

Evaluation Report

**OF THE WEB-BASED
HIV SELF-TESTING
PILOT PROGRAMME
IN NORTH
MACEDONIA**

Skopje, 2023



A Member Association of



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International
Planned Parenthood
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European Network



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The HIV Self-testing Pilot Programme was launched as part of the regional project “Sustainability of Services for Key Populations in the Eastern Europe and Central Asia Region” (the SoS Project), which was managed by the Alliance for Public Health, and funded by the Global Fund to Fight AIDS, Tuberculosis and Malaria. As part of the project, an Operational Protocol was developed and information and video materials were produced, self-testing kits were procured, and the costs were covered for the first three months of service delivery. The International Planned Parenthood Federation provided support for a 6-month implementation of the Pilot Programme, as well as for its promotion and evaluation.

The positions expressed in this publication do not necessarily reflect the views of the Global Fund, the Alliance for Public Health, and the International Planned Parenthood Federation.

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1 BACKGROUND

HIV epidemic in North Macedonia

North Macedonia is facing an active HIV epidemic, which is concentrated in the population of men who have sex with men. [1] The most recent assessment of its prevalence among this population is from 2017-2018, when it was estimated at 5.4%. [2] On the other hand, the biobehavioural studies conducted in the same period among sex workers, people who inject drugs, and prisoners have not detected any cases of HIV [3, 4, 5], reaffirming the data from earlier studies, as well as from the regular epidemiological monitoring, indicating that these populations are not facing an active epidemic. [7] Data reflecting the epidemiological trend in transgender people are rather limited, but it is safe to assume a relatively high prevalence due to interactions of this group with the population of men who have sex with men, where the epidemic is concentrated, but also drawing on the experiences from other countries. In a similar way, there exist limited data concerning the male sex workers who have sex with men; however, certain studies have suggested that the epidemic is most concentrated exactly with this population. [6]

The analyses of HIV care continuum based on the methodology recommended by the European Centre for Disease Prevention and Control indicate that the number of people living with HIV that are aware of their HIV infection stands at merely 65%, and has remained practically unchanged in the period between 2017 and 2021, i.e. in the years when the national level analyses were made [1, 7, 8, 9]. In other words, the country has not demonstrated progress in diagnosing the people living with HIV, and the estimated number of newly emerged infections on an annual

level has remained approximately the same, perhaps even higher than the number of newly diagnosed. [8, 9] Therefore, the key priority for the national HIV response should become exactly the testing – meaning, to diagnose the people infected with the virus as early as possible, so as to sooner connect them with the appropriate healthcare and HIV treatment.

By the end of 2021, 548 cases of HIV were registered in our country, with a lethal outcome reported in 117 cases. [10] Over the last 5 years, 46 new cases a year have been registered on average. [19]

HIV testing with rapid tests among key populations affected by HIV in Macedonia is implemented by a number of organisations, through their mobile clinic and as part of the stationary centres of these civil society organisations. In 2021, onsite testing (with the mobile clinic) was carried out in 9 towns (Skopje, Kumanovo, Veles, Strumica, Kavadarci, Prilep, Bitola, Ohrid and Gostivar). Furthermore, stationary HIV testing was available in 4 towns (Skopje, Gostivar, Ohrid and Bitola) through 7 organisations. A total of 2,255 tests were performed, covering 601 individual cases from the population of people who inject drugs, 446 from the population of sex workers, 818 from the population of men who have sex with men, as well as 168 young people and other people from the general population. The targets for the three key populations were set at 800, 1,000 and 1,500, meaning that their realisation has fallen short. [10] As part of the testing programme for the population of men who have sex with men, 9 HIV cases were detected from the 818 different clients involved (positivity rate of 1.1%).¹

It was reported to the Public Health Institute that a total of 40,879 HIV tests were performed in the course of 2021. These tests were done in public and in private health facilities and laboratories, as well as within the civil sector. A total of 8,929 tests were performed in the public health centres; however, only 1 positive case was reported. [10]

Self-testing as part of the HIV testing services

HIV self-testing is a process whereby a person collects their own saliva or blood sample, and then performs the HIV test and interprets the result, typically in private surroundings, in the presence, or not, of another trustworthy person. The reactive, that is to say, positive result can never be taken as definitive,

¹ Information from HERA – Health Education and Research Association, the organisation managing the Rapid HIV Testing Programme within the civil sector

rather, it requires confirmation in compliance with the national algorithms for establishing an HIV diagnosis. Consequently, HIV self-testing is considered a triage testing method, requiring that the person with a reactive result be further tested by trained service providers in compliance with the national procedures. [11]

The World Health Organisation recommended, as early as in 2016, that HIV self-testing be offered as an additional access to HIV testing services. This recommendation was published with the objective of supporting the countries in ensuring additional approaches to HIV testing services, and which may be employed to reach out to people, particularly to the ones exposed to higher risk from HIV, which are otherwise unaccustomed to using the established HIV testing services. HIV self-testing is expected to contribute to achieving the global targets of having the largest share of people living with HIV diagnosed, by also covering the people that have never been tested for HIV before. At the same time, the introduction of this measure is expected to create a greater demand for HIV testing and enable a greater number of persons to perform the test, especially the ones with undiagnosed HIV infection and those who require more frequent testing on account of their continuous risk exposure. [11]

Furthermore, the World Health Organisation find the rapid diagnostic tests for HIV, when performed independently by users, potentially equally as accurate as when performed by trained professionals. They may prove particularly adequate for persons continuously living in higher risk from HIV infection, such as the key populations, who may benefit from a more frequent testing without having to see an organisation or an institution. [11]

HIV self-testing in North Macedonia

Despite the clear recommendations, HIV self-testing, as a service, was not available in our country until recently, be it web-based or otherwise – for example, as an option to buy the rapid test in a pharmacy, as is the case with the tests for the virus causing COVID-19, or other diagnostic procedures intended for personal, independent use. The need for introducing this opportunity in the HIV infection diagnosis was first identified on the national level in the recommendations given by the World Health Organisation’s technical assistance mission regarding the national HIV response, which was carried out in 2018. [12] Self-testing interventions on national level were for the first time provided in the National Anti-HIV Programme [Programme for Protection of the Population against HIV Infection] in 2019, where “designing the protocol

and introducing the HIV self-testing” was specified as one of the measures for improving the availability of HIV testing for members of key populations. In the following year, 2020, the Ministry of Health made the first ever allocation in the National Anti-HIV Programme budget for the procurement of self-testing kits. [14] However, according to the National HIV Coordinator, the specified measures were never implemented, and the tests were never procured.

In line with creating the conditions for providing the HIV self-testing as a service in North Macedonia, HERA – Health Education and Research Association carried out in 2019 a Research into the Attitudes, Acceptability and the Required Information regarding the availability of self-testing to gay men and other men who have sex with men in North Macedonia. The research provided an insight into the most appropriate way to pilot the self-testing service. Inter alia, an evaluation was made of advantages and disadvantages from the possible use of oral sample (saliva) tests versus finger-prick sample (blood) tests, with 75.2% of the respondents, having watched the video instructions, expressing a high level of preparedness to do the oral test, versus 57.1% expressing high level of preparedness to independently perform the blood test. A high share of respondents preferred to be able to obtain the self-testing kit from the local pharmacies (77.8%), or through the civil society organisations (72.2%). [15]

In October 2021, HERA launched the provision of web-based HIV self-testing service in the form of a pilot programme, or demonstration project. The primary objective of introducing this measure was to increase the coverage of HIV prevention measures among men who have sex with men (MSM), as one of the groups exposed to the greatest risk from HIV infection in North Macedonia. In addition to men who have sex with men, in a narrower sense of the expression, the Pilot Programme also covered all interested transgender women in Macedonia over 18 years of age. The programme was implemented in the period between October 2021 and July 2022, for a period of 9 months, in compliance with the Operational Protocol for Piloting the Web-based HIV Self-testing, developed by HERA. [16]

The Web-based Self-testing Pilot Programme implemented by HERA, subject to the present evaluation, made use of independently performed oral sample (saliva) rapid tests to establish the HIV status based on the presence or absence of HIV antibodies. This significantly simplifies the HIV testing as it can be performed at one’s own home, more discreetly, avoiding the physical contact with the HIV testing service providers, which is the case with stationary or mobile clinics.

This report is an outcome of the evaluation of the Pilot Programme's course and results, and it offers recommendations for the possible ways to provide the HIV self-testing service in the country in the future.

Pilot Programme's objectives

The overall goal of the Pilot Programme was to obtain a better understanding of acceptability of HIV testing in MSM when it is web-based and performed with rapid oral tests. The specific research objectives of this Pilot Programme included:

- to identify the extent to which web-based self-testing has increased the total number of HIV testing in MSM;
- to identify the extent to which web-based HIV self-testing has increased the number of newly diagnosed HIV-positive people among MSM;
- to assess the usage rate of web-based HIV self-testing by MSM that have otherwise not used any HIV testing services before; and
- to assess the advantages, challenges and user needs to be considered when providing the web-based HIV self-testing.

Following were the Pilot Programme's targets:

- number of rapid HIV tests distributed among men who have sex with men, segregated by gender, age and place of residence;
- number of newly tested men who have sex with men with the HIV self-testing service that have never before used any other HIV testing service in the country;
- number of newly diagnosed HIV cases among men who have sex with men;
- percentage of tests performed through the HIV self-testing approach that have returned false results (invalid);
- percentage of newly diagnosed HIV cases in MSM through the web-based self-testing model which have faced socially undesirable consequences; and
- percentage of satisfied clients.

Inclusion/exclusion criteria

The key population participants in the Pilot Programme implemented by HERA had to meet the following criteria in order to be involved:

- to be 18 or more years of age;
- to have been assigned male sex at birth and to identify as gay or bisexual men or transgender people, or to have been assigned male sex at birth and to report practicing sexual intercourse with men;
- not to have performed an HIV test in the last 3 months; and
- not to have established an HIV-positive status before.

