

**Regional Workshop on Advancing Implementation Science on
HIV and Viral Hepatitis in Eastern Europe and Central Asia**

10–11 February 2020

Berlin, Germany

Report

EXECUTIVE SUMMARY

This report summarizes the key presentations and discussion points raised at the Regional Workshop on Advancing Implementation Science on HIV and Viral Hepatitis in Eastern Europe and Central Asia, organized by WHO Regional Office for Europe in collaboration with the Robert Koch Institute on 10–11 February 2020 in Berlin, Germany. The workshop was intended to provide support to the countries in eastern Europe and central Asia (EECA) in conducting and using implementation science and programme data to guide the design and implementation of their national strategies on HIV and viral hepatitis.

It also aimed at fostering collaboration between academics, scientists, funders and partners to conduct and support implementation science in EECA.

Examples of country HIV, viral hepatitis and integrated TB/HIV/viral hepatitis implementation research studies were shared with demonstration on how research findings have been used for decision-making and programme improvement.

The workshop contributed to raising interest in using implementation research to improve the efficiency of national HIV and viral hepatitis programmes. It resulted in the development of key priorities for implementation research on HIV and viral hepatitis in participating countries. The workshop also resulted in identification of opportunities for strengthening collaboration between researchers in the region, and for funding implementation research.

KEY WORDS

ASIA, CENTRAL

EUROPE, EASTERN

HIV INFECTION

VIRAL HEPATITIS INFECTION

IMPLEMENTATION SCIENCE

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Abbreviations

AIDS	Acquired immunodeficiency syndrome
ART	Antiretroviral therapy
ARV	Antiretroviral drug
CBO	Community-based organization
CDC	US Centers for Disease Control and Prevention
CSO	Civil society organization
ECDC	European Centre for Disease Prevention and Control
ECOM	Eurasian Coalition on Health, Rights, Gender and Sexual Diversity
EECA	Eastern Europe and central Asia
GF	Global Fund
HBV	Hepatitis B virus
HCV	Hepatitis C Virus
HIV	Human immunodeficiency virus
HIVST	HIV self-testing
IDU	Injecting drug use
LGBT	Lesbian, gay, bisexual and transgender
MSM	Men who have sex with men
NGO	Non-governmental organization
OST	Opioid substitution therapy
PHE	Public Health England
PLHIV	People living with HIV
PrEP	Pre-exposure prophylaxis
PWID	People who inject drugs
RKI	Robert Koch Institute
RDS	Respondent-driven sampling
STI	Sexually transmitted infection
TB	Tuberculosis
UIPHP	Ukrainian Institute on Public Health Policy
VH	Viral hepatitis
VL	Viral load
WEPEI	Western–Eastern European Partnership Initiative on HIV, viral hepatitis and TB
WHO	World Health Organization

1 Setting the scene

1.1 Workshop background and objectives

Masoud Dara (WHO/Europe) and Binod Mahanty (German Federal Ministry of Health) welcomed participants (see Annexes 1 and 2). Masoud Dara highlighted the importance of implementation research in addressing prevention, testing and treatment and care challenges in the EECA region. Mr Mahanty noted that Germany has made good progress towards the 90–90–90 targets – through targeted prevention and testing, ensuring the availability of treatment, and effective collaboration – but challenges remain, including reducing the proportion of HIV cases that are diagnosed late, and reaching migrants and people who inject drugs (PWID).

Nicole Seguy (WHO/Europe) summarized the workshop background and objectives. In the context of the HIV and viral hepatitis (VH) elimination agenda, there is an increasing need to: identify how to optimize implementation of evidence-based interventions in specific country contexts; identify barriers that limit programme quality, effectiveness and efficiency; and determine service delivery strategies that will yield the most impact. Implementation science has a key role to play in all of these. The specific objectives of the workshop were to:

- Share examples of HIV, VH and integrated TB/HIV/VH implementation science and how their findings have been used for decision-making and programme improvement.
- Improve capacity to use programme data as well as to generate and use scientific evidence from implementation science to improve the efficiency of national programmes.
- Develop a draft HIV and VH implementation research agenda and identify options for strengthening collaboration between researchers in the region, and for funding implementation research.

The meeting included plenary presentations and discussions, group work (see Annex 3 Feedback from selected country working groups) and a panel discussion. This report summarizes the main points from the meeting. More detailed information is available in the presentations, which can be accessed at <https://euro.sharefile.com/d-s4e56fd8db9e49c2b>

1.2 Implementation science

George Rutherford (University of California, San Francisco) provided an overview of the **definitions, principles and applications of implementation science**. Essentially, implementation science is the “study of methods to promote the systematic uptake of research findings and other evidence-based practices into routine practice and, hence, to improve the quality and effectiveness of health services and care”.¹

Implementation science:

¹ Eccles MP, Mittman BS. Welcome to implementation science. *Implementation Sci.* 2006;1:1 doi: 10.1186/1748-5908-1-1.

- aims to tackle knowledge–practice gaps, to address translational challenges (e.g. implementing interventions in new settings or populations), and to identify the most effective and efficient way to implement interventions;
- involves understanding and addressing barriers to effective and quality implementation of health interventions, strategies and policies; understanding behaviour and developing strategies to change behaviour through engaging stakeholders and working with communities;
- is inter-disciplinary; it draws on behavioural sciences, social sciences and economics in addition to population health science, and involves health professionals;
- aims to improve generalizable knowledge; it draws on quality improvement, which seeks to improve local practice and to identify knowledge that can be applied in multiple settings.

The next presentation, by David Michels (AIDES/Coalition PLUS), emphasized the central role of communities in effective programme implementation and the **value of community-based research in implementation science**. Community-based research is a partnership between researchers and community actors, is guided by the needs of the groups concerned and aims to transform research results into practical interventions that improve people's lives. Community-based research can improve understanding of local epidemics and of people's needs.

Community-based research also plays a vital role in developing effective targeted interventions at each step of the 90–90–90 cascade to ensure that all people living with HIV (PLHIV) know their status and identifying and addressing barriers to accessing treatment and care, and supporting treatment adherence. For example:

- **First 90:** A community-based research in France assessed the effectiveness of a door-to-door and outreach approach to HIV testing to reach the hidden epidemic among migrant men from sub-Saharan Africa. This approach was shown to be more effective in reaching men from sub-Saharan Africa than other interventions.
- **Second 90:** A community-based research was conducted in Romania to understand why a proportion of PWID coinfecting with HIV and TB refused to attend for TB treatment and to assess the effectiveness of different approaches to increase uptake of referrals. The study found that gift vouchers were the most effective approach to increasing links to TB services. It also found that provision of basic services (e.g. access to showers), adapting health facility schedules and provision of peer support increased attendance. The research highlighted the need for an integrated approach to service delivery for PWID that encompasses medical, social and other services.
- **Third 90:** A community-based research in Bolivia evaluated the effectiveness of a therapeutic education programme on treatment adherence. The study showed that a higher proportion of PLHIV participating in the education programme (95%) achieved an undetectable viral load than PLHIV who did not participate (68%); it also showed that the intervention was more effective among men than among women.

Community-based research can also influence laws and policies; for example, in France a study demonstrating the feasibility of rapid testing for HIV in nonmedical settings influenced policy on community-based testing, while another study on stigma and refusal to provide care for PLHIV influenced the law related to non-discrimination in access to health care.

