cases	**4.37**
Individuals with a positive self-test result for HIV will proceed to a healthcare facility for additional diagnosis and treatment	**4.15**
A personal offer to get tested for HIV from someone close to you is more motivating than public service announcements or offers from medical professionals	**4.24**
Average score	**4.23**

The mean agreement score across all five proposed statements was **4.23** points, corresponding to the value “Somewhat agree.” This can be considered a relatively high indicator of PLHIV adherence to the proposed intervention.

It was found that individuals who recently discovered their positive HIV status tend to adhere more to index self-testing compared to those who have known about their diagnosis for a longer time.

Additionally, respondents rated a statement about the general motivation to undergo HIV testing at a healthcare facility: people are reluctant to visit HCFs or similar organizations for HIV testing due to stigma, such as fear of judgment, with a score of **2.25** out of 5.

The effect of stigma on healthcare use – specifically, avoiding visits due to fear of judgment – is more common among individuals who have been aware of their diagnosis for a longer period compared to those recently diagnosed with HIV.

Analysis of responses regarding whether respondents hide their positive HIV status shows that most (66%) have only disclosed their diagnosis to a few close family members. Nearly 25% of participants reported that no one in their circle knew their status; meanwhile, half of these respondents reported being in a relationship at the time of the survey, which is concerning. 9% participants reported that people in their close circle are aware of their diagnosis, and most of these participants learned of the diagnosis over a year ago. Only one participant admitted to not concealing their status at all.

When asked if they are willing to disclose their status to at-risk individuals in their circle, most respondents answered “no.” A considerable number were indecisive, while only 20% said they were prepared to do so. Among these, two individuals had never disclosed their status before. Notably, men were more likely than women to be open to disclosure (23% vs 14%), possibly reflecting a greater level of stigma among women.

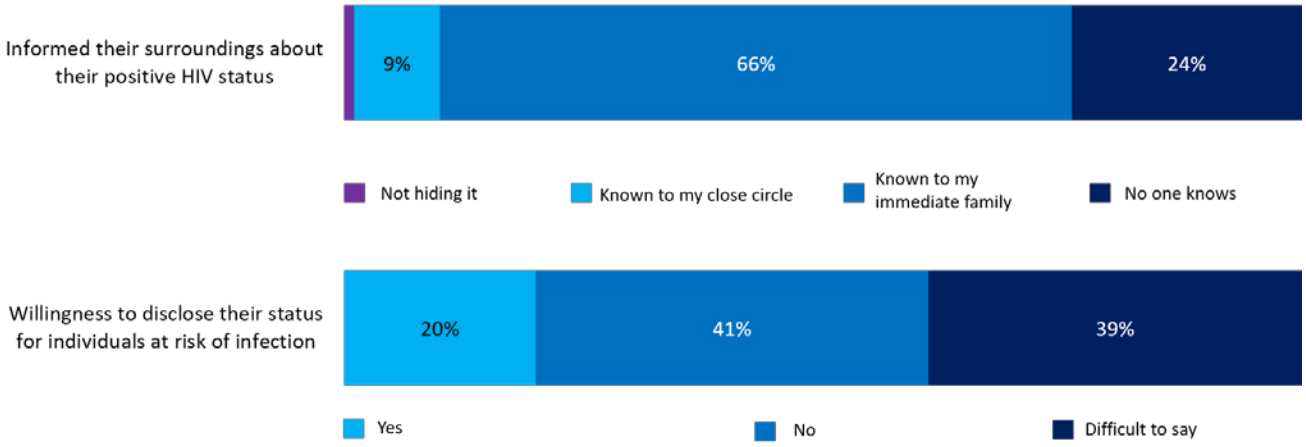

Figure 5. Data on the disclosure of positive HIV status among respondents

Conclusions

Survey data from PLHIV allows several conclusions:

1. The percentage of medical workers initiating testing among participants is relatively low, especially among key populations at higher risk for HIV.
2. Only about one-third of respondents have previously involved index partners in testing, indicating limited implementation of index testing.
3. Most respondents are willing to distribute test kits to their index partners, suggesting good adherence to this intervention.
4. The average rating for the convenience, effectiveness, and feasibility of index self-testing is 4.23 out of 5, reflecting a generally positive perception from the target group.
5. Those who recently found out about their HIV-positive status tend to be more adherent to index self-testing than those with a longer-known diagnosis.
6. Stigma remains the primary barrier to engaging partners in index testing, as many respondents are unwilling to disclose their HIV-positive status to partners in order to involve them in HIV testing.

Results of Evaluating the Effectiveness of the Intervention Implementation

Implementing the index self-testing intervention by offering oral fluid-based rapid HIV tests to patients on ART for distribution to contacts at high risk of infection (index partners) is a potentially effective method for identifying HIV cases. To assess its effectiveness and potential for nationwide adoption, a pilot project was conducted in one region of Ukraine.