Method of providing the HIV self-testing service

The method of self-testing service provision was defined in the previously developed Operational Protocol for Piloting the Web-based HIV Self-testing.

Concerning the promotion of the HIV self-testing service, the Operational Protocol stipulated that the promotion be made through banners on the social media and web applications, above all the Grindr application, and the Romeo application and website, where a link was provided to HERA's webpage containing the questionnaire with HIV self-testing application form, and where the potential users could place an order for a testing kit.

Anyone interested could obtain the basic information from HERA's web page dedicated to the self-testing service, and to order the self-testing kit they needed to fill out an electronic questionnaire with questions about their sociodemographic profile, fulfilment of inclusion criteria, HIV risk assessment, and contact information for delivering the HIV kit. The Protocol also stipulated that the application forms received should be reviewed by a HIV testing counsellor, or a field worker. Not later than within 24 hours or one business day from completing the application form (not counting the weekends and holidays; or not later than 72 hours, if the person has sent the mail during the weekend), the HIV testing counsellor, or the field worker, was obliged to send feedback to the person at the email address specified in the questionnaire, containing a positive or a negative answer, depending on the fulfilment of the

criteria, as well as: information about the HIV testing kit delivery method and time, or the pick-up method and time from HERA's "I Want To Know" Youth Centre at Vodno in Skopje; information about how the test is performed; and the telephone number of the support line.

Anyone interested who did not fulfil the inclusion criteria received negative feedback, as well as information about the available option for free and confidential HIV testing in HERA's "I Want To Know" Youth Centre at Vodno, along with a link to the HIV information brochure.

Users could obtain the self-testing kit in two ways:

- have it delivered through a delivery service to an address they have specified in the questionnaire (anywhere in the country); or
- pick it up personally from the "I Want To Know" Youth Centre at Vodno.

The delivery of the self-testing kit through a delivery service was expected to be carried out not later than 2 business days from when the order was placed by completing the questionnaire.

Users / interested parties were provided with a telephone number of a support line, which was open any business day between 12 and 18 hrs, and provided:

- information and detailed instructions on how to perform the rapid HIV test;
- information on how to interpret the HIV test results;
- counselling on how to reduce the risk from HIV in the future, in case the test returns non-reactive (negative rapid test);
- referral to other HIV prevention facilities or SRH (sexual and reproductive health) services;
- referral to the Infectious Disease Clinic in case the test returns reactive (positive rapid test) for post-test counselling and support; and
- other HIV-related information that may be of interest to the client.

In order to make the test performance information easier to obtain and understand, and, in a way, to substitute the role of the counsellor in the regular HIV testing, video-instructions were produced in Macedonian language, and a brochure was developed with detailed instructions how to proceed when the result is positive, or when the result is negative, as well as broader information about what HIV presents today.

Users who received a reactive result from the rapid HIV test were provided with a support line operated by a social worker / psychologist from the HIV Counselling Facility at the Clinic for Infectious Diseases and Febrile Conditions – any business day between 08 and 18 hrs. The support line’s telephone number was printed on the instructions for use in the HIV self-testing kit, as well as in the confirmation mail sent to the client to be involved in the HIV self-testing as part of the Pilot Programme. The social worker / psychologist was tasked with providing information about interpreting the test results, scheduling an appointment for confirmatory test at the Infectious Disease Clinic, offering psychosocial support, and providing information about antiretroviral therapy for HIV – depending on the user’s interest.

The Web-based HIV Self-testing Pilot Programme made use of the rapid HIV tests of the “OraQuick” brand, which is a medical product for in-vitro diagnosing of HIV-1 and HIV-2 antibodies in an oral sample (saliva).

HIV self-testing kits used in the Pilot Programme were procured with a donation from the regional project “Sustainability of Services for Key Populations in the Eastern Europe and Central Asia Region”, implemented by the Alliance for Public Health and supported by the Global Fund to Fight AIDS, Tuberculosis and Malaria.

The Operational Protocol included measures for protecting the confidentiality and the limited personal data that were collected and processed for the purposes of service provision. To enter the user data, pursuant to the Protocol, a special password-protected computer had to be used, and these data could only be accessed by the team involved in implementing the HIV Self-testing Pilot Programme. Each application form (completed questionnaire) contained a code safeguarding the clients’ data confidentiality. Moreover, the application forms were stored on the computer in special protected folders.

2 METHODOLOGY

The guidelines for this evaluation were in part defined in the Operational Protocol developed by HERA for the purposes of piloting the web-based HIV self-testing service, before launching the Pilot Programme, and in part were developed in communication with the operational & managerial staff. The evaluation was made by surveying the service users, which allowed for profiling the respondents and perceiving their perspective; as well as by interviewing the persons on the Pilot Programme's Operational Team, which served to obtain the service providers' perspective. Where relevant, comparison was made between the data from the two approaches.

The baseline questionnaire for the users of the web-based HIV self-testing service provided information about the demographic characteristics of the participants, their sexual behaviour, previous experience with HIV testing, as well as information about the preferred method of self-testing kit delivery. The follow-up questionnaire contained questions about how the participants were informed about the self-testing service, their satisfaction with the service and the reasons for their (dis)satisfaction, the test results, the support received and the treatment commenced in case of a positive result, the experience of the negative psychological consequences – if the result was positive, as well as proposals on how to improve the self-testing service. All questions from the baseline questionnaire and most of the questions from the follow-up questionnaire were closed-ended questions of multiple-choice type. The questions concerning the reasons for (dis)satisfaction, proposals for improving the service, and the description of the possibly experienced false test results were open-ended.

The quantitative analysis was made of the responses given by the service users in their baseline questionnaire when ordering the self-testing kit (n = 119), and in their follow-up questionnaire (questionnaire regarding the level of satisfaction with the service), which was completed by the users after having used the service (n = 77, or 65% of the total number of persons who have used the service). The responses were analysed based on the data extracted into a single Excel database, followed by an SPSS analysis. This database included the data transferred from the original Excel files where responses were extracted from the questionnaires answered by the users independently in the form of Google Forms. The data transfer process from the original Excel files from the two questionnaires (the baseline one and the follow-up one), and the collation of the responses from the baseline and follow-up questionnaires completed by the same user, was carried out by the Pilot Programme's Operational Team in the course of its implementation – based on the assigned user code or based on the user's email address. On our part, we double-checked the data matching between the original Excel files and the database. All data obtained from the service users (i.e. Pilot Programme participants) that were processed for the purposes of this evaluation, were completely anonymous, and the anonymisation of data (contact details, i.e. telephone number and email address, as well as postal address for delivery²) was made before commencing the evaluation by the Pilot Programme's Operational Team. Datasets containing telephone numbers and addresses of users were fully deleted within one month following the delivery of the test. The qualitative analysis was made of the fewer open-ended questions from the follow-up questionnaire.

For the interviews with service providers, a semi-structured questionnaire was used and the responses were noted immediately. The interviews were conducted with a total of four service providers, including three members of the HERA's Operational Team and a social worker from the Infectious Disease Clinic, as an external associate. The interviewees were asked questions about the course of implementation of the Pilot Programme, the way the work was coordinated and organised, the ways in which the service was promoted and the user turnout, the method for selecting the users, the communication with the users, the follow-up on reactive cases, the Operational Team's opinion as to the possible improvement of the service, and expanding the promotion and availability.

² Datasets containing telephone numbers and delivery addresses were fully deleted not later than one month following the delivery of the test.

3

RESULTS FROM THE SURVEY OF SERVICE USERS

Sample

During the piloting of the web-based HIV self-testing service implemented by HERA, in the 9-month period between October 2021 and July 2022, a total of 120 orders were placed for self-testing kits from users that met the inclusion criteria based on their responses from the questionnaire they had to answer when ordering the self-testing kit. The Pilot Programme's Protocol stipulated that the self-testing service be offered only to gay and bisexual men and other men who have sex with men and transgender people of or over 18 years of age. In compliance with this, the interested candidates that were involved in the Pilot Programme (i.e. the ones who were delivered an HIV self-testing kit) had practically met one of the following criteria:

- to have been assigned male sex at birth and to report practicing sexual intercourse with men, or
- to have been assigned male sex at birth and to identify as gay or bisexual men (even when they have not reported practicing sexual intercourse with men), or
- to have been assigned male sex at birth and to identify as transgender person.

In this sense, for the purposes of implementing the Pilot Programme, the phrase “men who have sex with men” was used to also include those persons who were assigned male sex at birth and who, despite not having reported practices of sexual intercourse with other men, still identify as gay or bisexual.

However, based on the responses from the follow-up questionnaire, it was found for one of the users that he has not met the specified criteria and that, according to his own statement, he had said in his baseline questionnaire (which was used to make the selection depending on the fulfilment of the Pilot Programme’s inclusion criteria) that he has had sexual intercourse with men so as “to increase the chances of obtaining the test”. This user was excluded from the data analysis, so the sample that was considered in this analysis consisted of 119 respondents.

Number of distributed rapid HIV tests and user profile

During the pilot period, 119 rapid HIV tests were distributed to persons meeting the inclusion criteria.

All 119 respondents were assigned male sex at birth, with 107 of them (89.92%) declaring to be of the male gender, too, and 11 (9.24%) declaring to be transgender persons, whereas for one respondent there is no data. Regarding the sexual orientation, 62 (52.10%) of the respondents declared to be gay, 50 (42.02%) declared to be bisexual, 6 (5.04%) declared to be heterosexual or ‘straight’, and 1 respondent (0.84%) wrote down ‘trans; here as well. From the users belonging to the population of men who have sex with men (n = 108, excluding the transgender persons), 58 identify as gay (53.7%), 47 as bisexual (43.52%), and 3 as heterosexual / straight (2.78%).