Key discussion points following the presentations included:

- The findings of implementation research need to be disseminated to and used by decision-makers.
- Implementation research has highlighted the need to provide integrated services for people with coinfections and for PWID – this is a challenge for countries with vertical service delivery systems.
- There is still a need to address stigma and discrimination towards PLHIV and PWID. Stigma is a significant barrier to uptake of services and efforts to address it should start with health services and health care providers. Implementation research could help to translate evidence into interventions and to develop better tools to measure and monitor stigma. However, efforts to tackle stigma are unlikely to succeed in countries where specific populations or behaviours are criminalized.
- A key challenge in some countries in the region is lack of resources – in particular funding and time – for implementation research. A more specific challenge, especially in central Asia, is that there are relatively few community organizations and this is a challenge for community-based research.

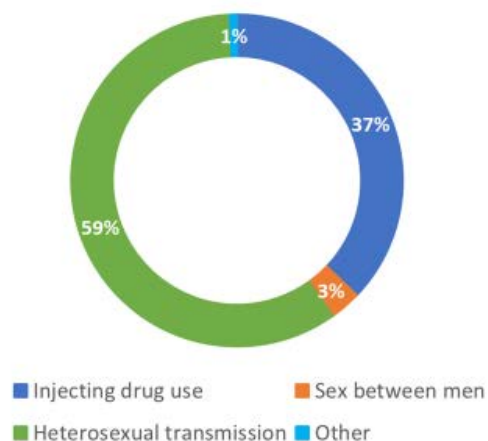
2 Generating quality data to inform policy and practice

An increasing proportion of newly diagnosed HIV infections in EECA are registered as heterosexually acquired, often leading to an interpretation of the HIV epidemic as being “generalized” and among people with “no particular risk”. In reality, many cases registered as heterosexually acquired have a history of injecting drug use or, among male cases, sex with men. Others belong to so-called “bridging populations”; for example, clients of sex workers, or sexual partners of PWID or other key populations.

Figure 1 shows mode of transmission data for EECA countries based on data registered in national surveillance systems. Figure 2 shows modes of transmission in EECA based on a combination of data sources including surveillance, prevalence surveys, other studies and estimation approaches, and highlights the potential magnitude of misclassification.

Figure 1 Distribution of new HIV diagnoses by reported mode of transmission, “East”, 2018

Figure 2 Distribution of new HIV infections (aged 15–49 years) by population group, eastern Europe and central Asia, 2018



Source: ECDC/WHO. HIV/AIDS surveillance in Europe 2018



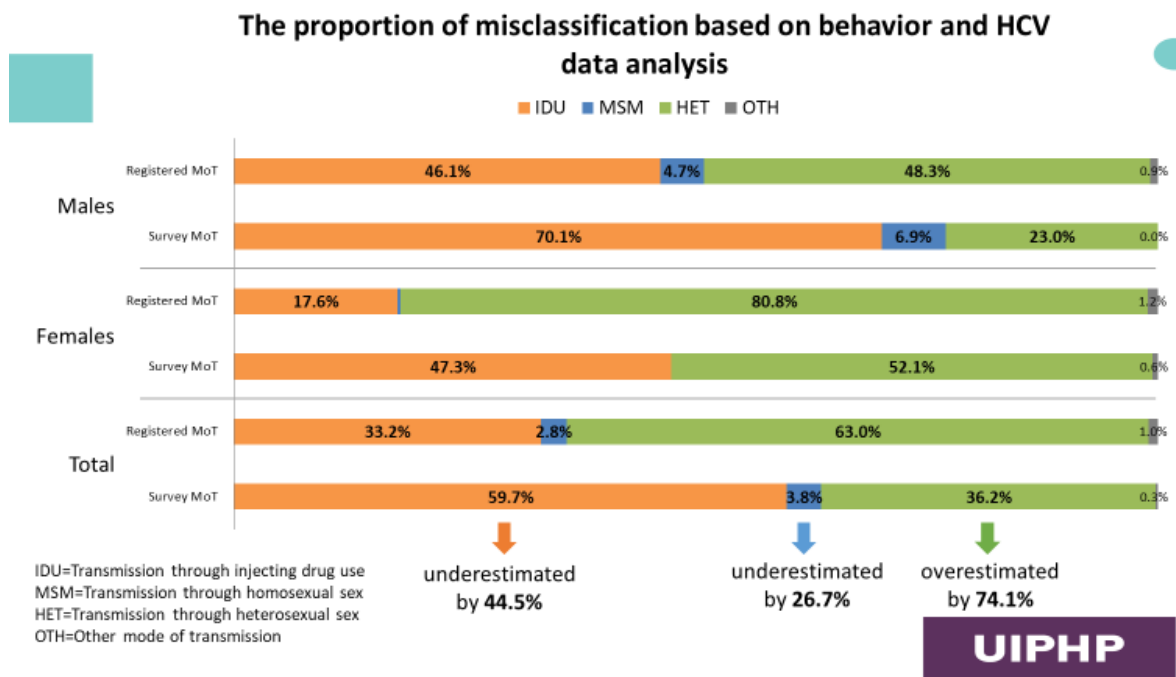
Source: UNAIDS special analysis, 2019.

Lack of accurate information or misinterpretation of available data can result in misallocation of programme resources and investment in prevention and testing interventions that fail to target the population groups most at risk. This highlights the importance of: assessing the validity of routine surveillance data with regard to mode of transmission; understanding the underlying risks of people with reported heterosexual transmission; and triangulating multiple sources of data to understand the epidemic among key populations. **This session considered approaches to generating higher quality data, with a particular focus on data on modes of HIV transmission.**

Kostyantyn Dumchev (Ukrainian Institute on Public Health Policy) described the METIDA study to **assess the validity of data on the registered mode of transmission in Ukraine**. Routine case surveillance data suggests the HIV epidemic in Ukraine has become more “generalized” since 2007, with an increase in the proportion of cases registered as acquired through heterosexual transmission and a decrease in the proportion registered as acquired through injecting drug use. The study aimed to assess the magnitude of misclassification and the real contribution of each mode of transmission. It involved interviews (conducted by psychologists) with a randomly selected sample of patients (from 7 of 27 regions and registered in HIV clinics during October–December 2013, 2014 and 2015) on behavioural risk factors, and testing of biological samples for hepatitis B virus (HBV) and hepatitis C virus (HCV) biomarkers.

Comparison of the study findings with registered data (Figure 3) suggests that mode of transmission is misclassified in a considerable proportion of cases and that registered data significantly underestimate transmission through injecting drug use and MSM and significantly overestimate heterosexual transmission. The study findings have been used to advocate for a continued focus on key populations in Ukraine’s national response and in its Global Fund support.

Figure 3 The proportion of misclassification based on behaviour and hepatitis C virus data analysis



Viviane Bremer (Robert Koch Institute) presented the **approach taken in Germany to registering and re-assessing routine data on mode of transmission and partner risks** for cases classified as heterosexual contact. HIV cases in Germany are notified to the Robert Koch Institute (RKI) both by private and public laboratories and by physicians. Assessment of mode of transmission is based on the notification form; more than one mode of transmission can be indicated on the form. The RKI follows up with physicians to check the mode of transmission allocated in the notification form if there is inconsistent modes of transmission indicated (i.e. MSM in women).