A single HCF offering medical services to PLHIV – such as HIV diagnosis, prevention, and treatment, including antiretroviral therapy – was involved in the pilot project to evaluate the intervention's effectiveness. This was the "Center for Combating HIV Infection/AIDS and Hepatitis," part of the Communal Non-Profit Enterprise "Chernihiv Regional Hospital" under Chernihiv Regional Council.

The aim of the pilot implementation of the HIV self-testing kit distribution program among IPs was to evaluate the effectiveness of the intervention by assessing the number of individuals tested with the provided oral fluid-based rapid tests and the number of HIV cases identified among target categories. The indicators of the index self-testing intervention were compared with the indicators of the standard approach to IT at a designated HCF for the corresponding period of the previous year. The standard testing method involves obtaining direct contact details of IPs from the ART site patients and directly inviting partners to a medical facility for HIV testing.

The selected ART site received 380 oral fluid-based rapid tests for HIV-1/2 antibody detection, intended for self-testing. These were acquired through funding from the U.S. President's Emergency Plan for AIDS Relief (PEPFAR). Known for their high sensitivity and specificity – over 99% each – these test kits ensure reliable results. The tests were distributed to ART site representatives participating in the study as local coordinators for subsequent distribution among patients. Each test kit included a brief brochure with key information about self-testing, specifically:

- Instructions for conducting the test independently.
- Guidelines for interpreting the test results.
- Suggested steps following testing, whether reactive or negative.
- Situations that warrant retesting.
- Contact details of the medical facility.

Each oral fluid-based rapid self-test kit for detecting HIV-1/2 antibodies contains:

1. Step-by-step instructions
2. Test cassette
3. Disposal bag
4. Vial with buffer solution
5. Stand

Figure 6. Packaging and contents of OraQuick® oral fluid-based rapid HIV-1/2 antibody test kits for self-testing

Over four months, from February to May 2026, all 380 rapid tests were distributed to patients at the target HCF who agreed to share the tests with their index partners. Medical staff at the facility handed out the tests to both newly diagnosed patients and those already in long-term follow-up. Tests were provided free of charge, with quantities of 1 to 4 per person, though there were no strict limits. On average, each person living with HIV received 2.5 tests.

Table 2. Data on the implementation of the intervention that involved distributing oral fluid-based rapid HIV-1/2 antibody self-test kits as part of the IT program

Indicators	Value
Number of test kits issued	380
Number of PLHIV provided with test kits to distribute to IPs	149
Number of IPs that provided feedback on testing results	298
Number of positive test results obtained	13
Number of people retested and subsequently referred for therapy	13

Results were tracked through the PLHIV, who served as distributors of test kits to their partners. As expected, some of the issued test kits were lost, so it is unknown whether these tests were used and, if testing was performed, what the results were. The total share of feedback on testing results was 78%, meaning the share of lost tests is 22% of all distributed test kits.

Upon receiving a reactive rapid test result, each partner was further evaluated according to the national HIV testing algorithm to confirm the HIV diagnosis. Once confirmed, individuals were referred to a physician for medical supervision, initiation of ART, and other medical services. Of those with reactive

results at the initial screening stage, 100% underwent follow-up tests that confirmed their HIV status and were directed to treatment. All cases were tracked using the patient's unique ID in the IS SSD.

To assess the intervention's effectiveness, a comparison was made with data on index testing outcomes under the standard scheme. Specifically, data on index testing at the target HCF for the corresponding period (4 months from February to May inclusive) of 2025 were used. It was found to be unfeasible for ART site staff to conduct the two index testing methods in parallel for different patients at the same HCF during project implementation, as originally planned, due to the complexity of the process.

Table 3. Comparison of results from implementing different IT approaches

Indicators	Intervention	Standard IT
Period	February–May 2026	February–May 2025
Number of IPs tested	298	273
Number of positive test results	13	5
Number of people retested and subsequently referred for therapy	13	5
Detection rate	**4.4%**	**1.8%**

Similar research on the effectiveness of index self-testing has been conducted in African countries such as South Africa, Malawi, and Kenya. In all these regions, index self-testing showed high effectiveness, with good adherence among target populations and a high percentage of newly identified HIV cases, ranging from 16% to 25% of partners testing positive. However, linkage to medical services after a positive HIV test was not complete in any country, with rates between 47 % and 99 %. Nonetheless, comparing the quantitative data and outcomes of these studies with those of this pilot is challenging due to significant differences in epidemiological patterns and regional contexts.