Table 1:

Number of distributed rapid HIV tests segregated by gender, age, place of residence (n = 119)

VARIABLE	FREQUENCY	PERCENTAGE
Gender		
Male	107	89.92%
Transgender	11	9.24%
No data	1	0.84%
Total:	119	
Age		
18–24 years	30	25.21%
25–29 years	29	24.37%
30–39 years	40	33.61%
40–49 years	19	15.97%
Over 50 years	1	0.84%
Total:	119	
Place of residence		
Skopje	67	56.30%
Strumica	11	9.24%
Bitola	9	7.56%
Ohrid	6	5.04%
Other towns	26	21.85%
Total:	119	

Chart 1:

Gender identity of users

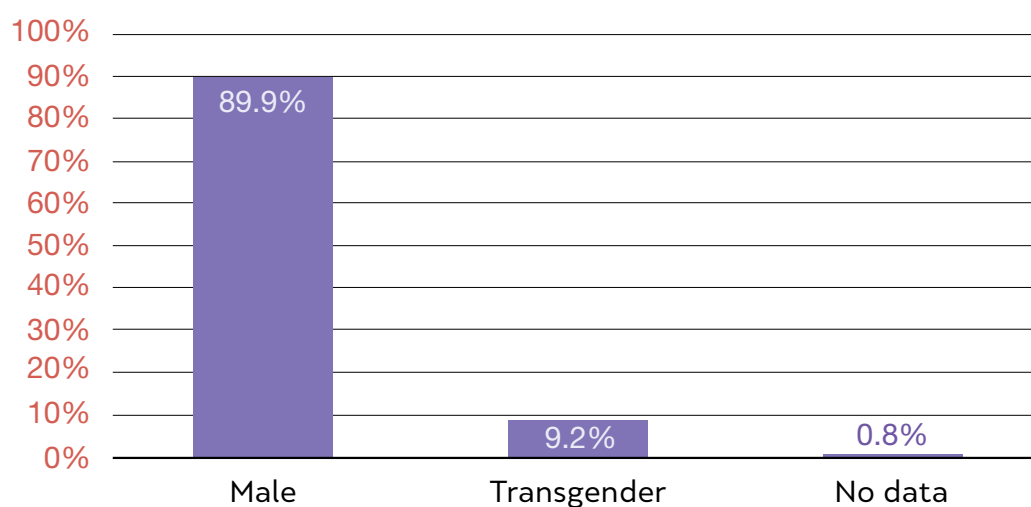
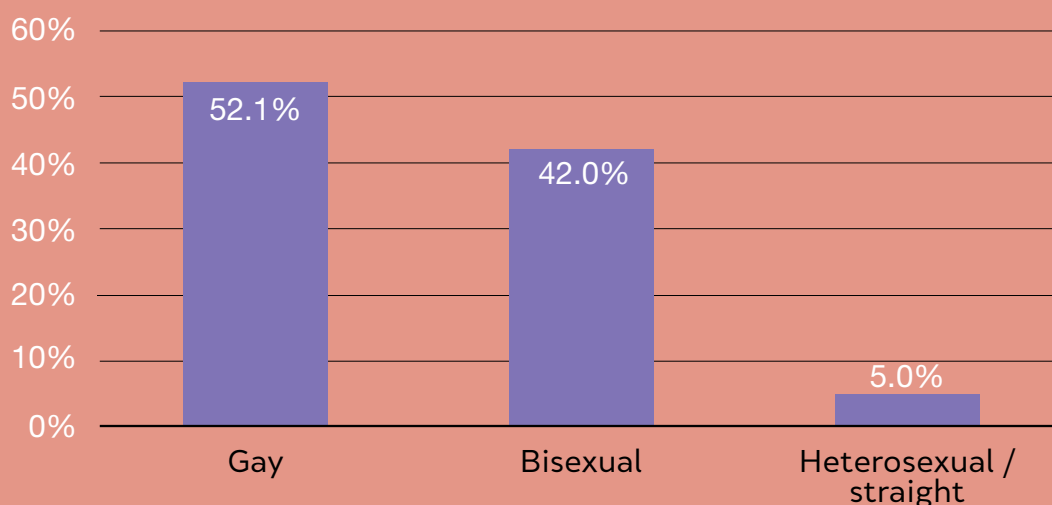
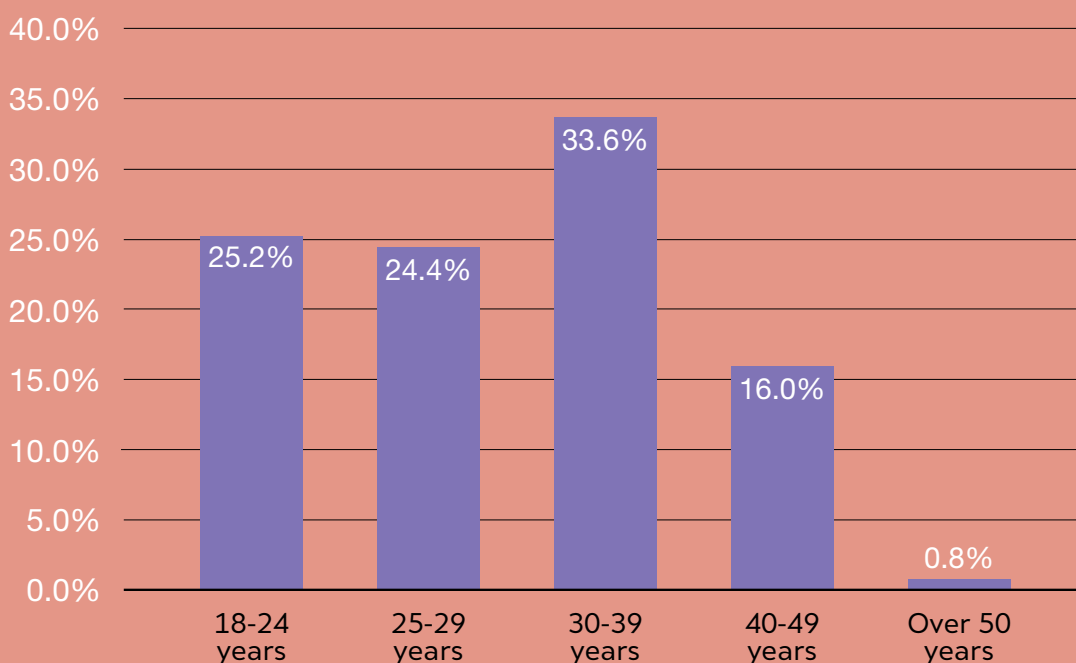


Chart 2:
Sexual orientation



The dominant age group among users (according to the categories offered in the questionnaire) was the one of persons between 30 and 39 years of age, to which belong 33.61% or 40 respondents. Even more represented were the persons under 29 years of age, divided in 2 categories: 18–24 years with 25.21% (30 respondents) and 25–29 years with 24.37% (29 persons). Only 20 users (16.81%) were older than 39 years, with only 1 user older than 50 years.

Chart 3:
Age of Pilot Programme participants



According to their place of residence, somewhat more than half of the users (67, or 55.83%) were from the Skopje Region, and the remaining users came from 16 other towns or municipalities. Strumica with 11 (9.24%), Bitola with 9 (7.56%) and Ohrid with 6 (5,04%) users can be singled out as municipalities with slightly more significant number of HIV self-testing service users. A huge majority (110) of users reported living in an urban area, while only 9 reported living in rural areas.

Chart 4:
Place of residence
(town / municipality)

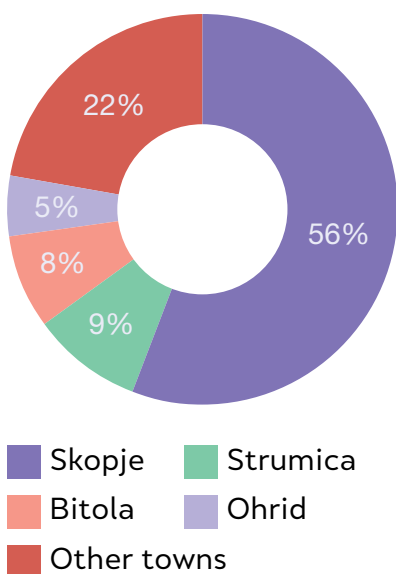
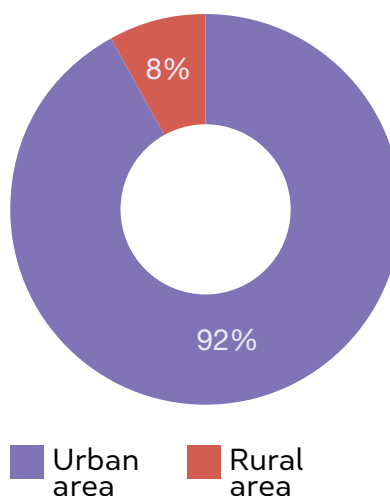
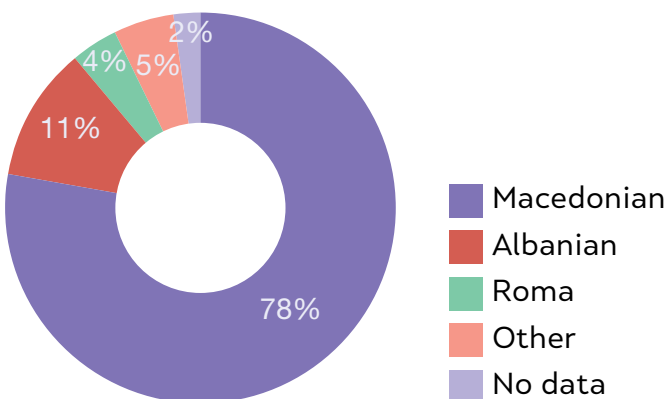