The RKI re-assessed 16 524 cases notified from 2001 to 2019 where mode of transmission was registered as heterosexual contact and identified a proportion of these that were also MSM and a proportion that also injected drugs. Further analysis of available data on possible source of infection also showed that a proportion were from endemic countries or could be classified as “bridging populations”; that is, sexual partners of PWID or of people from HIV endemic countries. To improve the accuracy of classification, the RKI developed an algorithm to define heterosexual transmission and prioritize multiple risks. After application of the algorithm, the number of cases where the mode of transmission was classified as heterosexual contact decreased from 16 524 to 10 519, with the others reclassified as MSM, injecting drug use, or information not available. This approach illustrates the value of looking critically at data on heterosexual mode of transmission and of developing an algorithm to combine different information.

Vitaly Djuma (Eurasian Coalition on Health, Rights, Gender and Sexual Diversity, ECOM) described a Global Fund regional project to enhance **strategic information to improve understanding of the HIV epidemic among MSM and transgender people**. The project assessed existing strategic information on HIV among the two key populations in five target countries and found that: there were limited data on population size estimates and from population surveys; there was a particularly significant gap in data on transgender populations; and there was limited community involvement in research. To address the gaps in strategic information, ECOM has developed guidelines for data collection, and produced studies, publications and tools. ECOM has

also supported community involvement in cascade analysis in the target countries as well as in a range of other initiatives. For example:

- in Armenia, community engagement in data collection has improved the accuracy of population size and HIV prevalence estimates;
- in Ukraine, assessment of the quality of HIV services by community organizations in partnership with local authorities identified areas of weakness and helped to improve services;
- in Estonia, advocacy with government and support and technical assistance for MSM HIV service organizations has expanded the network of MSM service providers.

Key discussion points following the presentations included:

- The extent of misclassification identified in Ukraine is likely to be similar in other EECA countries, especially those where there are high levels of social and self stigma. The HIV epidemic among MSM and transgender people is still hidden in some EECA countries and data is limited. In Kyrgyzstan, it was reported that men are willing to identify as MSM when they visit community testing centres managed by NGOs but will identify as heterosexual when they are referred to health facilities for treatment.
- The issue of allocating one mode of transmission is difficult in cases where there is more than one possible mode of transmission. In Ukraine, the study used a hierarchy of possible modes of transmission and in cases where there were several options allocated the most likely, for example, injecting drug use is more likely to be the mode of transmission than sex work.
- The approach taken by the METIDA study in Ukraine may not be feasible at scale as there are insufficient psychologists and it is not possible to conduct lengthy interviews with many cases, so the Ukrainian Institute on Public Health Policy (UIPHP) is proposing the introduction of standard operating procedures and training to improve recording of possible risk factors and behaviours. However, it is important to recognize that many clients will only share information about their behaviour or personal lives when they have established a relationship of trust with a health professional or counsellor.
- In other EECA countries there is also a need to adopt standard procedures for allocating mode of transmission – currently reported data is not comparable – and for inclusion of reporting on risk factors.
- The METIDA sample is based on people who acquired infection several years ago. The UIPHP has therefore also analysed incidence data and data from behavioural and population-based surveys to triangulate the findings and this analysis substantiated the study results. It was also noted that models are available that support back calculation of incidence and calculation of the undiagnosed proportion of PLHIV.
- The experience of ECOM has confirmed the value of community participation, including in data collection, research and service delivery.

3 Addressing challenges across the continuum of care

3.1 Effective delivery of HIV and viral hepatitis testing services

Many people at higher risk of HIV and VH, including key populations and their sexual partners, are not being reached by existing testing interventions or are not tested frequently enough. This session focused on how implementation science could contribute to identifying barriers to reaching the first 90 target and to optimizing testing interventions in EECA countries.

Anthony Cousien (INSERM) presented on the **cost–effectiveness of screening strategies for HIV and HCV**. Screening strategies need to determine who will be screened and the frequency of testing. Cost–effectiveness analysis considers impact and costs and helps to inform decisions that will maximize use of available resources. WHO defines an intervention as cost-effective if the cost per year of life saved is $<3 \times \text{GDP/capita}$ and very cost-effective if it is $< \text{GDP/capita}$.

The EU-funded OptTEST project assessed the cost–effectiveness of different HIV testing strategies in Estonia, France and Spain. The analysis showed that it would be cost-effective to test MSM every 3–12 months in France and Estonia and every 6–36 months in Spain, and to test PWID every month in Estonia, every 3–12 months in Spain and every 12–36 months in France. Cost–effectiveness analyses of a package of interventions (needle and syringe programmes, opioid substitution therapy (OST), HIV and HCV testing, antiretroviral therapy and antiviral therapy) to reduce the impact of HIV and HCV infections in five EECA countries showed that the package would be cost-effective in Belarus and Kazakhstan, and also cost-effective in Georgia, the Republic of Moldova and Tajikistan if the costs of HCV antiviral therapy was reduced.

Vana Sypsa (University of Athens) described the use of **social network-based HIV testing approaches** by the ARISTOTLE programme to reach PWID and their partners. In 2011–2013 an outbreak of HIV occurred among PWID in Athens, with 1 100 new cases identified and an increase in prevalence from 0.8% in 2010 to 16.5% in 2012–2013. To respond quickly to the outbreak, the ARISTOTLE programme sought to identify and screen as many PWID as rapidly as possible. Since PWID are a hard-to-reach population, and some subgroups of PWID (e.g. undocumented migrants) are even harder to reach, the programme used respondent-driven sampling (RDS). Initial recruits were given financial incentives to recruit up to 3–5 additional recruits from their social networks, and the process was repeated for those recruited. Long recruitment chains allowed increased reach into the PWID population and cultural mediators were used to help reach high-risk migrants; for example, from Iran and Afghanistan.

The programme conducted five rounds of RDS between August 2012 and December 2013 and the peer-driven approach combined with financial incentives resulted in rapid recruitment and high coverage – the programme estimated that 88% of PWID in Athens were reached. In total 3 320 people participated (participants who consented were interviewed and tested for HIV, those who tested negative were provided with syringes, condoms and information and those who tested positive were referred for care). As a result of the programme, there was a significant decrease in the proportion of HIV-positive PWID who were unaware of their infection, and in the incidence of HIV infection in this population, between August 2012 and December 2013. The programme also showed that the peer-driven approach reached a higher proportion of migrant PWID and homeless PWID than drug treatment programmes.

Jordi Casabona (**Centre d'Estudis Epidemiològics sobre les ITS i Sida de Catalunya, CEEISCAT**) discussed the importance of **ensuring that community-based HIV testing is reflected in national policies, guidelines and monitoring and evaluation (M&E) frameworks**. He started by highlighting the contribution of community-based voluntary

counselling and testing to reducing the proportion of PLHIV who do not know their status and late diagnosis in the WHO European Region. Currently, community-based voluntary counselling and testing services are being delivered by a range of providers in different settings for different target populations. In some countries, community-based approaches are being implemented but are not yet included in national testing guidelines (Figure 4). The COBATEST network is conducting M&E of community-based testing in Europe and identifying strategies to improve the quality and comparability of routine data from community settings, and to ensure that this data is integrated into national information systems.

Figure 4

Are new innovative approaches to HIV testing included in national HIV testing guidelines? (n=55)

Testing approaches	Yes	No	No response
Community-based testing delivered by trained medical staff	28	12	15
Community-based testing delivered by non-medical staff (e.g. trained lay people)	14	26	15
Home-sampling kits	4	36	15
Self-testing kits	9	32	14

Source: ECDC. Dublin Declaration monitoring 2018; validated unpublished data.

