

Report

Project "HIV/HCV Co-infections Management: Scaling up Access to HCV Diagnostic and Treatment for HIV/HCV Coinfected KPs"

(2019 – 2020)

**Program of the Global Fund to Fight AIDS, Tuberculosis and Malaria
NFM2 2018-2020**

Kyiv 2021



Alliance
for Public Health

List of abbreviations

AIDS – acquired immunodeficiency syndrome
DAAs – direct-acting antivirals
GF – The Global Fund to Fight AIDS, Tuberculosis and Malaria
HBV – hepatitis B virus
HCF – health care facility
HCV – hepatitis C virus
HIV – human immunodeficiency virus
MoH – Ministry of Health
MSM – men who have sex with men
NAT – nucleic acid test
NGO – non-governmental organization
OST – opioid substitution treatment
PCR – polymerase chain reaction
PLWH – people living with HIV
PPE – personal protection equipment
PWID – people who inject drugs
RNA - ribonucleic acid
SCESU – State Criminal-Executive Service of Ukraine
SW – sex workers
WHO – World Health Organization
COVID-19 – Coronavirus disease 2019

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1. Background of hepatitis C treatment project implementation in 2020

International Charitable Foundation “Alliance for Public Health” (hereinafter – “APH”) is a leading professional non-governmental organization, which in cooperation with government partners and civil society organizations effectively fights the epidemics of HIV/AIDS, tuberculosis, viral hepatitis and other communicable diseases by providing financial and technical support to relevant programs.

In 2015-2018, hepatitis C treatment, using 12- and 24-week regimens of direct-acting antivirals, replacing interferon regimens, was introduced in Ukraine with the assistance and direct engagement of the APH within the project “Scaling up Accessible and Effective HCV Treatment Through a Community-Based Treatment Model for Most Vulnerable Populations in Resource-Constrained Ukraine.” Experience in implementing the new community-based treatment model, commitment of medical staff and professional skills of social workers for the first time in Ukraine allowed achieving 99% retention rate and 98% treatment success rate. This mentioned laid the foundation for the successful launch of the Global Fund project to provide a comprehensive package of services for community-based HCV treatment among PWID and prisoners PLWH in 2019-2020.

In 2019, Alliance made a management decision to use 2018-2020 GF program savings beyond the planned interventions to ensure the sustainability of its HCV treatment program in order to further scale up the access to community-based HCV treatment for patients from the key populations with HIV/HCV co-infection. Based on the successful bidding results, APH was able to get the lowest price for pangenotypic direct antivirals from the leading generic manufacturers, which allowed purchasing 3,740 twelve-week courses of HCV treatment instead of the planned 1,000 courses agreed with the GF.

APH was the first in Ukraine to launch the routine use of pangenotypic treatment regimens, which made it possible to implement simplified HCV diagnostics, which does not require genotyping in accordance with the WHO Guidelines 2018, testing HCV RNA before treatment initiation and 12 weeks after treatment completion using NAT PCR for qualitative or quantitative detection of HCV RNA.

Confirmatory and final diagnostics (to control the effectiveness of HCV treatment 12 weeks after treatment completion) was covered from the project budget depending on the capacity of the HCF's laboratories:

- using the consumables for GeneXpert and Abbot machines – APH procured and supplied consumables to the HCFs that had the required equipment;
- running the tests in the regional MoH laboratory centers – APH ordered and purchased the service "PCR. HCV RNA. Qualitative test";
- running the tests in private laboratories – APH ordered and purchased the service "PCR HCV RNA. Qualitative test."

Additionally, at the request of the State Criminal-Executive Service of Ukraine (SCESU), APH provided HCV diagnosis services to 250 HIV/HCV co-infected prisoners, who received DAAs purchased from the state budget by the SCESU in 2019. In 2020, SCESU received 27,500 rapid HCV tests from APH to screen imprisoned PLWH for HCV as well as PPE (medical gloves, masks and disinfectants) to implement activities during the COVID-19 pandemic.

Before the project start, guidelines were developed, which were aimed, firstly, at informing doctors about the general principles of HCV treatment with pangenotypic regimens and the principle of simplified HCV diagnosis, and secondly, at presenting the framework and tasks for social workers' engagement in multidisciplinary teams. These issues were highlighted at the training for doctors and case managers, who learned about the patient enrollment conditions, principles and scope of laboratory diagnosis and treatment of HCV, keeping the record of drugs, the key tasks of case managers, etc.

Reporting on monitoring and evaluation of the treatment effectiveness was organized electronically. For this purpose, APH developed reporting forms, which doctors/nurses and case managers used to enter information on the receipt, use and stock of drugs supplied by APH within the project as well as data on the project patients. Patient information was recorded in a depersonalized format (with a personal data coding system used). The completed forms were e-mailed to APH.

Information on case management in the process of treatment was also collected within the project. For this purpose, case managers entered information in the personal client charts. Scanned copies of completed charts were e-mailed to APH.

APH staff members maintained patient's data register and analyzed the cohort data.

2. Project geography

In 2020, the project covered all the regions of Ukraine, including Luhansk and Donetsk regions. It was the first year when western regions – Volyn, Chernivtsi, Ternopil, Zakarpattia – joined the project. In addition to 28 civil health care facilities, the project also covered 38 health facilities in the penitentiary sector (Fig. 1, Table 1).