Chart 5:
Place of residence:
urban vs. rural areas



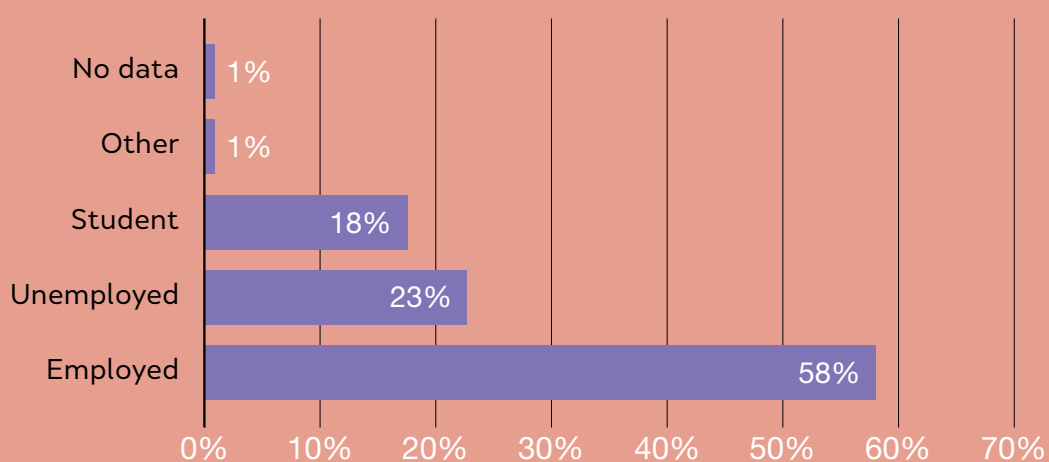
Majority of the persons who have used the service were ethnic Macedonians (93, or 78.15%), while Albanians were represented with 10.92%, and Roma with 4.2%.

Chart 6:
Ethnic community



Slightly more than half of the users were employed (69, or 57.98%), around one-fourth reported being unemployed (27, or 22.69%), while 21 (17.65%) of the users were students.

Chart 7:
Socio-economic status



A total of 14 users simultaneously belong to the population of sex workers, with this being applicable to majority of the transgender persons that have used the service, where 8 of the total of 11 have reported that they practice having sexual intercourse in return for material compensation. At the same time, only 6 (5.5%) of the total of 108 users identifying as men who have sex with men practice sex work.

Table 2:
Number of newly tested men who have sex with men and transgender persons that have never used other HIV testing services in the country before

VARIABLE	FREQUENCY	PERCENTAGE
Newly tested MSM and transgender persons	49	41.2%

For 41.18% (n = 49) of the users, self-testing through the Pilot Programme was, at the same time, their first ever HIV test, which represents a significant share. From those who have had an HIV test before (a total of 70 respondents), more than half (39, or 55.71%, or 32.77% of the total number of users) have done that in the service facilities of the civil society organisations, including 26 (37.14%) in the stationary testing sites, and 13 (18.57%) in the mobile clinic. Furthermore, 11 persons (15.71%) have done their previous test in a public clinic, while 14 (20%) in a private laboratory, and 2 did not respond to this question.

Chart 8:

Have they had an HIV test before

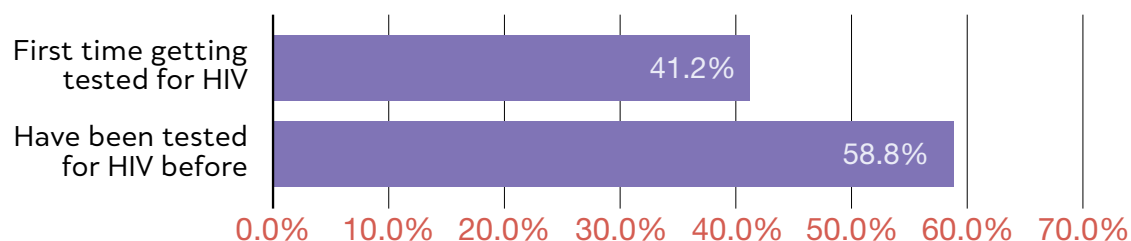
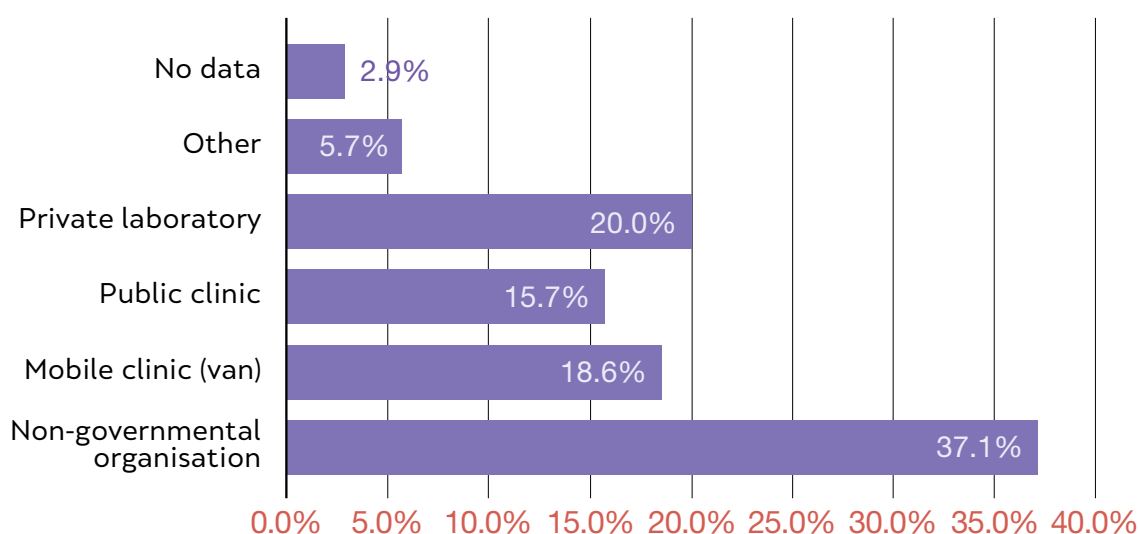


Chart 9:

Where was the previous HIV test performed (n = 70)



Regarding the preferred way of receiving the self-testing kit, the dominant majority (100 persons) chose to have the kit delivered to them by a postal service, while 19 selected to pick it up from the “I Want To Know” Youth Centre at Vodno.

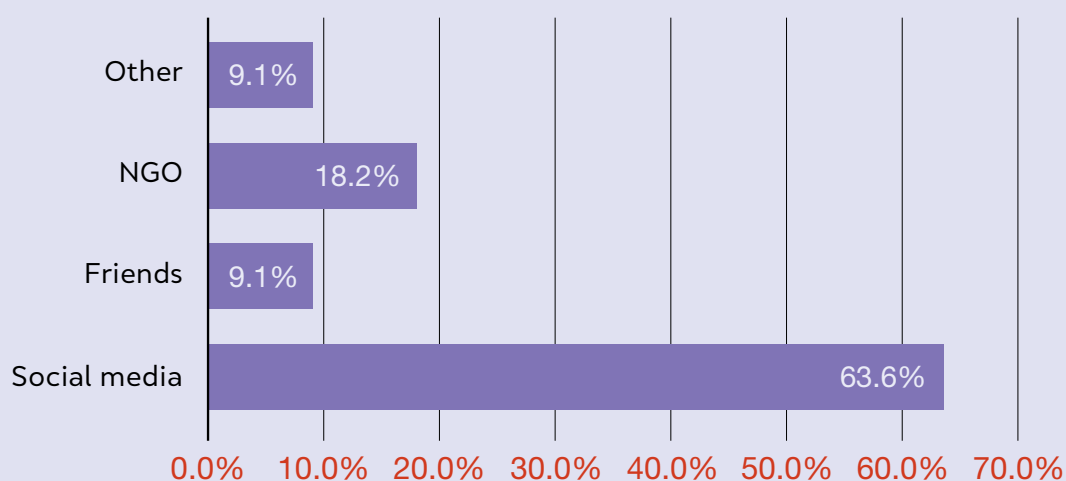
When answering the questionnaire for ordering the test, all 119 respondents agreed to be sent a follow-up questionnaire upon completing the test (a user satisfaction questionnaire); however, only 77 responses were received to this questionnaire. Continuing below are the results from this questionnaire, too.

Information about the service

From those participants who have answered the user satisfaction questionnaire, majority (49, or 63.64%) learned about the test from the social media, 14 (18.18%) from non-governmental organisations, 7 (9.09%) from friends, and 7 (9.09%) in some other way.



Chart 10:
How did they learn about the self-testing service (n = 77)



Majority of the users required no telephone support to perform the test. To the question whether, before performing the rapid HIV test, they called the telephone number of the support line listed in the test kit information material, only 7 users responded affirmatively (“Yes, I called them and I received full support and additional information”), and 69 responded negatively (“No, I did not call them, I did not need it – everything was clear”).

Satisfaction with the service

A total of 70 users (94.59% of those who answered the corresponding question) reported that they were very satisfied with the rapid test, 3 (4.05%) were somewhat satisfied, while 1 was not at all satisfied (1.35%). A total of 74 (98.67%) would recommend the rapid test to their friends / acquaintances, and only 1 person (1.33%) stated that he would not recommend the test.