Key discussion points following the presentations included:

- The cost-effectiveness analysis, together with other factors, informed revision of the national HIV testing policy in France, which now recommends testing MSM every 3 months and PWID every 12 months. The analysis could be replicated in other countries, provided the data required is available.
- The ARISTOTLE programme encountered challenges with linkage to care as infectious disease units were unprepared for the large number of HIV-positive PWID being referred to them. Linkage to care was also a specific challenge for undocumented migrants; these cases were referred to an NGO which helped people to obtain the documentation required to access health care. The experience of other countries, for example Kyrgyzstan, suggests that linkage to care challenges can be reduced if the same organization provides both testing and care.
- The use of incentives for peer recruitment may work better with some key populations than others. For example, experience suggests that, for MSM, peer pressure or coming for testing as a favour to a friend may be more of a motivating factor than financial incentives.
- The importance of people-centred approaches to testing was emphasized, both to reach people in affected communities who have not been tested and to increase the frequency of testing. People-centred services increase trust and improve outcomes.

3.2 Implementation at scale of HIV self-testing and PrEP

HIV self-testing and self-sampling are additional testing approaches that have the potential to reach people who do not present for testing or who do not have access to services. For both approaches there is a need to create demand and design acceptable service delivery models to achieve adequate coverage among target populations. This session considered how implementation science can help inform implementation of these relatively new interventions at scale.

Meaghan Kall (Public Health England and INTEGRATE) provided an overview of evidence, including from country pilots, on **implementation of HIV self-testing and self-sampling** in the European Union. HIV self-testing and self-sampling became available, for example in pharmacies and online, in many countries before they were included in national policies and guidelines. Review of the situation in Europe shows that: there is limited evidence from many countries; there are legal barriers (e.g. it is illegal to buy self-tests from pharmacies or online in some countries); there is low awareness and uptake, due to lack of incentives for commercial companies to enter the market and limited marketing; and there is inadequate information and support for correct use and for linkage to care. Available evidence shows that acceptability of self-testing is very high, although there are some barriers to use, including the cost of self-test kits and concerns about interpreting the result. The INTEGRATE project has piloted expansion of HIV self-testing and self-sampling in Lithuania and Italy, with the aim of reaching at risk populations and ensuring linkage to care, using an implementation science approach.

The Lithuanian pilot assessed awareness and usability of HIV self-testing. Awareness of self-testing was high, 22% of those surveyed identified it as their preferred HIV test mode, most would prefer to obtain a test from a pharmacy or online or a vending machine, but only 12% were willing to pay the cost of the test. The main reasons for choosing to self-test were privacy and confidentiality, immediate results, convenience and not having to visit a health care facility. The main reasons for not choosing to self-test were cost, concerns about the accuracy of the result or misinterpreting the result and lack of counselling. With respect to usability, challenges included not following instructions correctly and not being able to understand instructions because they were not in Lithuanian. The Italian pilot assessed availability and usability of HIV self-testing. Self-test kits were available in 57% of pharmacies visited, but mostly behind the counter, and the volunteers who asked to buy the kit reported that 22% of pharmacists provided incorrect information and 30% had negative attitudes.

The pilots identified the need to: improve information and instructions accompanying test kits; provide links to NGOs who can offer support; improve availability and accessibility including through vending machines and subsidizing or funding the cost of test kits (in Lithuania); and improve access and training in pharmacies (in Italy).

Peter Meylakhs (Higher School of Economics, St Petersburg) presented the findings of a qualitative research project that assessed the **acceptability of self-testing among MSM and transgender people** in Russia. Data on HIV among MSM and transgender people is limited but available evidence suggests that a high proportion of those infected with HIV are unaware of their

infection. The hostile environment for lesbian, gay, bisexual and transgender (LGBT) people in Russia is a significant barrier to uptake of testing and, consequently, new testing approaches, including self-testing, are needed to increase testing coverage. This research project, the first of its kind in Russia, distributed self-test kits and conducted in-depth interviews in five cities. Overall, 14% of those interviewed had never been tested for HIV prior to receiving the self-test kit; the proportion was far higher in the two smaller cities, at around 20% and 50%, respectively.

The findings concerning acceptability were similar to those in the INTEGRATE pilot countries. The main advantages of self-testing were identified as: convenience and privacy; immediate results; confidentiality; and, not having to go to a health care facility. The main disadvantages were identified as: lack of confidence in the test results; lack of confidence in interpreting the test results; and lack of counselling.

Jérémy Zeggagh (APHP) presented **lessons from the experience of implementing PrEP in France**. In France, PrEP (generic tenofovir/emtricitabine (TDF/FTC)) is nationally available for adults at high risk of sexual acquisition of HIV and is fully reimbursed by the public health system. Since 2016, more than 20 000 people have started PrEP, 97% of them MSM. Initially, only hospital physicians with experience in HIV management were able to prescribe PrEP. In June 2016 this was expanded to include sexual health clinics (including community-based sexual health clinics) and, in March 2017, to allow any doctor to renew a prescription. To assess willingness of general practitioners (GPs) to prescribe PrEP, a survey had been conducted among 104 GPs in Paris in 2017, which showed that 78% were willing to renew PrEP prescriptions, but only 27% knew the indications and administration modalities. Of these GPs, 89% declared to be interested in attending training sessions. In 2020 this will be further expanded to allow GPs to initiate PrEP. This reflects evidence, including from a large survey of MSM across a number of European countries, which suggest that most would prefer to obtain PrEP from a GP or a community health centre, as well as evidence of the support of the government at the time. To support effective delivery of PrEP by GPs in France, GPs have been trained and linked to hospital infectious diseases departments.

The French service delivery model has achieved high rates of PrEP adherence and has shown a positive impact on the epidemic among MSM. Implementation challenges remain including: meeting the high demand for PrEP initiation; management and follow-up of STIs; reluctance of some GPs to prescribe PrEP; addressing issues associated with ChemSex; and reaching high-risk non-MSM populations. Experience in France suggests that community-based sexual health clinics may be best placed to reach the most vulnerable and hard-to-reach populations and to provide other services that meet the needs of specific populations; for example, ChemSex support for MSM, translation and social services for migrant MSM and sex workers, and services for trans people.

Akaki Abutidze (Infectious Diseases, AIDS and Clinical Immunology Research Centre) described **early experiences with PrEP implementation in Georgia**. PrEP implementation targeting MSM and transgender women started in Tbilisi in September 2017 with Global Fund support, expanding to two additional cities in early 2019. Services, which also include awareness raising, risk reduction counselling, adherence support, clinical assessment and monitoring, are free and have been funded by the government since July 2019. PrEP is currently provided through the Infectious Diseases, AIDS and Clinical Immunology Research Centre and a community-based organization (CBO) – provision through GPs is being considered.

The Centre conducted a study in June 2019 to assess adherence among 154 PrEP beneficiaries enrolled between September 2017 and March 2019. The study showed that adherence declined over time, from 70.8% (109 of 154) 3 months after starting PrEP to 28.5% (16 of 56) 12 months after starting PrEP. Longer-term adherence is clearly a challenge and the reasons for this will be explored in partnership with community organizations. In addition, although there were no new HIV infections among those on PrEP, there were three new syphilis infections, suggesting that more attention needs to be paid to prevention and management of STIs.