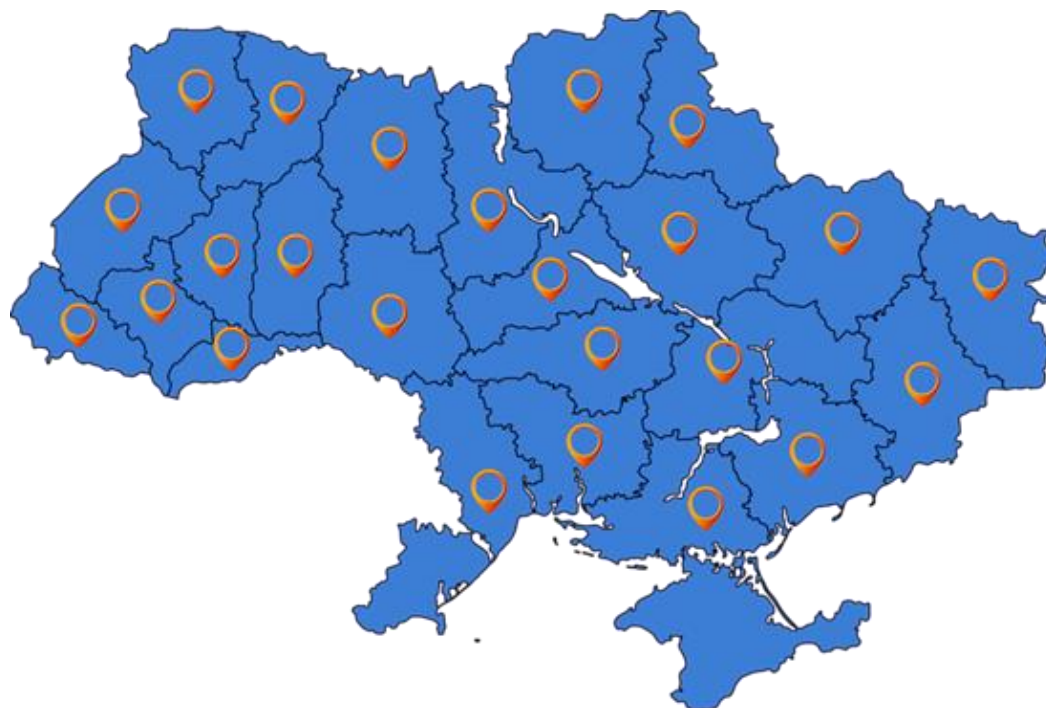


Fig.1. Geography of hepatitis C treatment project in 2020

Region	Health care facility
Vinnitsia region	Vinnitsia Regional AIDS Center
Volyn region	Volyn Regional AIDS Center
Dnipropetrovsk region	Dnipropetrovsk Regional Center of Socially Significant Diseases
Dnipropetrovsk region	Kryvyi Rih AIDS Center
Donetsk region	Donetsk Regional AIDS Center
Donetsk region	Mariupol City Clinical Hospital No. 4 named after I.K. Matsuk
Zhytomyr region	Regional Specialized Medical Center
Zakarpattia region	Regional Public Health Center
Zaporizhzhia region	Zaporizhzhia Regional AIDS Center
Zaporizhzhia region	Melitopol AIDS Center
Ivano-Frankivsk region	Ivano-Frankivsk Regional Clinical Infectious Disease Hospital
National level	L.V. Gromashevsky Institute of Epidemiology and Infectious Diseases

Kyiv city	Kyiv City Clinical Hospital No. 5
Kyiv region	Kyiv Regional Public Health Center
Kirovohrad region	Kirovohrad Regional AIDS Center
Luhansk region	Luhansk Regional Center of Socially Dangerous Infectious Diseases
Lviv region	Lviv Regional Public Health Center
Poltava region	Poltava Regional AIDS Center
Odesa region	Odesa Regional Center of Socially Significant Diseases
Rivne region	Regional Public Health Center
Sumy region	Z.Y. Krasovytskyi Sumy Regional Infectious Disease Clinical Hospital
Ternopil region	Ternopil Regional Center of Socially Significant Diseases
Kharkiv region	Kharkiv Regional AIDS Center
Kherson region	Kherson Regional AIDS Center
Khmelnyskyi region	Khmelnyskyi Regional AIDS Center
Cherkasy region	Cherkasy Regional Public Health Center
Chernivtsi region	Chernivtsi Regional AIDS Center
Chernihiv region	Chernihiv Regional Center of Socially Significant Diseases
SCESU	38 treatment sites in different regions of Ukraine

Table 1. List of regions and HCFs covered by the project

3. Patient enrollment criteria

Patients were enrolled in the project if they met the criteria of having an HIV/HCV co-infection and belonging to one of the key populations (Fig. 2):

- PWID (active, in remission, OST program clients)
- Partners of PWID
- SW
- MSM
- Prisoners

Patients from the above-mentioned key populations with HIV/HCV co-infection with no previous experience of hepatitis C treatment with DAAs aged 18 years or older could be enrolled in the project.

The following patients were not eligible:

- not belonging to one of the key populations or not living with HIV;
- with a previous experience of HCV treatment using any DAA;
- who had allergies or high sensitivities to any components of the drugs used for HCV treatment;
- pregnant or breastfeeding;
- with active tuberculosis;
- who had decompensated liver cirrhosis with Child-Pugh class B or C score;

- who had renal impairment with a decrease in the estimated glomerular filtration rate (eGFR) <math><30 \text{ ml/min/1.73 m}^2</math> or renal failure with the use of dialysis.