Table 3:
Number and percentage of satisfied clients from the ones that have answered the satisfaction-related question (n = 74)

VARIABLE	FREQUENCY	PERCENTAGE
Very satisfied or somewhat satisfied with the service	73	98.65%

Chart 11:
Satisfaction with the service (n = 74)

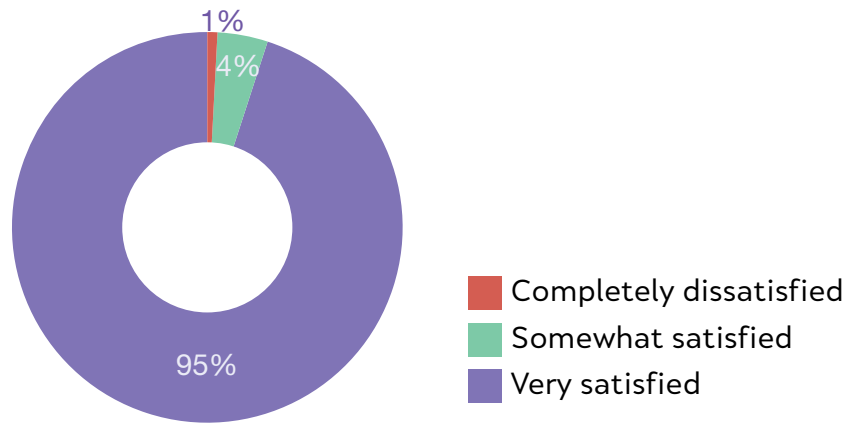
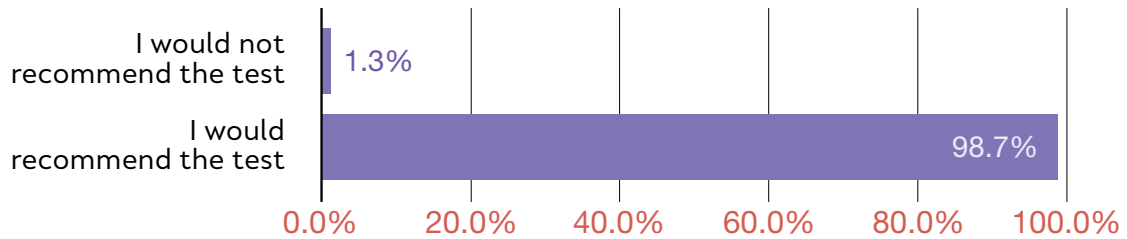
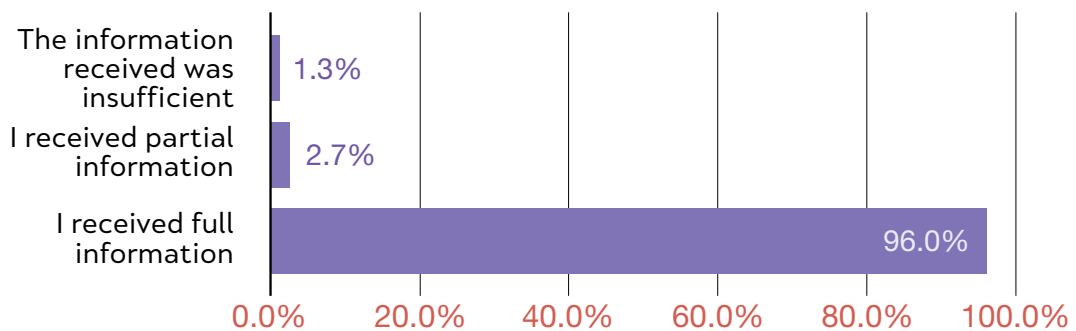


Chart 12:
Would you recommend the rapid HIV test to friends or acquaintances (n = 75)



A total of 72 persons (96% of the ones who answered the corresponding question) have fully received the necessary information about the test from the materials (i.e. how to perform the test, how to proceed if the test is positive or negative, and where to seek further support); 2 persons (2.67%) have only partially received the required information; and 1 person reported that the information received was insufficient (1.35%).

Chart 13:
Answer to the question “Have you received all the necessary information about the rapid HIV test from the materials, as to how to perform it, what to do if the test returns positive or negative, or where to obtain further support?” (n = 75)

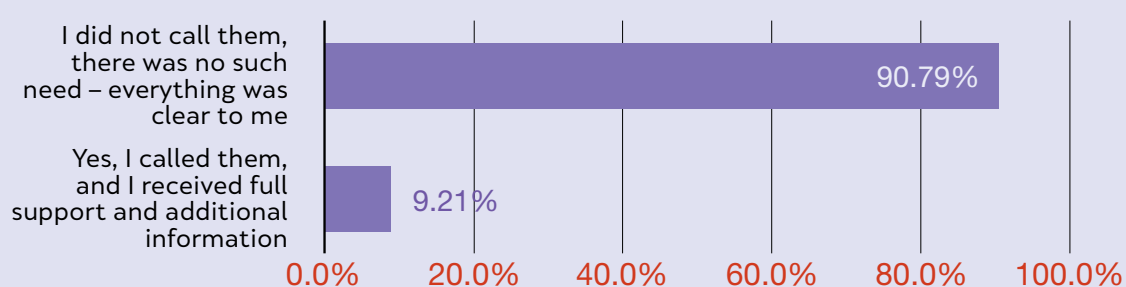


From the two persons who have answered that they have only partially received the necessary information, to the additional open question, one of these persons specified that it was not clear to them whether they need to wipe their mouth before testing; and the other person answered that they required assistance from the staff member of the civil society organisations to perform the test. This user has received the test from the promotional representative engaged in the local civil society organisation.

A vast majority (90.79%) of the users that have answered the corresponding question (n = 76) reported that they have not called the support telephone line when performing the test, as everything was clear to them and they did not need any assistance; while 9.21% reported that they have called the line and have received full support.

Chart 14:

Answer to the question “Have you called the support telephone line listed in the test information material?” (n = 76)

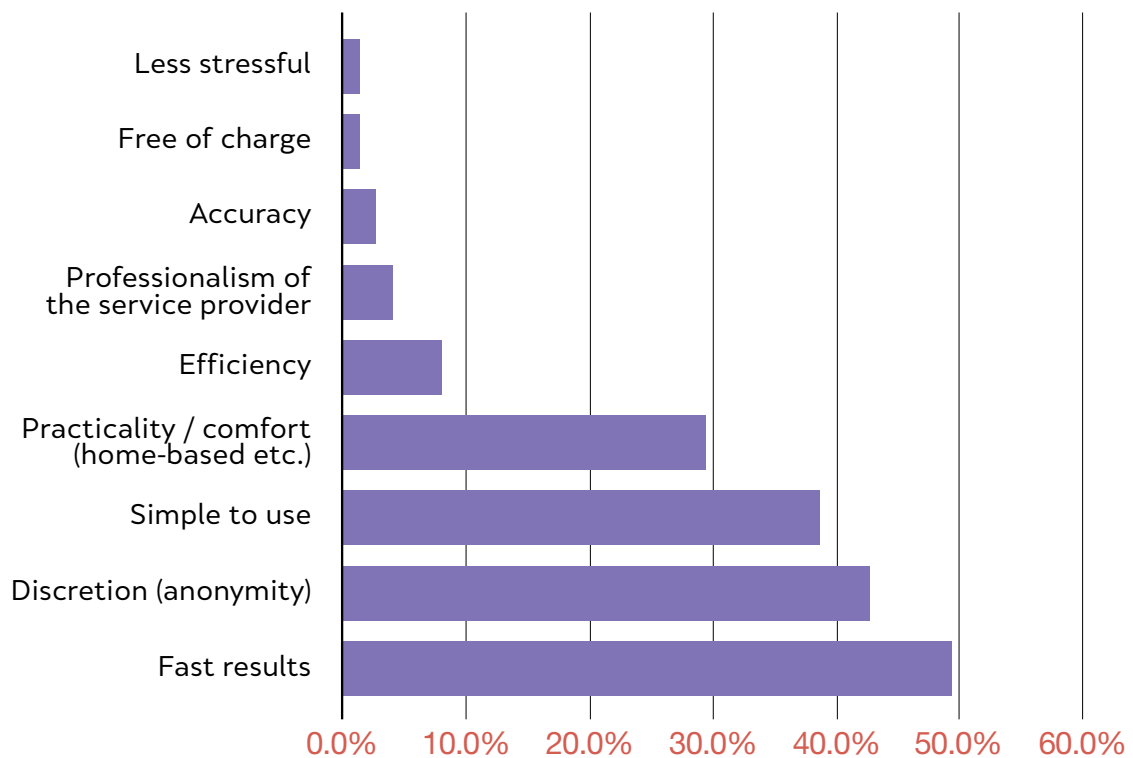


The respondents were also asked to explain why they are satisfied or dissatisfied with the home-based rapid HIV test, which was answered by 75 of them. Thereby, half (49.33%, n = 37) of those who answered the question about the reasons for their satisfaction, specified the speed with which the results were received; 32 persons (42.67%) specified the discretion, or anonymity of the test; 29 (38.67%) – the simplicity of using the test, including the fact that the method of performing the test was well explained; 22 persons (29.33%) mentioned the other aspects, such as practicality (the fact that the test is home-based, and it does not require going anywhere, nor traveling to other towns, nor being tied to a scheduled appointment). Less frequently mentioned reasons were efficiency and accuracy – 8 (10.67%); professionalism – 3 (4%); the test being free of charge – 1 (1.33%); and the fact that this method of HIV testing proved to be less stressful – 1 (1.33%).

Three respondents provided their reasons for dissatisfaction, with one reporting that the test was *not correct*, and one that the result was *unreliable*. One client complained that the test was *supposed to arrive in two business days, but it arrived in one week*.

Chart 15:

Specified reasons for satisfaction with the HIV self-testing service



Statements of user satisfaction with the service

[the selection is intentional and illustrative]

“Less stressful and more confidential. I feel encouraged to do it more often.”

“I’m satisfied because the test can be performed in a home setting, for persons living far away from the capital. Any physical person can obtain the test and learn their HIV status at home, with greater discretion.”

“A good and discreet thing for us, the people who live far away from Skopje.”

“(I am satisfied) because no one can see me or know that I am getting tested. Discretion is what matters the most to me.”

“You are not tied to an appointment, you can do the test whenever you want.”

“The service and its delivery were very fast. When I spoke on the phone to a lady, she was very nice and responsive. The test was simple and easy to use, and of course – free of charge. Thanks a lot!”