Key discussion points following the presentations included:

- There is a need to create demand for self-testing in EECA countries. In the the United Kingdom, a national awareness and marketing campaign involving Public Health England and the Terrence Higgins Trust, which was also linked to HIV testing week, was very successful in increasing demand. In contrast, in Italy and Lithuania, where there has been very little awareness raising, demand is low.
- There is a need to sensitize pharmacists about HIV self-testing in some settings, and to determine whether this is the responsibility of the manufacturer or the health ministry.
- Possible options for providing support and counselling to those who use self-testing kits include hotlines and digital support; for example, video instructions on how to use the kit and video counselling. In Italy, the manufacturer has developed an online video but none of the users surveyed had viewed it or searched online for information; most relied on the information leaflet provided with the kit so it is important that information is clear and accessible. In Russia, some test kit users viewed the manufacturer's video online.
- There is also a need to increase demand for PrEP in EECA countries, as well as to ensure that national guidelines include PrEP. It was noted that in a number of EECA countries, self-testing and PrEP are only being implemented as pilot projects or Global Fund projects. WHO could play an important role in dialogue with country governments to ensure that these interventions are integrated within national programmes.
- Views about whether PrEP should be provided in nonmedical settings or over the counter differed, with some participants expressing caution about making PrEP available to people without checking their HIV status and without measures in place for monitoring and follow-up.
- There was some discussion about PrEP regimens. Although WHO has published a technical brief with recommendations on event-driven (intermittent or "2+1+1" regimen) PrEP for MSM,² countries in EECA are currently using daily regimen. Some, for example Georgia, are considering introducing an event-driven PrEP protocol. In France, some clients, especially those who have sex infrequently, have questioned the need to take daily PrEP. It was also noted that PrEP is metabolized differently in men and women so an intermittent regimen is less effective in women and not recommended by WHO. There is little evidence about how PrEP is metabolized in transgender women.

² WHO. What's the 2+1+1? Event-driven oral pre-exposure prophylaxis to prevent HIV for men who have sex with men: Update to WHO's recommendation on oral PrEP. Technical brief. Geneva: World Health Organization; 2019. (<https://www.who.int/hiv/pub/prep/211/en/>, accessed 20 May 2020).

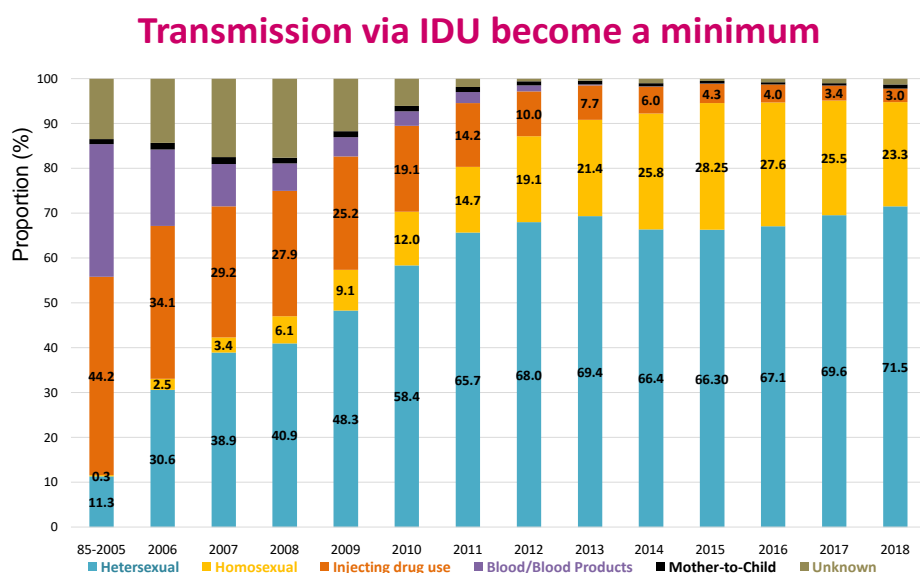
3.3 HIV and viral hepatitis services for people who inject drugs

There is clear evidence on effective HIV and viral hepatitis prevention interventions for PWID, but coverage of these interventions is limited in some EECA countries, due to lack of political support and legal and health system barriers. This session considered how data-informed programming and implementation research can help to improve the impact of HIV and viral hepatitis services for this population.

Xiaobin Cao ([National Center for AIDS/STD Control and Prevention \(NCAIDS\)](#), [Chinese Center for Disease Control and Prevention](#)) described how data prompted national action to address the HIV epidemic among PWID in China and the **impact of rapid scale-up of harm reduction interventions on HIV incidence** in this population. A rapid increase in deaths from AIDS, together with data showing that injecting drug use was the leading mode of HIV transmission and a high HIV prevalence among PWID, prompted the government to initiate an OST pilot in eight clinics in five provinces in 2004. The pilot was rapidly scaled up and, by 2018, OST was being provided in 763 clinics in 29 provinces and more than 90% of counties in China with 500 or more opioid users are covered by the OST programme. The government also launched a needle exchange programme in 1998 which expanded to 697 sites in 12 provinces covering 50 000 drug users by 2018. As Figure 5 shows, these programmes resulted in a significant decrease in HIV transmission via injecting drug use with the number of newly diagnosed cases decreasing from almost 16 000 in 2008 to around 4 000 in 2018, and a decrease in HIV prevalence among PWID from 7.5% in 2005 to 2.2% in 2017. Political commitment to scale-up has been critical to success.