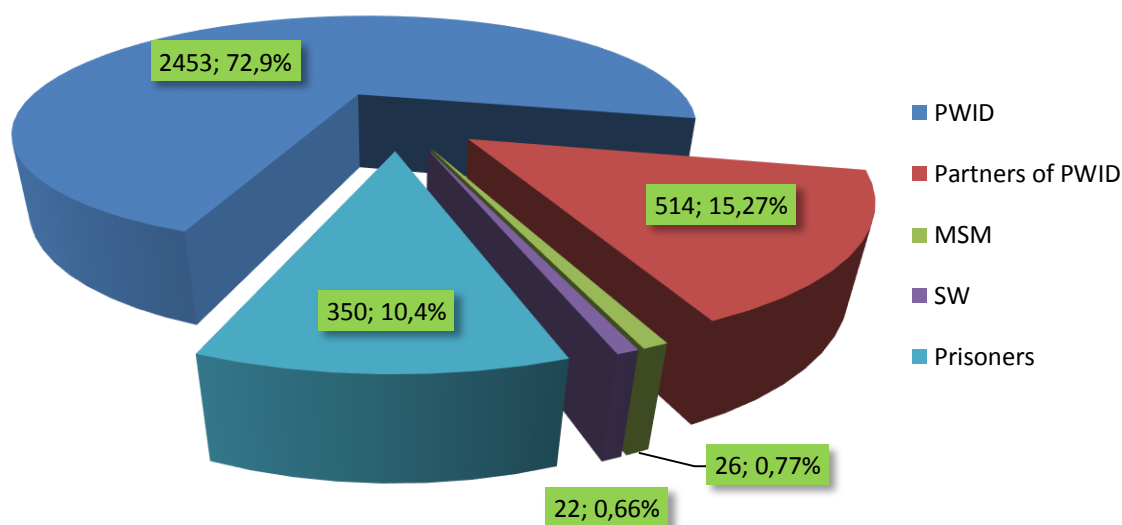


Figure 2. Breakdown of 2020 cohort by KPs

4. Laboratory component

Project implementation consisted of two stages: 2019 and 2020. During the first stage, GeneXpert cartridges for HCV diagnosis were procured for the HCFs, where the laboratories had GeneXpert machines. As for those HCFs, which did not have any laboratory equipment for PCR diagnosis of HCV, APH together with the Public Health Center of the Ministry of Health of Ukraine developed a framework for such HCFs to cooperate with the laboratory centers of the Ministry of Health of Ukraine (MoH laboratory centers).

After the scope and the price of the laboratory service "PCR. HCV RNA" was agreed, 12 regional MoH laboratory centers gave their preliminary consent to cooperate within such a framework. Later, most of them were not ready to participate in the project due to a number of reasons: unwillingness to run small number of tests, no budget to purchase laboratory supplies or calibrate the equipment, broken or obsolete machines, etc. Another reason was the lack of interest in such cooperation from the side of HCFs. They explained it with the lack of medical staff in the MoH laboratory centers to collect blood samples, long distance for transporting blood samples collected in HCFs, and uncertainty in the assay results due to the lack of previous experience.

After negotiations, four MoH laboratory centers joined the project in Lutsk, Kropyvnytskyi, Chernivtsi and Ternopil.

The experience of the first stage of project implementation revealed the following bottlenecks in working with the MoH laboratory centers:

- Blood samples had to be transported to the laboratory center
- There was a need to comply with the multiplicity coefficient for single-batch tests (22 blood samples per one round)
- Funds for transporting the materials from HCFs were lacking

- Some blood samples were damaged, so it was necessary to find patients to re-take their blood samples and transport the samples to the laboratories for the second time
- For the HCFs with 20-30-40 patients receiving treatment, the multiplicity coefficient for laboratory consumables was not acceptable
- Project staff was overloaded with the laboratory logistics.

Considering such an experience, in the second stage of the project implementation a decision was made not to further work with the MoH laboratory centers; instead, it was decided to ensure HCV diagnostics by supplying GeneXpert and Abbott cartridges to the local HCFs with appropriate diagnostic equipment or to sign agreements with private laboratories in the regions where HCFs did not have the required laboratory equipment to run the PCR HCV RNA tests. Cooperation with the MoH laboratory center was continued only in Lutsk.

Gromashevsky Institute of Epidemiology and Infectious Diseases	Abbot
Dnipropetrovsk Regional Center of Socially Significant Diseases	Abbot
Poltava Regional AIDS Center	Abbot
Cherkasy Regional Public Health Center	Abbot
Kyiv City Clinical Hospital No. 5	Abbot
Kryvyi Rih AIDS Center	Private laboratory
Kharkiv Regional AIDS Center	Private laboratory
Kherson Regional AIDS Center	Private laboratory
Lviv Regional Public Health Center	Private laboratory
Kirovohrad Regional AIDS Center	MoH laboratory center Private laboratory
Zhytomyr Regional Specialized Medical Center	Private laboratory
Z.Y. Krasovytskyi Sumy Regional Infectious Disease Clinical Hospital	Private laboratory
Chernivtsi Regional AIDS Center	MoH laboratory center Private laboratory
Ternopil Regional Center of Socially Significant Diseases	MoH laboratory center Private laboratory
Zakarpattia Regional Public Health Center	Private laboratory
Mariupol City Clinical Hospital No. 4	Private laboratory
Luhans'k Regional Center of Socially Significant Diseases	Private laboratory
Kharkiv Regional AIDS Center	Private laboratory
Zaporizhzhia Regional AIDS Center	GeneXpert
Rivne Regional Public Health Center	GeneXpert