“I’m satisfied because it arrived at my home address. Efficient, exactly as it is presented. Practical. It reminded me of the COVID-19 rapid tests which can be obtained in pharmacies. If the HIV test was available also in pharmacies, that would be ideal.”

“Easy to use, with simple and clearly defined steps, and the informative brochure.”

“I’m satisfied because the test arrives fast, through a delivery service, and it is secret and safe.”

“Easy to use, with clear instructions, and fast results.”

“Because it is fast, and I can order it any time I want.”

Proposals for improving the service

The respondents were also asked if they had any proposals for improving the home-based rapid HIV testing service. This question was answered by 22 persons, of which, 8 have reported that the service was excellent, while 9 persons indicated that the service should be made more available to everyone and in more ways, for example, through: cooperation with local organisations; selling the tests in pharmacies at affordable prices; availability at particular sites, e.g. stations at LGBT parties; or through the general practitioners. Four users also mentioned the need for a better marketing promotion, including: greater media coverage; presentations in high schools and universities, youth organisations, sports clubs and other places frequented by young people; as well as disseminating self-testing flyers among the younger MSM population.

Test results

In the follow-up questionnaire, the question about the test results was answered as follows: only 1 person responded that the result was positive, 2 persons responded that they would rather not share the information, while 2 persons reported that the test result was false (invalid). The remaining 69 persons who answered this question from the follow-up questionnaire specified that the test result had returned negative.

Despite the single answer specifying a positive result, 2 persons reported that thoughts of self-harm or suicide have crossed their minds after receiving positive results. One of these persons reported that the test result was false (later it was confirmed as positive), whereas the other person reported that the test result was negative. The only person specifying in their follow-up questionnaire that the test result returned positive, answered to this question that they felt no serious concern. From the remaining participants, 26 respondents answered to this question that the test result was negative, and 47 did not answer this question.

Finally, 4 persons responded affirmatively to the question whether they had received sufficient information about further care, support, and treatment in the Infectious Disease Clinics in the case the result returned positive (“I have fully received”). However, none of these persons reported a reactive result

to the test, nor any other information was specified that could indicate a reactive result. Moreover, 2 persons answered to this question that they have received all the information from the promotional representatives, and 1 of them informed that they even did the test with support from the promotional representative engaged from the LGBT community.

Table 4:

Percentage of newly diagnosed HIV cases in MSM through the web-based self-testing model which have faced socially undesirable consequences (n = 2)

VARIABLE	FREQUENCY	PERCENTAGE
Newly diagnosed cases that have faced socially undesirable consequences	1	50%

4

RESULTS FROM THE INTERVIEWS WITH THE PILOT PROGRAMME'S MANAGERIAL & OPERATIONAL TEAM

Application of the Operational Protocol and the course of the Pilot Programme

As part of the qualitative segment of the evaluation, interviews were conducted with 4 members of the team involved in the HIV self-testing service provision, including the Pilot Programme's coordinator, two counsellors who provided the service directly, and a social worker / psychologist from the Infectious Disease Clinic, who was involved as an associate and was part of the team tasked to respond to the need for information and support to service users that would receive a reactive test result. Continuing below are presented summative findings from these interviews.

The Pilot Programme's services were launched on 26th October 2022. The Operational Team consisted of 4 people (without the social worker and psychologist from the Clinic), however, one of these persons carried the largest responsibility of coordination.

Team members were divided in shifts, and the person running the shift performed the tasks of registering the web-based orders, verifying the fulfilment of the inclusion criteria, sending an adequate feedback to the user, preparing the package and appropriate labelling with the client's code, organising the delivery service, recording the answers of those clients who had met the criteria, feeding the administrative databases, and other related procedures. A back-up copy of the clients' application forms was made on regular basis. The kits were delivered through an externally engaged delivery service, or the users, according to their own choice, picked up the kits from the "I Want To Know" Youth Centre at Vodno. The shift ended with the counsellor handing over the packaged kit to the delivery operator (or directly to the user). The email where the orders were arriving was regularly checked every morning. Initially, the shifts were deployed in HERA's Youth Centre at Vodno but were later operated from HERA's administrative office as well. Team members coordinated with one another, among other ways, by colour-coding the entries made in the common administrative records file.

According to the statements given by the team members, the Pilot Programme's Operational Protocol was consistently followed regarding the deadlines for replying (be it positively or negatively) to the application forms received through the web, as well as for delivering the package with the self-testing kit, within two business days. In fact, dispatching the kit, as a rule, happened on the same day when the reply was sent, that is, within 24 hours from the time of receiving the order, not counting the days of the weekends and holidays. Occasional exceptions were made in cases when the application form from the user lacked certain data necessary to dispatch the kit, such as the address or the telephone number, so the responsible counsellor had to make an additional contact with the user via email.

The telephone support for performing the home-based test was provided every business day in the period from Monday to Friday between 12 and 18 hrs, at a dedicated telephone number, in compliance with the Protocol.

The package included: a self-testing kit with instructions for use in English, packaged in the manufacturer's box; instructions for use of the rapid HIV test in Macedonian, containing a QR code leading to the video instructions for performing the test; telephone numbers of the support lines for performing the test and for the case the user receives a reactive result; a brochure with all relevant information about HIV self-testing; as well as 3 condoms and a lubricant.

Most of the team members agreed that the shift-based process proved to be rather complicated and that the work would be much more efficiently completed if all administrative operations related to providing the service would be carried out by a single person, instead of mutually coordinating the work of several persons across shifts.

Programme promotion

At the beginning of the Pilot Programme, the main promotion – considering the fact that it was targeting gay and bisexual men and other men who have sex with men – was exclusively carried out through advertising banners on the dating application *Grindr*, which is popular among the target population. Attempts were made to run advertisements on the *Romeo* social network, too, but their administrative office remained unresponsive to HERA's requests. There were also attempts to run advertisements on the *Tinder* network. Later on, the promotional banner was placed on HERA's website, in the fast links and as part of a post of 13th April 2022, in the "Newsfeed".

According to the reports from those responsible, it sometimes happened that the banner was clicked / opened almost 200 times in the course of a single month, and yet only few orders would be placed. The promotion intensified during the weekends. Since the demand for this service was not meeting the expectations, in February 2022 (4 month into the Pilot Programme) the so-called "focal-points" were introduced, which were persons from local organisations that promoted the service among their clients (in Ohrid, Bitola and Strumica), as well as on *Instagram* by a person influential among the target population. For this reasons, the Pilot Programme's duration was extended from the initially planned 6 months to 9 months overall. Moreover, around the mid-term of the Pilot Programme, by the end of April, a targeted promotion on *Facebook* was launched, focusing on men in general. The team also organised a number of promotional presentations with other organisations, and flyers were disseminated around the New Year's holidays in coffee shops, at events organised by HERA's youth groups (HERA Youth) and at trainings, as well as during the Pride Parade in June, although no visible turnout was seen from these actions. Nevertheless, team members believe there was no way to reliably establish the efficiency of the approach involving promotional representatives.

An increased number of orders was received in April and May, when the *Facebook* promotion was launched.

Communication with users

The clients eligible to receive an HIV testing kit were selected according to the following criteria, in compliance with the Operational Protocol:

- to have been assigned male sex at birth and to report practicing sexual intercourse with men, or
- to have been assigned male sex at birth and to identify as gay or bisexual men (even when they have not reported practicing sexual intercourse with men), or
- to have been assigned male sex at birth and to identify as transgender person.

According to the reports from the team that implemented the Pilot Programme, this approach was employed because of the great possibility that these persons, too, could in the future be exposed to a greater risk from HIV, as is epidemiologically defined for the MSM population in North Macedonia.

Clients typically left only their telephone numbers for contact (instead of address) – in many cases only the town and the telephone number were provided.

The clients who chose to personally pick up the kits from the Youth Centre usually called the telephone number dedicated to this purpose (the Centre's landline). There were cases when acquaintances came to pick up the kit on behalf of the user, as well as cases when users failed to show up to pick up their kits. The kit pick-up procedure was very short, and the clients typically asked for no additional information when picking up the kit.

A very few clients called the telephone number to seek assistance from HERA in performing the test. More frequent were the cases when the service providers from HERA had to call the clients in order to obtain details on the delivery address, in cases when some of this information was ambiguous.

All clients were reminded once via email to complete the user satisfaction questionnaire. Some 30 or more users were additionally called by telephone by a team member to be asked to complete the follow-up questionnaire, and this has really helped get replies from a greater number of persons. According to the team members' statements, there were no negative reactions from users regarding these calls.

Collating the follow-up with the baseline questionnaire was carried out with the help of the assigned code (specified on the kit, as well as in the initial confirmation email), or by the email addresses – in cases when the user could not remember their code.

Implementation and profile of cases with reactive results from the rapid test

The users that received a reactive result could call the dedicated telephone number operated by the social worker or psychologist from the HIV Centre of the Infectious Disease Clinic, which were engaged as part of the Pilot Programme's team. The open hours for this type of telephone support were any day between 08 and 18 hrs, except on weekends and holidays. However, some of the users who received reactive results called any of the other telephone numbers listed in the package materials – the telephone number of the support line for performing the test, and the telephone number of the Youth Centre which was provided for users who preferred to pick up their kits from there.

In the course of the Pilot Programme, the Operational Team registered two users who have received reactive results to their rapid tests, and they were connected with the Infectious Disease Clinic, where confirmatory tests were performed, and the HIV infection diagnosis was established.

Moreover, another user, who had picked up their kit from the Youth Centre, called the Centre to report that they have received a reactive result, and then saw a private laboratory and reported that the test there returned negative. In mutual consultation, the team decided to give this user another kit, which the user came to pick up, but never called back. The team believe that the second rapid test was probably reactive, too, and that it is possible that this person refused to communicate further for exactly this reason, because, if the second test returned negative, they would probably had no issues calling back and confirming once more that the original test had returned a false result.