Figure 5

HIV Transmission Modes over Time

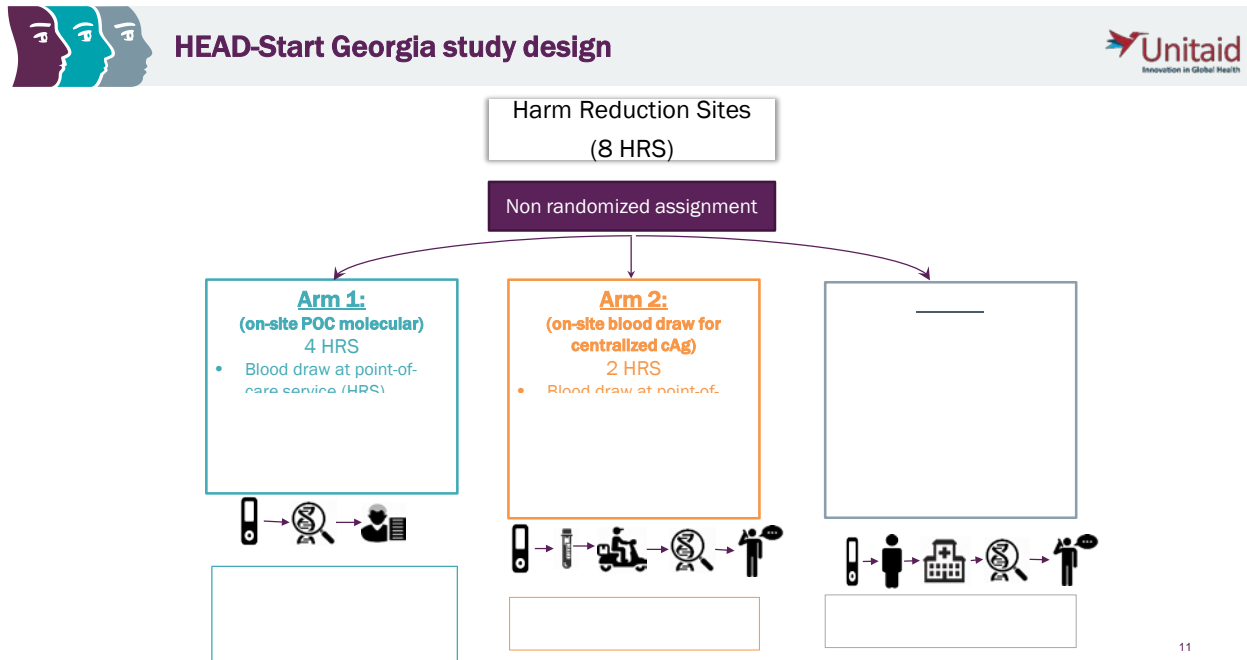


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In Georgia, HCV prevalence is very high among PWID and loss to follow-up after initial screening is a significant challenge. It is estimated that from 2015 to 2018, 55% of PWID who tested HCV antibody positive at initial screening did not receive a confirmatory test. Maia Japaridze (Foundation for Innovative New Diagnostics, FIND) presented an overview of the HEAD-Start Georgia study, which assessed the **potential to reduce losses to follow-up between initial**

screening and confirmatory testing through alternative approaches to HCV testing. The study compared on-site confirmatory testing and blood sample collection at harm reduction sites with the standard of care where clients are referred for blood sample collection and confirmatory testing (Figure 6).

Figure 6



Of the 1 672 participants enrolled in the study, 1 542 completed confirmatory testing – 621 in Arm 1 (100%), 483 in Arm 2 (99.4%) and 438 in Arm 3 (77.5%). Losses to follow-up between initial enrolment and confirmatory testing were far lower in the Arm 1 and Arm 2 groups (0% and 3% respectively) than in the Arm 3 group that received the standard of care (22%). The proportion of those who tested positive who started treatment was higher in the Arm 1 (77.4%) and Arm 2 (70.5%) groups than in the Arm 3 group (63.3%). Turnaround time between initial screening and the results being delivered back to clients was also significantly shorter in Arm 1 than in Arms 2 and 3. The study findings suggest that on-site blood sample collection at harm reduction sites results in a higher proportion of clients receiving confirmatory test results than referral and that decentralized confirmatory testing is most effective in reducing losses to follow-up. The study also found that decentralized confirmatory HCV testing catalysed decentralized provision of HCV treatment.

Key discussion points following the presentations included:

- The approaches employed in China to convince government officials to support scale-up of harm reduction services for PWID included workshops with experts, study and site visits to see the effectiveness of harm reduction programmes in practice, and a pilot project to demonstrate feasibility and effectiveness in the Chinese context.
- There is interest among other countries in EECA in a decentralized approach to HCV diagnosis and treatment. The cost of the different approaches needs to be considered. The HEAD-Start Georgia study is planning a cost analysis and considered cost issues in the study design; for example, no additional human resources were recruited to the study harm reduction sites and

Arms 1 and 2 compared approaches that did and did not require capital investment. It was noted that other tests need to be conducted following confirmation of HCV infection before treatment is initiated; in Georgia the algorithm has been simplified to facilitate decentralized treatment. It was also noted that there is a need for better data – and specific testing – to distinguish cases with new HCV infection and cases with HCV reinfection; in Georgia, collection of data on reinfection and testing to differentiate cases started earlier this year.

- The issue of loss to follow-up before confirmatory testing is not limited to HCV. In Georgia, harm reduction sites screen PWID for TB but clients are referred to specialists for confirmatory testing. The situation is similar in other countries.

3.4 HIV and viral hepatitis treatment and care

Losses occur across the cascade of care and a better understanding of the barriers to reaching the second and third 90 targets is required. This session considered how implementation science can improve linkage to and retention in care, quality of care and management of comorbidities.

Igor Semenenko (WHO Consultant) described the approach taken in Ukraine to identify and address barriers to scale-up of HIV treatment at local level, with a particular focus on **improving the quality of HIV care**. This approach, implemented in close collaboration with national government and non-government partners and Regional AIDS Centres, includes data analysis to identify regional bottlenecks and priorities, expert site visits, multi-partner advocacy round tables and follow-up visits. Site visits focused on sharing of data with health officials and health providers, so that they can see where the problems are, working in partnership with treatment sites to identify bottlenecks and challenges, developing practical recommendations and providing direct training and support. Site visits identified priority interventions including: improving and simplifying clinical pathways; providing social support to PLHIV who are linked to care but not receiving ART; improving the quality of post-test counselling; improving confidentiality of HIV services and reducing stigmatizing attitudes among health care providers; initiating ART at testing sites; initiating ART the same day or within 1 week; improving teamwork between doctors, nurses and social workers; and extending opening hours. Further research is needed to identify interventions to improve linkage to and retention in care.

Kostyantyn Dumchev (UIPHP) presented on **implementation research to improve linkage to care and treatment for PWID** in Ukraine, focusing on three studies.

- The Modified Antiretroviral Treatment Access Study (MARTAS), a randomized controlled trial, showed that HIV-positive clients who received an individual multi-session case management intervention delivered by a trained nurse were more likely to be linked to treatment and care and to start ART than those who did not receive the intervention.
- The Key Populations Implementation Science Initiative (KPIS) studied the effect of two interventions – community-initiated treatment intervention (CITI) and medication-assisted treatment for opioid dependence (MAT) – alone and in combination, on enrolment in HIV care and initiation of ART. The study showed that cascade outcomes were most improved for clients receiving both interventions.
- The objectives of the HPTN 074 study (conducted in Indonesia, Ukraine and Viet Nam) on integrated treatment and prevention for PWID included exploring the effect of integrated ART and substance-use treatment (together with support for engagement in HIV care and

structured psychosocial counselling for index cases), as compared with the standard of care, on engagement in HIV care, initiation of ART, retention on ART, ART adherence, viral suppression and on the proportion of index participants and network injection partners engaged and retained in substance-use treatment. The intervention was shown to have a positive impact on linkage to care and ART initiation and on mortality among those receiving the intervention.

Niklas Luhmann (WHO Geneva) provided an overview of the global and regional burden of HBV and HCV, the global health strategy for elimination of viral hepatitis, and prevention, testing and treatment targets for the WHO European Region. Economic analysis is important to identifying cost-effective interventions, increasing efficiency and informing resource allocation. WHO has developed interactive online tools that enable countries to **calculate the cost-effectiveness of HBV and HCV treatment** (a tool to calculate the cost-effectiveness of testing approaches is in development). For example, the hepatitis C treatment calculator includes pre-loaded variables (such as rate of disease progression and treatment effectiveness) and allows users to input country-specific data on, for example, cost of diagnostics and drugs (the calculator does not include health system costs). The primary outcome is an incremental cost-effectiveness ratio (ICER) of HCV treatment expressed as cost per quality-adjusted life year (QALY). Using Kyrgyzstan as a case study example, Niklas Luhmann demonstrated how the tool can be used to calculate the ICER over time, to show the point at which treatment becomes cost-effective and cost-saving and how this is influenced by the cost of treatment and lab monitoring. The hepatitis B calculator works in a similar way.