SCESU	GeneXpert
Donetsk Regional AIDS Center	GeneXpert
Kyiv Regional Public Health Center	GeneXpert
Khmelnyskyi Regional AIDS Center	GeneXpert
Odesa Regional Center of Socially Significant Diseases	GeneXpert
Ivano-Frankivsk Regional Clinical Infectious Disease Hospital	GeneXpert
Chernihiv Regional Center of Socially Significant Diseases	GeneXpert
Vinnitsya Regional AIDS Center	GeneXpert
Volyn Regional AIDS Center	MoH laboratory center

Table 2. HCV diagnosis in HCFs – Abbot and GeneXpert consumables were purchased and delivered to the HCFs by APH

5. Case management

In 2020, case managers provided informational, psychological, social and practical support to project clients based on the individual case management plans. Thus, they offered clarifications and consultations to patients/participants (potential participants) of the project on the possibility to receive treatment, referred patients with positive rapid test results to HCFs for confirmatory HCV diagnostics, provided counseling, psychological and practical assistance in the course of treatment, helped patients to build and maintain adherence to treatment, referred them to medical professionals at the first signs of possible complications, monitored the dates of subsequent doctor appointments and made sure that patients/project participants received their drugs. Case managers provided consultations and monitored the use of prescribed drugs, informed doctors and/or nurses about any possible violations, advised patients on the drug safety as well as organized sessions on HCV re-infection prevention and so on.

The results-based funding tool was used to reimburse case manager for the services they provided. The rates for case management were set per patient for a 12-week treatment course and per patient for a 24-week treatment course. The total reward was divided into 4 payments (for patients receiving 12-week courses) and into 7 payments (for patients receiving 24-week courses). Reimbursement was paid only after the indicators were performed. Remuneration was paid for each patient in line the case managers' tasks and responsibilities defined in the Project Guidelines. Every month, case managers submitted their electronic reports on the performance of indicators, specifying the number of patients who were enrolled, registered and retained in care, completed or interrupted their treatment; they also reported on each of the three sessions on HCV re-infection risks as well as any other activities implemented.

6. Key achievements

In the first quarter of 2020, 1,105 patients were enrolled in the program and started their treatment, which exceeded the number of patients planned for the year of 2020. Despite the significant obstacles due to the first and second COVID 19 lockdowns, critically affecting the enrolment of patients in Quarter 2 and Quarter 4, the total 2020 cohort was 3,365 patients, which was 336% more than the number of patients planned for 2020. During the first lockdown

(March 12, 2020 – May 22, 2020), 262 patients were enrolled in the program, while during the second one (October 14, 2020 – December 13, 2020) – 263 patients (Fig. 3).

In 2019, APH purchased 3,740 twelve-week HCV treatment courses and in 2020 delivered them to 28 civil health care facilities and to 38 sites in the penitentiary system, allowing 3,365 patients to access treatment. Except for two patients in the penitentiary sector, who were treated with sof+dac+rbv (12 weeks), all patients received treatment with sof+dac 12- or 24-weeks courses (Fig. 4).

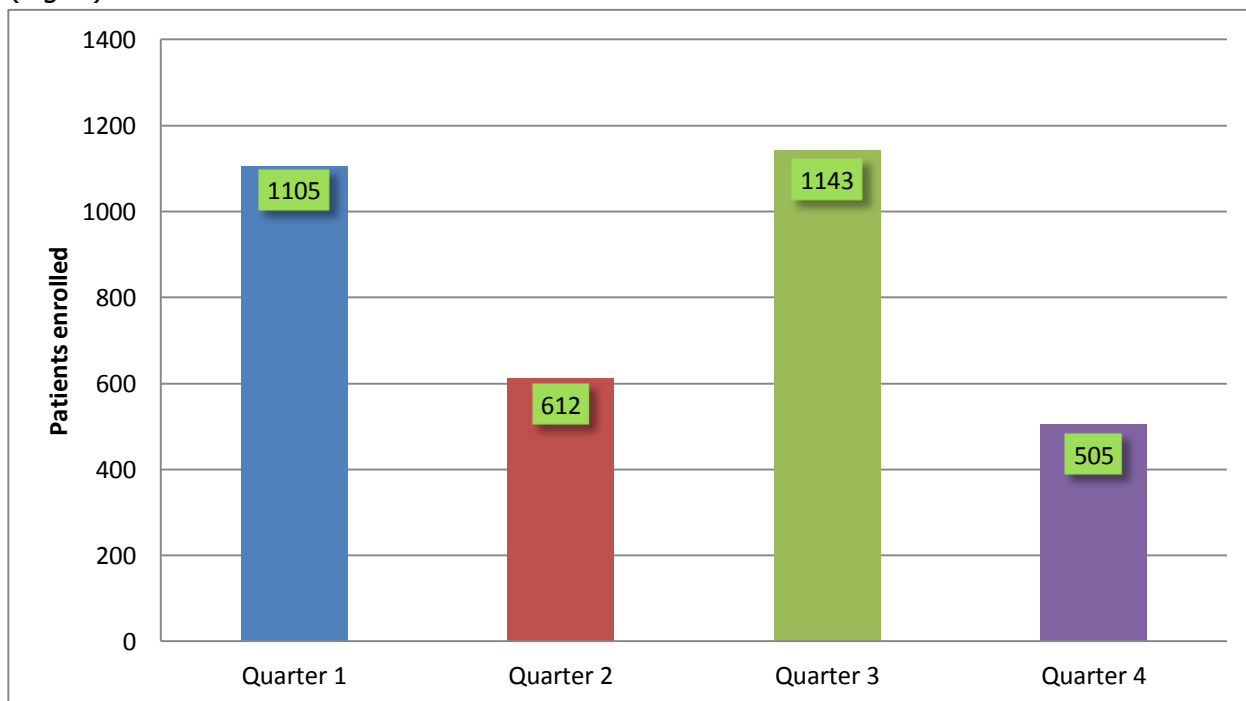


Fig. 3. Patient enrollment rates in Q1-Q4 2020 (N = 3,365)