The two confirmed cases started their therapy soon after entering the HIV-related healthcare system.

Table 5:

Newly diagnosed HIV cases among men who have sex with men and reported reactive tests within the Pilot Programme

VARIABLE	FREQUENCY	PERCENTAGE
Newly diagnosed HIV cases among men who have sex with men	2	1.68%
Reported reactive tests	3	2.5%

None of these 3 users called the number specified for support in case of reactive results: 2 of them called the support line for performing the test, and 1 of them called the Youth Centre – with which they had already communicated when picking up the kit. Because of the significance of these three cases to properly evaluate the Pilot Programme’s success, they were looked into greater detail during the interviews.

The first case of a user reporting a positive result from the rapid test happened in the period of March and April. This user was a young one, from a rural area, and the self-testing service was the first HIV test they have had in their life. They learned about the service from the promotional representative engaged in their region. After performing the test, the client called HERA and sent a photo from the test result, so as to make sure, because they suspected the credibility of the result. However, they initially refused to call the telephone number dedicated to supporting the clients with positive results, which was listed in the test kit material, and they reported that they were going to seek medical care in another country. In the meantime, a team member called them once, unimposingly, as it had been agreed before that they stay in touch. After a while, they did call the specified telephone number, when the responsible team member provided them with an extensive and comprehensive telephone counselling. According to the service provider’s impressions, the user was initially in great panic, and the conversation ended without them deciding to access the HIV-related healthcare system, even though they reported that they will give the whole situation another thought. Some two months later, the client reported directly to the Infectious Disease Clinic – however, without calling the support line. In communication between the Infectious Disease Clinic and the Operational Team, and based on the person’s own statement, it was confirmed that this was the same person of telephone counselling described above.

In the second case, the user picked up their kit personally from the Youth Centre at Vodno. According to the responses in the baseline questionnaire, they had never had an HIV test before. After receiving the positive result to their HIV test, they sent a photo to the responsible team member in the Youth Centre at Vodno (from where they had picked up the kit) – for the purposes of verification. The line on the test had shown up to one-third, from left to right. The user then reported visiting a private laboratory and that “everything was all right”. Several days later, they called again HERA’s Youth Centre and asked to be given another rapid test, as they wanted to make sure. After mutual consultation, the team decided to give this user another rapid test kit, which the client picked up personally, but then never called either HERA or the HIV Centre of the Infectious Disease Clinic, so that the team are currently not aware whether HIV infection diagnosis was established in this case.

In the third case, the user who had received a reactive result initially consulted the promotional representative engaged to promote the self-testing service, from whom it had learned about the test in the first place, and did not immediately call the number specified for information and support. The user first decided to perform another test in a private laboratory, where the test returned negative (according to the information given later by the user and the promotional representative, who accompanied the user during all these procedures, the private laboratory had performed a combined antibody / antigen test from vein blood). The person was later motivated to call the HIV Centre of the Infectious Disease Clinic, where the HIV diagnosis was confirmed in compliance with the applicable procedures. The social worker is under impression that the user has experienced a certain level of confusion, and was distrustful of the oral test, and the initial communication was conducted with mediation from the promotional representative, who is an activist from the target population and a person of confidence for the user.

Proposals on how to improve the service

The team members believe that the service should be made more widely available, including to the general population, so as to reach out more easily to various categories of people that might be at risk from HIV, including men who have sex with men which form no part of any identified LGBT community. In this context, one of the team members said that, over the recent years,

the Infectious Disease Clinic has diagnosed a large number of men who have sex with men that had issues discussing their sexual behaviour. Moreover, one of the team members reported, based on their own experience, that there are men who very sporadically have sex with men, and they are hard to be reached through the civil society organisations' facilities. To this end, variety of approaches can be used, including promotional representatives, web-based promotion, availability in other organisations, as well as the possibility to pick up a test kit without leaving any information. Team members agreed that maybe there should be no mandatory questionnaires and barriers, rather, it should be possible for the test to be performed by anyone who thinks they should do it. They think it is sufficient to only keep records of the used tests, and the kits should include very prominent information on how to contact the Clinic. Also, it is important to make the home-based tests available in pharmacies, too.

An opinion was shared that maybe the service should be more proactively offered to users of other services in HERA's Youth Centres, that is, to inform the users that such a service is offered. This information could be visually displayed, on a poster or a leaflet, in the Centres' waiting rooms. Another mode could include giving instructions to the Centres' dermatologist, with whom the clients are usually very open, to disseminate this information more actively, maybe with the help of an informative leaflet which could be distributed more frequently. However, attention must be paid not to make the information dissemination too imposing.

It is very important – the team members believe – that the clients should receive the important information when their test returns positive result. This could also be achieved with the help of a video message, in case the support provider is not available at a given time – for example, outside the work hours of the HIV Centre, which is every business day between 07:30 and 14:30 hrs.

A team member added that they do not believe that HIV self-testing can bring extremely negative consequences, for example, suicide, because the client who has made a decision on their own to get tested for HIV is probably far more prepared to face the positive result than a patient who learns about the diagnosis completely unprepared when using some other services in a health facility.

One of the team members pointed out that the information materials provided to users include too many telephone numbers, which may prove confusing to them.

5 DISCUSSION

The overall goal of the Web-based HIV Self-testing Pilot Programmewasto obtain a better understanding of acceptability of the testing approach involving rapid oral tests to men who have sex with men. The results from the analysis confirmed the findings of the Research into the Attitudes, Acceptability and the Required Information concerning self-testing conducted by HERA in 2019 among the same target group, in respect of acceptability of the oral test. [15]

Profile of service users

Regarding the profile of the persons who have used the service, it is important to point out that the service proved to be popular among the younger members of the target group, with as many as half of the users (49.58%) being under 29 years of age, and as many as 83.19% of the users being under 39 years of age (only 16.81% of the users were aged 40 or above). The service user group is dominated by persons that identify as members of the LGBT community (more specifically: gay, bisexual, and transgender); with an impressive share of persons identifying as bisexuals – 42.02% (in addition to the 52.10% that identify as gay); and with only a small share (5.04%) that identify as heterosexuals.

The service usage rate is dominant in the capital, as 56.3% of the users come from the capital; however, equally significant is the share of persons coming from other parts of the country, which are likely to have the potential to increase the usage rate

after a longer, continuous promotion. The fact that several towns slightly stand out with a greater number of orders is related to the fact that it is exactly in these towns where promotional representatives were engaged. Hence, this approach could be extended and expanded, at least for a certain period of time that is required for the service to become more popular and mainstreamed – at least among the key populations affected by HIV.

The share of persons from minority communities that have used the self-testing service is relatively small (10.92% Albanians and 4.2% Roma, in contrast to 78.15% ethnic Macedonians). Therefore, for the future provision of the web-based HIV self-testing, it will be important to invest in a targeted promotion among non-majority communities, including in Albanian language or in other languages.

Coverage of the target population with HIV testing

According to the number of tests performed, it cannot be said that the HIV self-testing as part of this Pilot Programme has significantly increased the total number of HIV testing in men who have sex with men. The total volume of testing of this population performed by the civil sector in 2021 was 818 [10], while in the course of the 9-month duration of the Pilot Programme, a total of 119 tests were performed. If adjusted to an equal time period, the ratio between the tests performed through self-testing and those performed in other civil society organisations' service facilities is 1 : 5, drawing the conclusion that the self-testing has increased the number of HIV tests performed in the population of men who have sex with men by some 20%. However, these comparisons should only be taken as an orientation. The country maintains no records, nor there exist any estimations, as to how many of the members of the population of men who have sex with men get tested for HIV outside the civil society organisations' service facilities, so as to be able to assess the real contribution of self-testing to increasing the total number of HIV testing in this population.

However, the introduction of the self-testing service focused on the key populations affected by HIV in North Macedonia undoubtedly represents a significant addition to the national HIV response, if we consider that, for as many as 41.2% of the users, this was the first ever HIV test in their lives. In comparison, in a similar pilot programme in Georgia implemented in the first

half of 2020, the share of users from the population of men who have sex with men for whom the self-testing was their first ever HIV test stood at 17% – with a three times greater total coverage (n = 371). [17] Another study, in Africa, showed that the share of persons that have done the HIV test for the first time in their lives through self-testing ranged between 20% and 30%. This indicates that the self-testing service has the potential to significantly increase the coverage of persons from the affected populations who have never been tested for HIV before. [18]

For two-thirds of the users, HIV self-testing was at the same time their first HIV testing service received from a civil society organisation (9.24% had been tested for HIV in a public health facility, and another 11.78% in a private laboratory).

These findings are in line with the findings from the global qualitative comprehensive overview of the experiences in using and in organising the HIV self-testing that, generally taken, self-testing can increase the capacity of reaching out to the priority populations and can expand the opportunities for service provision. Thereby, home-based self-testing was preferred before institutional testing on account of its comfort and confidentiality, particularly among the stigmatised populations. [18]

Detected HIV-positive cases

The share of reported reactive results within this Pilot Programme is significant, standing at 2.5% (3 cases), while the share of the later confirmed HIV diagnoses was 1.68% (2 cases). The importance of this result could be illustrated if we compare the share of positive HIV tests performed in the public health centres in the course of 2021, which is only 0.01%, that is, only 1 positive result was reported from the 8,929 tests performed. [10] This demonstrates that the targeted approach applied in this Pilot Programme was appropriate and yielded results. The Self-testing Pilot Programme with the specified 1.68% positivity shows greater success in detecting new HIV cases, even in comparison to the regular HIV testing of the population of men who have sex with men implemented by the civil society organisations, where the share of positivity in 2021 was 1.1%.