Although Europe has seen a rapid decline in new diagnoses of TB and TB mortality, the number of cases of HIV/TB coinfection is increasing and TB is the most common coinfection among AIDS patients. Giedrius Likatavicius (WHO Consultant) presented a pilot **WHO protocol to evaluate gaps and barriers in collaboration between HIV and TB programmes**. The protocol uses quantitative and qualitative methods to analyse epidemiological and programme data and to identify barriers to effective collaborative delivery of interventions from the perspective of programme managers, health and social workers, NGOs and service users. The country pilot identified barriers including:

- fragmented service delivery by different specialists and frequent changes of doctor;
- procurement and supply chain challenges and insufficient laboratory capacity for monitoring patients;
- lack of capacity to diagnose latent TB, so some doctors are still prescribing isoniazid for all HIV patients;
- different approaches to HIV and TB treatment; that is, patients can obtain a supply of ART and take it at home but have to make daily visits to the hospital for their TB treatment;
- difficulty of combining TB treatment with employment and child care and factors affecting adherence; for example, substance use, side-effects of treatment and cost of ART.

These findings highlight the need for a more integrated, patient-centred model of service delivery, and to address factors that undermine adherence; for example, better management of side-effects, alternative treatment approaches for TB, fixed-dose combination regimens and provision of social support.

Key discussion points following the presentations included:

- The critical importance of accurate quality national and local data to understand the situation and inform prioritization of interventions.
- The need to work with health managers and providers as partners and to be clear that site visits are about identifying and solving problems together not about “inspection”. Quality care also depends on the motivation of staff and the use of quality improvement approaches across all aspects of HIV and viral hepatitis service delivery.
- The need to change approaches to TB care and to move towards integrated, people-centred HIV/TB service delivery that takes account of the views and preferences of patients. In some countries changes in legislation will be required to enable specialists to treat more than one condition.
- WHO’s pilot protocol highlighted patients’ perspectives, in particular about the differences in approach to HIV treatment and TB treatment. Some participants were of the opinion that the people-centred approach would mean moving away from mandatory directly-observed therapy (DOT) for TB – although some patients who experience serious side-effects may prefer DOT, others would prefer to take treatment at home – and giving patients the choice. Some participants also highlighted the human rights implications of the use of video-observed TB treatment.
- The issue of whether or not countries should be screening, for example PWID, for latent TB infection was raised. The consensus was that this should be addressed – there is now a global target for treatment of latent TB – while recognizing the challenges; for example, reaching and screening the right target populations and the cost implications.
- There was a question about the use of pre-loaded data on rate of disease progression and treatment effectiveness in the HBV and HCV calculators as these may differ between countries. WHO noted that this could be revised in a future iteration of the calculators.

4 Taking implementation science forward

4.1 Priorities and challenges

During the first part of this session, participants voted on two issues: priorities for implementation research and challenges for implementation research; participants could select up to a maximum of three options for each. Participants then divided into working groups to discuss country priorities for implementation science (see Annex 3). The results of the vote on implementation research priorities were:

- Implementation research on linkage to care and **treatment and care** (e.g. linkage to care, treatment of coinfections, treatment adherence) was the highest priority (39%).
- Implementation research on **strategic information** (e.g. mode of transmission, risk factors, behavioural and epidemiological studies) was the second highest priority (27%).
- Implementation research on **testing** (e.g. community-based testing, social network-based testing, self-testing, point-of-care testing) was the third highest priority (22%).
- Implementation research on **prevention** (e.g. PrEP, interventions for key populations) was the fourth highest priority (12%).

Plenary discussion of the reasons for participants’ choices included: linkage to care is a challenge, for example in Georgia; misclassification of mode of transmission needs to be addressed, for

example in Kyrgyzstan; coverage of key populations with prevention and testing services is a challenge, for example in Armenia, and HIV infections are increasing among MSM and implementation research is needed to assess the most feasible way to deliver PrEP, for example in Kazakhstan.

The results of the vote on implementation research challenges and priorities for support were:

- Lack of funding (47%)
- Lack of technical capacity for research (21%)
- Research is not a national priority (21%)
- Need for collaboration with research institutions (12%)
- Other (0%).

During the plenary discussion, participants made the following points:

- Eligible countries could include funding for implementation research in concept notes for the next round of Global Fund support; the Global Fund will consider funding for research if it is clearly linked to national plans and programmes. There is also a need for advocacy with governments to make the case for funding implementation research; WHO could provide support for this.
- Some countries have research capacity but not in the area of HIV and hepatitis, so opportunities to bring together HIV and hepatitis experts and researchers could be explored.
- Language is a barrier as most research is published in English. Linking EECA researchers to researchers in western Europe to increase publication from EECA countries, and using Russian language peer-reviewed journals so that countries can share implementation research findings were two options proposed to address this.

4.2 Opportunities

During the second part of the session, a panel of researchers, partners, donors and community representatives outlined opportunities for strengthening implementation science in EECA including options for funding and research collaboration. The following summarizes key points from the brief presentations and Q&A session:

Mohammed Khogali (WHO/TDR Special Programme for Research and Training in Tropical Diseases): the TDR programme collaborates with ministries of health, research institutions and NGOs, provides training for researchers and supports to design and implement research and publish research findings.

Clint Liveoak (CDC/PEPFAR central Asia): the US government provides funding through the Global Fund and PEPFAR bilateral funding (Ukraine, Kazakhstan, Kyrgyzstan and Tajikistan). PEPFAR's bilateral country support reflects its focus on countries with the highest disease burden. The four countries receiving PEPFAR bilateral funding can include proposals for research in the annual planning process. CDC, which is a PEPFAR implementing partner, funds government and NGO partners including for research and monitoring and evaluation. Linkage to and retention in care is a priority for the US government.

Anke van Dam (AFEW): AFEW provides a platform to bring researchers and policymakers together, has organized workshops in EECA and promotes links between researchers in western and eastern Europe.

Patrizia Carrieri (ANRS): ANRS is the French national agency responsible for research on HIV, hepatitis, TB and STIs. It has a budget of around €42.5 million for basic, epidemiological and other research. Around 25% of the budget is allocated to international research and ANRS is supporting research on, for example, HIV prevention and care in Viet Nam, PrEP in Cambodia and HCV treatment in a number of countries. ANRS can fund collaborative projects involving researchers and community organizations and projects in EECA – there are no restrictions on country eligibility. ANRS will review the potential to fund implementation research projects in the region.

Eleanora Gvozdeva (UNAIDS Regional Support Team): UNAIDS identifies operational research priorities. While UNAIDS does not fund research, there may be opportunities to access funding for implementation research from UN country joint teams.

David Kokiashvili (Global Fund): Global Fund country grants in 2020 require 5% of the budget to be allocated to research, monitoring and evaluation and this can include operational research to address implementation bottlenecks. Multi-country and regional grants for HIV and TB can also include research. Countries that are ineligible for country support can be included in regional grants. Community involvement is a Global Fund requirement.

Annemarie Stengaard (Western–Eastern European Partnership Initiative on HIV, Viral Hepatitis and TB (WEEPI)): WEEPI is a new foundation that has been established to support clinical and implementation research related to HIV, VH and TB. The deadline for applications for the first round of funding for stage 1 projects is 1 March 2020 – the focus is on improving the quality of care across the continuum of care. Countries eligible to apply are Estonia, Georgia, Latvia, Lithuania, the Republic of Moldova, Romania and Ukraine – the number of eligible countries has been kept to a manageable size for the first application round. WEEPI encourages partnerships and collaboration within and across countries and NGO and community participation.