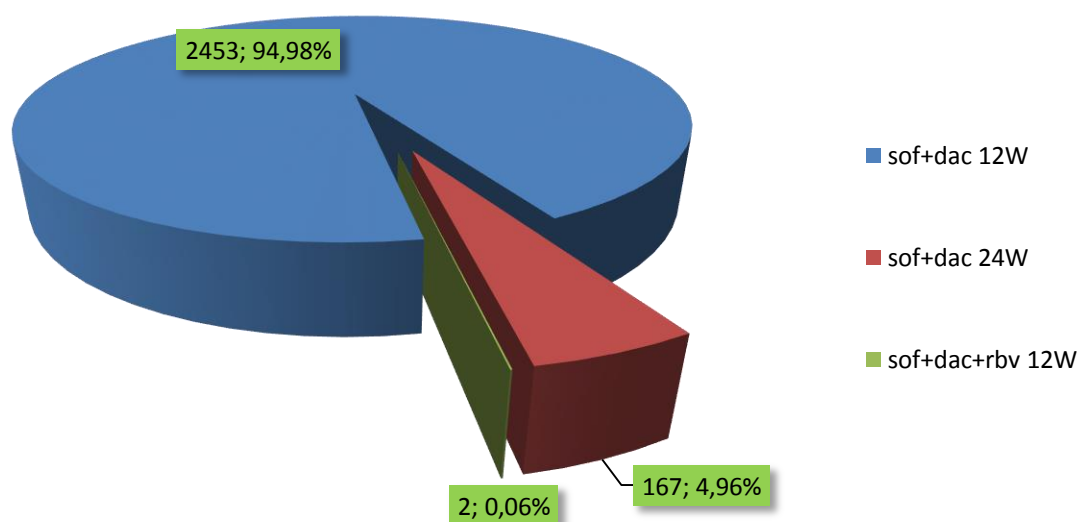


Fig. 4. Cohort distribution by treatment regimens

The use of pangenotypic treatment regimens combined with professionalism of the project staff allowed achieving the highest adherence, retention and treatment success rates since 2015 (since the start of the APH activities to scale up and accelerate access to HCV treatment in Ukraine). In 2020, treatment adherence in the civil health care facilities was 99%, while treatment success rate was 98%; in the penitentiary sector those indicators were 95% and 93%, respectively. To ensure a cascade of services, APH referred clients with positive HCV rapid tests results received during screening in APH prevention and harm reduction projects to the APH HCV diagnosis and treatment project.

As for the patients in the penitentiary sector, the main challenges in working with such patients were their early/unscheduled release in the course of HCV treatment, treatment interruption due to the lack of patient referral mechanism to continue treatment in the civil sector after their release, restricted case manager's access to the patient, etc. Analysis of the cohort of patients in the civil and penitentiary sector is presented in Fig. 5-7.