It is somewhat concerning that 1 of the 3 users who have received reactive results within the Pilot Programme did not report for confirmatory test in the Infectious Disease Clinic – at least according to the information available

to the Pilot Programme’s Operational Team. If this case truly involved an HIV infection, it is possible that this person has remained outside the healthcare system.³ However, taking into account that this user, who was aged between 40 and 49, has never before been tested for HIV, it could be assumed that for persons of this category, which are anyway outside the treatment system, it is better to have the opportunity to face the information about their HIV status, rather than be unaware of it.

Two persons have reported that the tests returned false results, with both of them receiving a reactive result (these are the 2 out of 3 reported reactive results). One of them was a person whose result was later confirmed as positive at the Infectious Disease Clinic, so it is hard to assess whether there was indeed any sort of error. In the second case, the user reported that a dot (instead of a full line) appeared next to “T”. However, on the photo sent by the user to the member of the Operational Team, it can be distinguished that this was sooner the beginning of the “T” line, which has not yet fully formed. The Operational Team considers this type of result to be reactive, although, unfortunately, there is no information whether the test was confirmed through the applicable protocol.

Statements of user satisfaction with the service

A dominant majority of users (100 persons) preferred to receive the self-testing kit by delivery service, with only 19 users choosing to personally pick up the tests from the “I Want To Know” Youth Centre at Vodno, which probably is due to the comfort and confidentiality – aspects that were particularly emphasised by the respondents as reasons for their satisfaction with the service.

With 98.67% of the users who have answered the satisfaction-related question in their follow-up questionnaire – and have declared to be very (94.59%) to somewhat (4.05%) satisfied – with as many people willing to recommend the test to others, the method in which the service was designed and delivered by HERA was hugely responsive to the needs of the users. This is cou-

³ It is possible that this person has performed follow-up tests in another health facility or laboratory, and in the case of a positive result, to have nevertheless reported to the Infectious Disease Clinic, without sharing that the initial information about their status was obtained through the rapid test. Moreover, there is also the possibility that this person has sought treatment in another country.

pled with the fact that 96% of users who answered the corresponding question reported that they have fully received the necessary information about the test from the materials (i.e. how to perform the test, how to proceed if the test is positive or negative, and where to seek further support).

In contrast to the findings from the 2019 Research into the Attitudes, Acceptability and the Required Information, when as many as 27% of the respondents specified that it is important to them to have a trained person to support them when performing the test (oral or blood), and 33.3% that it is important to them to have the possibility to be informed about the HIV test from a trained person / professional before getting tested, [15] in this Pilot Programme 90.79% of the users who answered the corresponding question (n = 76) stated that they did not feel the need to call the support line when performing the test, and that everything was clear to them. The remaining 9.21% reported that they have called the line and have received full support.

To the open question as to the reasons for their satisfaction, the most frequently mentioned ones included: the speed with which the results were returned (49.33%, n = 37); discretion, or anonymity (42.67%, n = 32); and the simplicity of using the test, including the fact that the method of performing the test was well explained (38.67%, n = 29). To a lesser, yet significant extent (29.33%, n = 22), the aspects of practicality / comfort were mentioned – the fact that the test is home-based and it does not require going anywhere or travelling to another town, nor being tied to a scheduled appointment. Emphasising the confidentiality so highly is in line with the findings from other similar research, including the 2019 Research into the Attitudes, Acceptability and the Required Information. Confidentiality and comfort of the HIV self-testing, in contrast to institutional testing, were also indicated by majority of persons who have performed the HIV self-testing worldwide. [18]

It is interesting that only one person mentioned the test being free of charge as a reason for their satisfaction, and this may contribute to the fact that the benefits from the self-testing would be attractive for the potential users even when they would have to pay a certain price for the kit in the pharmacy.

To the question whether they have a proposal for how to improve the home-based rapid HIV test, there were no other significant responses, except the ones referring to the need for greater availability and promotion (which is commented below).

Only one user reported a full dissatisfaction with the service in the follow-up questionnaire, and the reason they had specified this is that the test was *not accurate*. However, this is in fact the case of one of the reactive results that

were later confirmed. Two more users specified reasons for dissatisfaction, with one of them stating that the result was *unreliable*. This case concerns a user that has received a reactive result with incompletely formed line in the “T” field, for which the Operational Team has not received further feedback as to whether the HIV diagnosis was confirmed or rejected. Another user complained that the test *was supposed to arrive in two business days, but it has in fact arrived in one week*, in respect of which, a member of the Operational Team explained that, in fact, the delivery service could not immediately reach the user at the telephone number they had left.

In contrast to the 2019 Research into the Attitudes, Acceptability and the Required Information, where the major concern related to performing an HIV test for majority of respondents (41.3%) was the perceived uncertainty as to result accuracy, [15] in this Pilot Programme no indications of such concern were found – of course, among the ones who chose to get tested for HIV in this way.

Concerning the socially undesirable consequences for the persons who have received a reactive test result, one of the two person whose HIV diagnosis was later confirmed, reported having self-harming and suicidal thoughts after receiving the reactive result from the rapid test. Similar answer was specified by another user, but they reported that their test was negative, so this case probably concerns a manifestation of fear related to HIV self-testing and the thought that receiving a positive result is a possibility. In any case, in compliance with the global experiences, this feeling of fear in some of the users should not become a barrier for continuing the provision of this service, making sure there is an appropriate system of support.

Promotion of the self-testing service

Social media have contributed the most for disseminating the information about the web-based self-testing – with 63.64% of those who answered the corresponding question in the satisfaction questionnaire, and a smaller contribution from civil society organisations, friends or other ways of information. However, the Operational Team believe that, with only 119 orders from the target group for a period of 9 months, the demand was not satisfactory. This may be due to the fact that the service was recently introduced, and to the low perception of being affected by HIV among the target population, [2] or the prevailing HIV-related prejudices. Considering the test demand challenges, the Pilot Programme was extended from the planned

6 to 9 months, and various methods were employed to promote the service, including engaging persons from the community.

Despite the relatively low turnout in the course of the Pilot Programme, it seems that the social media should remain one of the major promotion channels; however, other approaches for making the service popular should also be considered. The demand for the HIV self-testing could increase also through public awareness raising activities for HIV affectedness, especially in gay and bisexual men and transgender persons. On the other hand, the service itself should not be labelled as something that is intended exclusively or primarily for this target group. A widespread promotion of the service could also contribute to reaching out to the undiagnosed people living with HIV that do not identify as part of the LGBT community, and even persons who are not part of the population of men who have sex with men. In this sense, members of the Operational Team, and some of the respondents in the Pilot Programme (n = 9) agree with the opinion that the service should be available more widely, including for the general population, too,

While the team believe that approaches involving promotional representative and availability of the kits in other organisations could be employed (in addition to the regular web-based promotion), a smaller share of users have specified the following approaches: selling the tests in pharmacies at affordable prices; availability at particular sites, e.g. stations at LGBT parties; or through the general practitioners. Several users also mentioned the need for a greater media coverage; presentations in high schools and universities, youth organisations, sports clubs and other places frequented by young people; as well as disseminating self-testing flyers among the younger MSM population. From the specified approaches, the largest support was given to the availability of self-testing kits in pharmacies, based on the 2019 Research into the Attitudes, Acceptability and the Required Information, with 77.8% of the respondents replying in this direction.

Here we should also take into account the opinion of the Operational Team that the test should be made available to those interested without them having to leave personal information. What could be emphasised even more in the self-testing kit is the information on how to establish the contact with the Infectious Disease Clinic.

The self-testing service could be offered more proactively in HERA's Youth Centres, as well as in the facilities of other civil society organisations – for example, those working on HIV prevention and those working on issues relevant to the LGBTI community – through a poster or a flyer or other forms

of active information dissemination by providers of other services. Over time, the number of interested persons who have learned about the service from their friends can be expected to grow.

Improving the method of service provision

The high level of user satisfaction, as well as the findings of the members of the Operational Team, speak in favour of the assessment that the method of delivery of the web-based HIV self-testing service was well designed. The team has identified possible improvements; however, they bear no essential importance for the quality of the service; rather, these proposals primarily refer to how to increase the efficiency of the team's work. Namely, most of the team members agreed that the process of organising the work in shifts run by several different persons proved to be rather complicated and that the work would be much more efficiently completed if the entire administrative work related to providing the service would be carried out by a single person.

The Operational Protocol was followed and, except for a single complaint about the late delivery of the test, evaluation results do not indicate any derogations – especially not of such kind that could have a negative impact on the quality of the service. Regarding the complaint of one of the users that the delivery of the self-testing kit was late, the team members explained that the reason for this was, in fact, the lack of information provided by the user when ordering the test to process the delivery.

Based on the comment by one member of the Operational Team, it should be re-examined whether it is really necessary to specify three different telephone numbers in the self-testing kit materials or it is rather confusing, and hence, whether the contact-details for obtaining support can be organised in a different way.

6 CONCLUSION

The Web-based HIV Self-testing Pilot Programme focused on men who have sex with men and transgender people has accomplished its objectives by reaffirming the exceptionally high level of acceptability of this service among the target group. Even though the initial interest in the service was not particularly high in absolute numbers, it is particularly important that this programme managed to reach out to a significant share of persons that have never been tested for HIV before. Considering the high level of user satisfaction, it may be expected that this model of providing the service will stimulate the other users from the target group, too, to get tested more frequently – which is justified considering their greater exposure to risk. The Self-testing Pilot Programme proved to be particularly successful in identifying the undiagnosed people living with HIV, which becomes particularly prominent if the results are compared to other HIV testing services in the country. The findings from this evaluation indicate that this approach in HIV testing services has the potential to make an even greater contribution to the national HIV response, above all by addressing the major gap – the high share of people living with HIV that are not aware of their HIV status. Therefore, web-based HIV self-testing services need to be given priority in and receive funding from the national HIV programmes. In addition to this approach, HIV self-testing needs to be made available in other ways as well, including the possibility to be obtained privately in pharmacies.

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