In Ukraine in 2025, the IS SSD data show that 8,348 index partners participated in the index testing. Of these, 2,881 individuals were tested, accounting for 34.5% of the total proposed for testing. The testing identified 302 HIV-positive cases, which is 10.5% of those tested.

The highest number of index partners were involved in testing in Dnipropetrovsk Oblast (1,609), Odesa Oblast (908), and Kyiv city (632). The greatest number of individuals tested was recorded in Dnipropetrovsk (485), Odesa (318), Donetsk (266), and Kyiv Oblasts (200). The highest number of new HIV-positive cases was identified in Dnipropetrovsk Oblast (51), Kyiv city (46), and Zhytomyr Oblast (39), demonstrating the effectiveness of index testing for actively finding new HIV cases. The highest HIV detection rates among tested index partners were seen in Ivano-Frankivsk Oblast (50.0%), Zhytomyr Oblast (34.8%), and Kyiv city (24.9%). This suggests that testing efforts successfully attract partners at higher risk of infection.

Overall, the results show that index testing is an effective method for identifying new HIV cases among index partners. However, with a testing coverage rate of 34.5%, the program's reach remains inadequate, highlighting the need for improvement.

It is important to recognize that the index testing indicators reported in the IS SSD may not fully represent the real volume of index testing conducted. Feedback from medical staff at ART sites indicates that heavy workloads and staffing shortages limit the completeness of data entry for index testing. In some HCFs, staff manage multiple information systems simultaneously, which takes additional time. As a result, index testing cases might be entered into the IS SSD late or incompletely, leading to potential underreporting. Consequently, the true number of partners tested, individuals tested, and positive cases identified could be higher than the recorded data. This consideration is essential when developing strategies to enhance data registration accuracy.

General Conclusions

From the data analyzed across all three components of the study, the following general conclusions emerge:

1. Implementing index testing programs in Ukraine effectively helps identify new HIV cases among partners of PLHIV, potentially enhancing early HIV detection over time. Nonetheless, index testing has shortcomings and needs refinement; thus, developing and evaluating new approaches to IT is essential to improve its efficiency.
2. The primary challenge in implementing IT programs in Ukraine is the shortage of qualified personnel to work with PLHIV and the need to fully input data about index partners into the IS SSD. This process demands considerable time and necessitates further improvement of the index testing registry within the IS SSD to make data entry more efficient.
3. IT programs cannot be successfully executed by physicians alone; it is essential to include social workers, nursing staff, psychologists, and other specialists in the effort.
4. Specialists see the index self-testing program as promising mainly because it lowers barriers to HIV testing services. However, its primary challenge is tracking test results across index partners and ensuring they are linked to medical follow-up, including confirmatory testing if results are reactive, prevention, and treatment.
5. Among PLHIV and IPs, the main obstacle to testing participation is stigma surrounding HIV diagnosis. This stigma leads PLHIV to fear revealing their status to partners, while partners are hesitant to get tested due to fears of a positive result and its implications.
6. Overall, PLHIV show high adherence to the index self-testing intervention, indicating their willingness to share test kits with partners and find this method both practical and efficient.
7. Patients newly diagnosed with HIV tend to follow index testing more closely than those who have known their status for a longer period. Conversely, stigma levels are higher among individuals who have been aware of their HIV-positive status for an extended time.
8. The pilot implementation of the index self-testing intervention demonstrated high levels of IP testing coverage, prompt feedback return, and successful identification of new HIV cases. Notably, every person with a reactive test result who provided feedback was placed under medical supervision and is now receiving appropriate treatment.

Recommendations

Based on the study results and conclusions, the following recommendations can be made for further implementation:

1. The self-testing index intervention has the potential for further implementation and scaling up. However, reviewing the implementation and evaluation mechanisms is advisable before expanding it across different HCFs regionally.
2. It is advisable to develop a more effective system to monitor index partners' rapid test results, aiming to reduce the loss of distributed tests and boost engagement in healthcare services, especially for HIV prevention, diagnosis, and treatment.
3. To ease the workload of healthcare staff, expanding the roles of nurses and other medical workers in conducting index testing and entering data into the IS SSD is recommended.
4. To enhance data quality and lessen the burden on medical staff, the index testing registry in the IS SSD should be refined to simplify data entry, aligning with the actual needs of those inputting the data.
5. To raise HIV testing rates, especially among index partners, measures should be implemented to reduce HIV-related stigma among the general population.
6. Because individuals who recently discovered their positive HIV status tend to adhere more to treatment and experience less stigma, resources should mainly focus on supporting recently diagnosed PLHIV.
7. Training programs for HCF staff on implementing index testing programs should be introduced, focusing on engaging PLHIV, tracking results, and data entry into the IS SSD, etc.

Acknowledgments

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