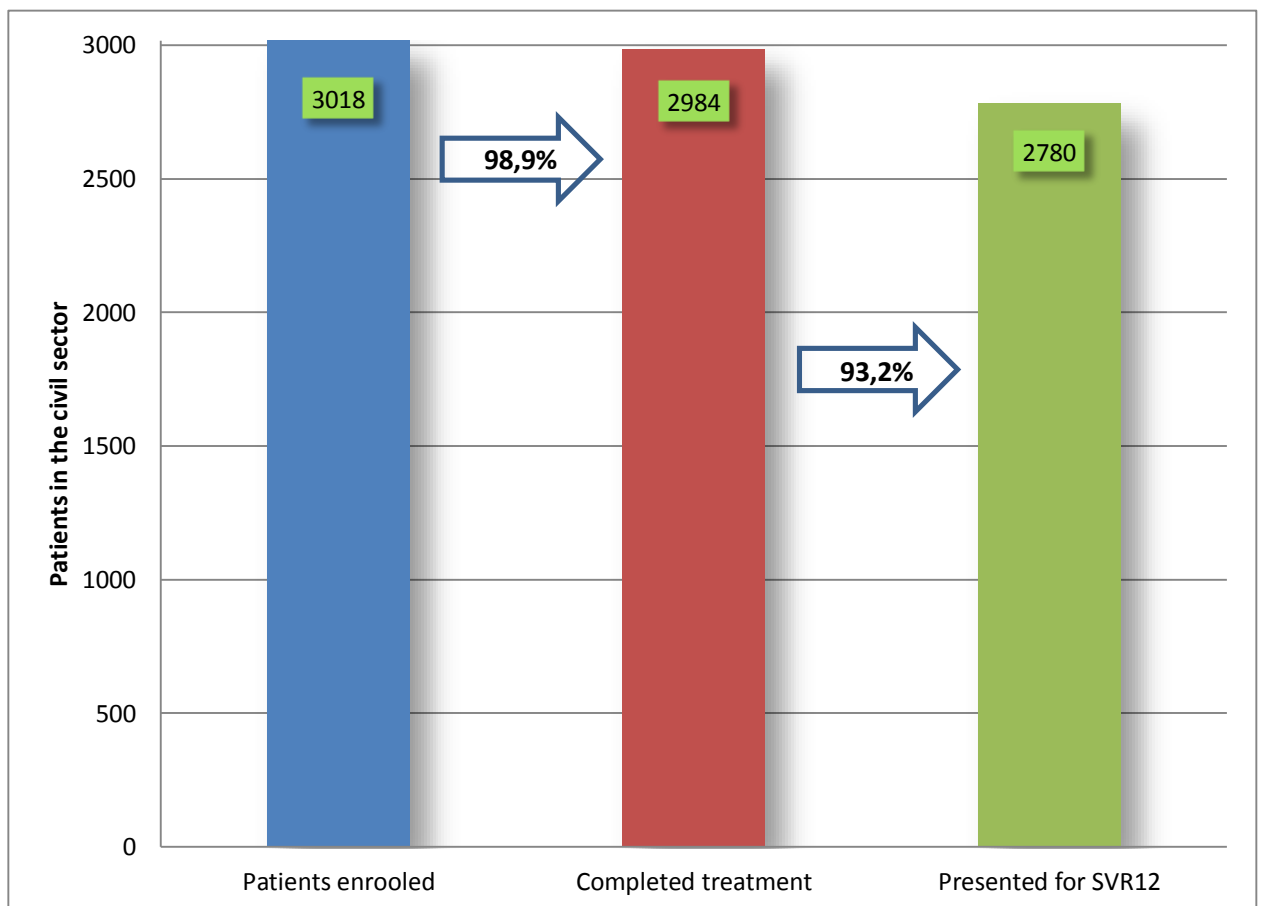


Fig. 5. Indicators in the civil sector for the 2020 cohort

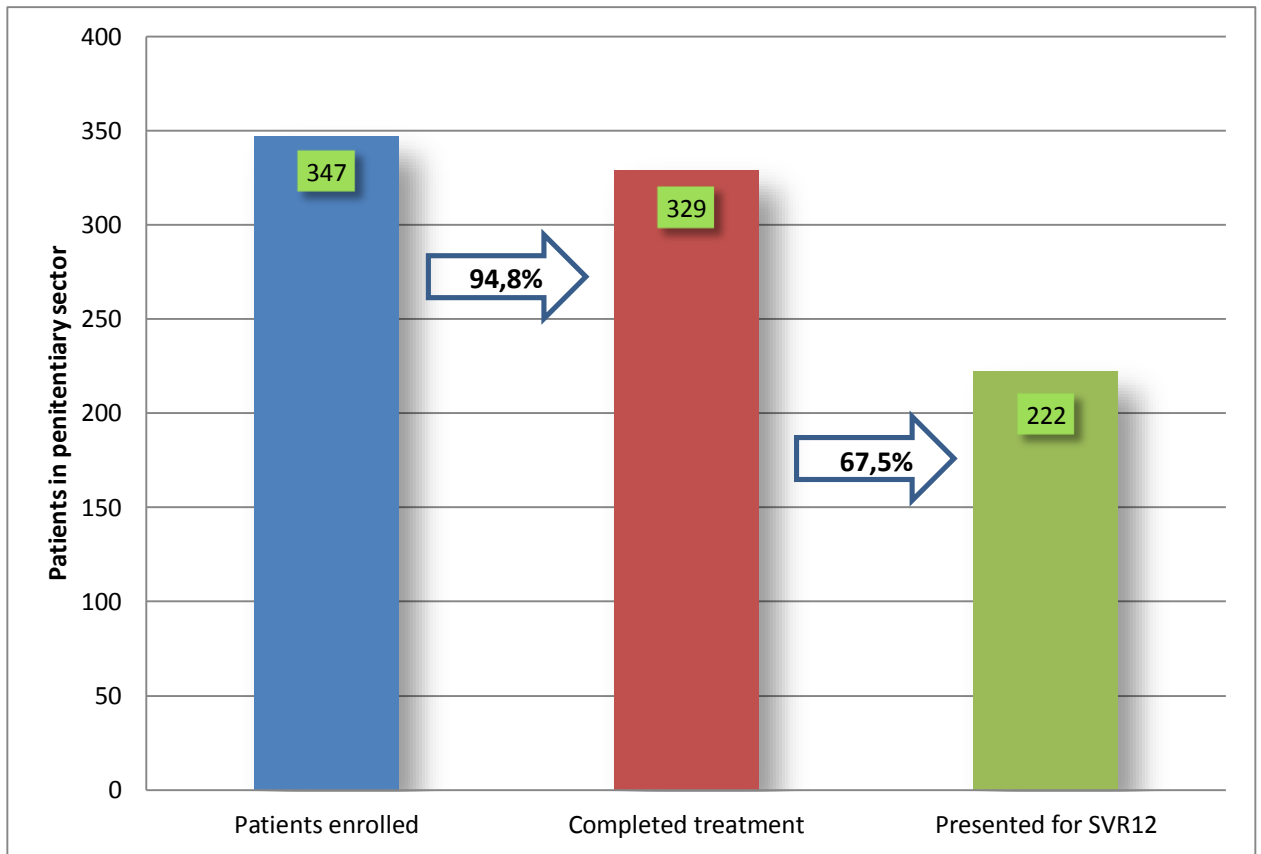


Fig. 6. Indicators in the penitentiary sector for the 2020 cohort

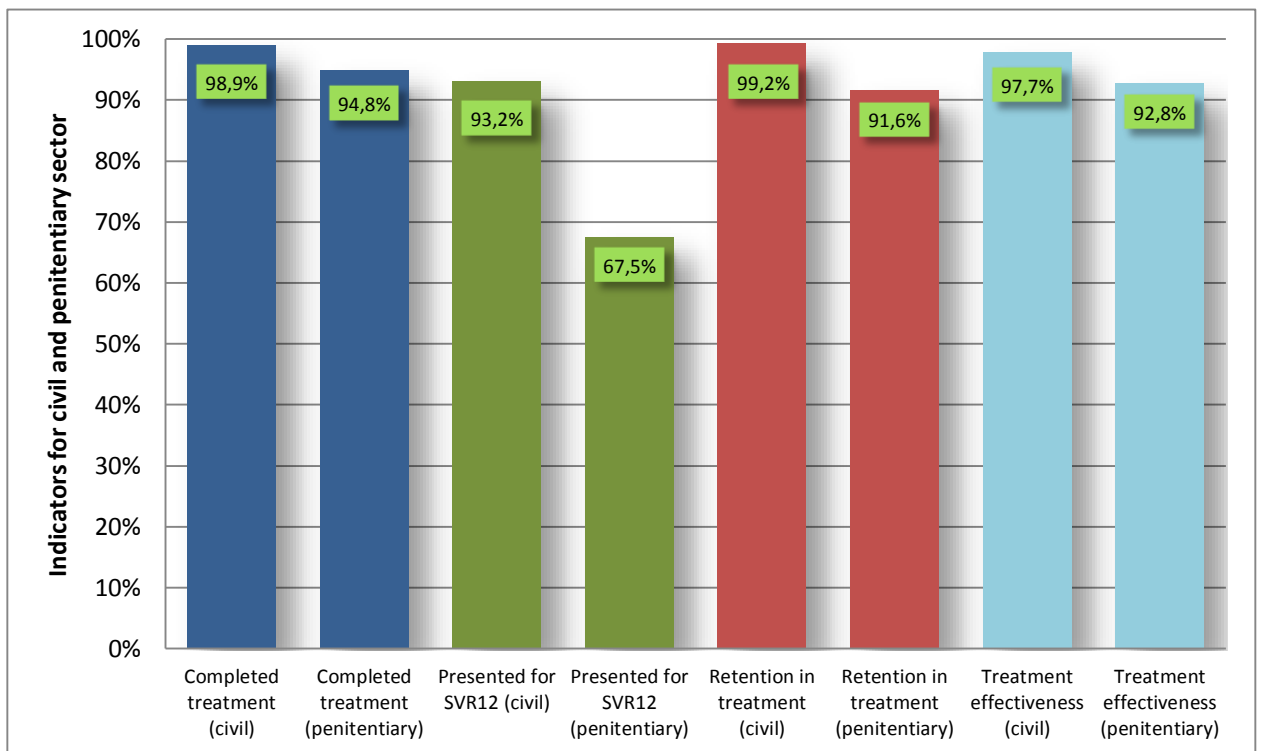


Fig. 7. Comparison of the key indicators in the civil and penitentiary sectors

The structure of patients defaulting from treatment and/or final diagnostics differs significantly due to the different conditions for the treatment of patients in the civil and penitentiary sectors. Thus, almost 70% of patients defaulting from treatment and final diagnostics in the penitentiary system were due to their early unscheduled release. At the same time, there was a relatively low mortality rate (Fig. 8-9).

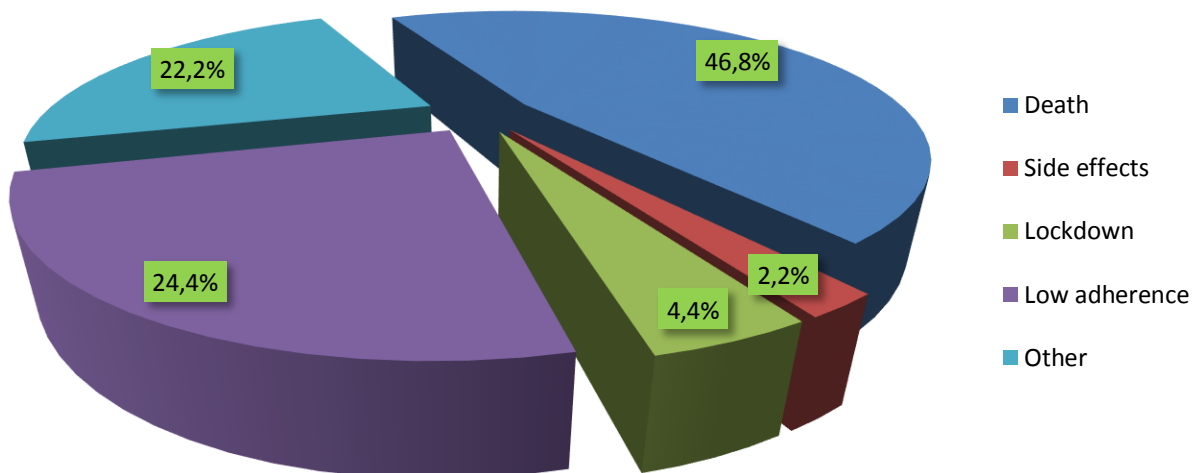


Fig. 8. Structure of patients defaulting from treatment and/or follow-up diagnostics in the civil sector (n=45)

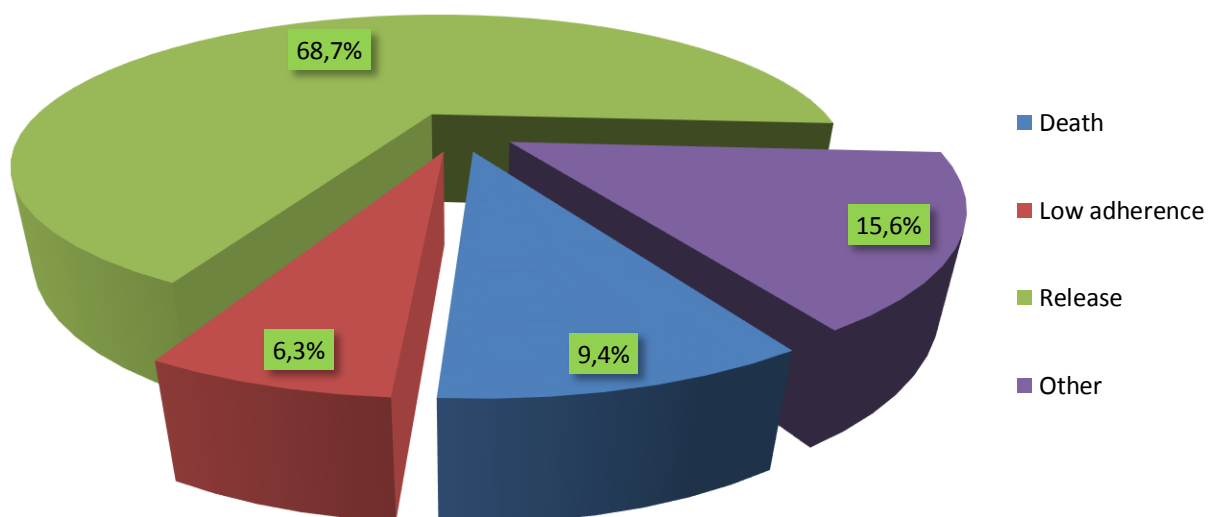


Fig. 9. Structure of patients defaulting from treatment and/or follow-up diagnostics in the penitentiary sector (n = 32)

Challenges and results

Challenges

The key challenge affecting patient enrolment was the national health care system reform, when operation of specialized HCFs, e.g. the AIDS centers, was disrupted because they were merged with other HCFs. Experienced doctors of the AIDS centers, who had been working with APH programs since 2015, were dismissed, while HCFs temporarily stopped working with patients and were not able to receive any drugs or laboratory reagents due to the changes in their legal status, names, accounts, etc. Meanwhile, HCFs, which took over the former AIDS centers, had no experience, failed to understand goals and objectives of the APH program, and in some cases showed no interest in cooperating with the program.

Another challenge was cooperation with the MoH laboratory centers, which received funding to provide services in full, purchased reagents and other consumables, but were not able to work with patients directly as they did not have enough staff to draw blood for testing. Besides, getting diagnostics test results took a long time due to the high multiplicity coefficient for blood samples per one testing round.

Results

The 2020 cohort was 3,365 patients, which exceeded the planned number of patients by 336%, even considering COVID-19 pandemic and two strict lockdowns.

To strengthen the health care system and bring services closer to the patients, APH introduced new approaches to HCV diagnosis, routine use of GeneXpert machines and other relevant equipment for this purpose in the laboratories of HCFs, engaged the MoH laboratory centers in HCV diagnosis.

To ensure a cascade of HCV services, communities and NGOs organized the referral of clients who tested positive for HCV with rapid tests in APH prevention and harm reduction projects to the HCV diagnosis and treatment project.

APH was the first in Ukraine to launch the routine use of pangenotypic treatment regimens.

For the first time, HCV diagnosis and treatment were available to patients representing the key populations throughout Ukraine.

The total number of project clients (3,365 people) included 347 prisoners with HIV/HCV co-infection who were diagnosed and treated at 38 treatment facilities within the penitentiary system.

APH ensured 100% monitoring of case management, including the results of HCV treatment for all patients in the civil and penitentiary sectors.

In 2020, the community-based HCV treatment model used by APH was included in the Compendium of good practices in the health sector response to viral hepatitis in the WHO Europe region

<https://apps.who.int/iris/bitstream/handle/10665/333494/9789289055161-eng.pdf?sequence=1&isAllowed=y>

WHO Global progress report 2020 "Accelerating access to hepatitis C diagnostics and treatment: Overcoming barriers in low- and middle-income countries" underlined the key role of Alliance for Public Health Ukraine in advocacy to develop and adapt national policies according to WHO recommendations and provide service delivery.



Accelerating access to hepatitis C diagnostics and treatment

Overcoming barriers in low- and middle-income countries

Global progress report 2020



III Progress in 12 selected countries

This section highlights the progress achieved in 12 low- and middle-income countries with diverse hepatitis C epidemics and national responses: Brazil, China, Egypt, Georgia, India, Malaysia, Mongolia, Morocco, Pakistan, Russian Federation, Rwanda, Ukraine. Of these, four countries – China, Pakistan, India and Egypt – account for about 40% of all people living with HCV worldwide.

"Civil society organizations such as Alliance for Public Health Ukraine (APH) have played a key role in advocacy to develop and adapt national policies according to WHO recommendations, and provide service delivery."

"More than 5000 patients, representatives of the most vulnerable populations such as PWID, people with comorbidities and people in prisons also received treatment within the framework of the APH treatment programme aimed at integrating HCV testing and treatment for key populations in harm reduction programmes run by the organization in all Ukrainian regions."

<https://www.who.int/publications/i/item/9789240019003>