Olga Denisiuk (Alliance for Public Health/#SoS project): With Global Fund support, the project is conducting a range of operational research including, for example, on self-testing in Georgia and North Macedonia, on PrEP in Belarus and the Republic of Moldova, and developing services for transgender populations in Georgia and Kyrgyzstan. Community organizations are involved in the project's operational research.

During the subsequent plenary discussion, participants were encouraged to make use of the opportunities that the panellists represented with regard to strengthening research collaboration and seeking both financial and technical support for setting-up implementation research projects in their countries.

5 Conclusions

In the final session, Michel Kazatchkine provided a brief summary of the situation in the region and some of the key themes that emerged from the workshop. Although EECA countries have made progress, there is an opportunity to strengthen prevention and increase uptake of testing, treatment and care – implementation science has an important contribution to make. The following opportunities were raised:

- Robust data is essential – to inform the understanding of the situation and decisions about priority interventions and resource allocation. Looking critically at data and trends is also essential – as the session on misclassification of mode of transmission illustrated.
- Community participation is critical – to maximize the value of research, reach people who are often the hardest to reach, and ensure that services meet the needs of those they are intended to help.
- Policy needs to keep up with the evidence – in some countries implementation is ahead of policy, as the session on PrEP and self-testing showed.
- Pilots may be translated into implementation at scale – setting-up pilot projects is a common approach and, in some cases, interventions continue to be implemented as small-scale pilots for many years. Ensuring that pilot interventions are integrated into national policy and programmes is essential to wider implementation and impact.
- Implementation research should be multi-disciplinary and prospective as well as retrospective – much of the research presented at the meeting was looking at what happened in the past.
- Integrated service delivery and people-centred approaches are critical to improve linkage to care, retention in care and treatment outcomes.
- Evaluation – of policies and impact – is important and could be strengthened .
- The relationship between research and decision-making is complex – researchers need to recognize that evidence is only one factor in the decision-making process. Building a relationship of trust between politicians, civil servants, clinicians and researchers is vital if evidence is to influence decision-makers.

Viviane Bremer (RKI) and Nicole Seguy (WHO/Europe) closed the meeting and thanked the presenters, participants, workshop hosts and organizers and translators for their contribution to a successful meeting.

In conclusion, the workshop contributed to raising interest in using implementation research to improve the efficiency of national HIV and viral hepatitis programmes. It resulted in the development of key priorities for implementation research on HIV and viral hepatitis in participating countries. The workshop also resulted in identification of opportunities for strengthening collaboration between researchers in the region, and for funding implementation research.

This meeting report will be used to advocate for supporting the implementation of priority HIV and viral hepatitis operational research areas identified by participating countries. It may also be used as a basis for the development of comprehensive country implementation research plans on HIV and viral hepatitis.

Annex 1 Programme

Monday 10 February

<p>Session 1: Opening and setting the scene</p> <p>Chairs: Nicole Seguy (WHO/Europe) and Viviane Bremer (Robert Koch Institute, Germany)</p>		
<p>Objective: To set the scene and provide an overview of the workshop background, scope, objectives and expected outcomes.</p>		
9:00–9:15	Opening and welcome	Masoud Dara (WHO/Europe) and Binod Mahanty (German Federal Ministry of Health)
9:15–9:30	Workshop background, scope and objectives, format and expected outcomes	Nicole Seguy (WHO/Europe)
9:30–10:00	Introduction to implementation science	George Rutherford (University California San Francisco)
10:00–10:30	The value of community-based participatory and implementation research	David Michels (Coalition PLUS)
10:30–11:00	Coffee break and group photo	
<p>Session 2: Using quality data for focused action</p> <p>Chairs: Giorgi Kuchukhidze (WHO/Europe) and Ivana Bozicevic (WHO Collaborating Centre on HIV Strategic Information)</p> <p>Background: An increasing majority of newly diagnosed HIV infections are registered as heterosexually acquired in EECA – often leading to an interpretation of the HIV epidemic as being “generalized” and HIV transmission occurring among people with “no particular risk”. In reality, many heterosexually registered HIV cases have a history of drug injection or sex with men. Others have been infected through sex work or as part of migration. And others again belong to so-called “bridging populations” (being clients of sex workers, sexual partners of people who inject drugs, migrants or other key populations). Such additional information can be registered in the national surveillance system and used for better programme planning. This lack of detailed information, or misinterpretation of available data, can lead to prevention and testing interventions that are not sufficiently tailored towards the full range of population groups most at risk.</p> <p>Objective: To share analysis approaches and protocols for generating higher quality data to inform policy and practice, particularly on modes of HIV transmission.</p>		
11:00–11:05	Introduction to session topic	Annemarie Stengaard (WHO consultant)
11:05–11:20	Assessing misclassification of reported modes of transmission of HIV in Ukraine – the METIDA study	Kostyantyn Dumchev (Ukrainian Institute on Public Health Policy)

11:20– 11:35	Registering modes of HIV transmission and partner risks and using data for tailoring prevention and testing interventions – the German approach	Viviane Bremer (Robert Koch Institute, Germany)
11:35– 11:45	The hidden epidemic among MSM in EECA – a Global Fund project to enhance HIV strategic information	Vitaly Djuma (Eurasian Coalition on Health, Rights, Gender and Sexual Diversity)
11:45– 12:30	Facilitated plenary discussion	
12:30– 13:30	Lunch break	
<p>Session 3: Implementation science and use of programme data to assess barriers and test new approaches for improving impact throughout the HIV and viral hepatitis continuum of care</p> <p>Background: There is a substantial gap between evidence on effective HIV and viral hepatitis interventions and their actual delivery to the full range of people most at risk. Guidance and tools are in place to effectively reduce HIV and viral hepatitis incidence and provide optimal treatment and care for those living with the virus. Many countries are implementing the recommended interventions, but not at the right scale, in the right location or using the right approach to reach the full range of people in need of services. Implementation science can help assess barriers and close the gap between knowledge and practice to make an impact on the epidemic.</p> <p>Objective: To share examples of implementation science and/or documented effective delivery of HIV and viral hepatitis interventions throughout the continuum of care from prevention to viral suppression, including the process of translating evidence into practice and assessing impact of a given intervention or service delivery model.</p>		
<p>Session 3a. Integrated people-centred testing services</p> <p>Chairs: Elena Vovc (WHO/Europe) and Viatcheslav Grankov (WHO/Belarus)</p> <p>Background: Many people at higher risk of HIV and viral hepatitis, including partners of key populations and migrants, are not being reached by existing testing interventions and/or are not tested frequently enough.</p> <p>Objective: To share examples of implementation science and/or documented effective delivery of HIV and viral hepatitis testing interventions, aiming to strengthen the use of implementation science to assess barriers for reaching the first “90” target and optimize testing interventions in the EECA countries.</p>		
13:30– 13:45	Cost-effectiveness of HIV and HCV screening and frequency of HIV testing in key populations and based on epidemic profile	Anthony Cousien (Inserm, France)
13:45– 14:00	Use of social network-based HIV testing approaches for reaching key populations and their partners	Vana Sypsa (University of Athens, Greece)
14:00– 14:15	Integrating community testing into national M&E policies: needs and impact assessment	Jordi Casabona (CEEISCAT, Barcelona)

14:15– 15:00	Facilitated plenary discussion	
15:00– 15:30	Coffee break	
<p>Session 3b: HIV self-testing and PrEP</p> <p>Chairs: Antons Mozalevskis (WHO/Europe) and George Rutherford (UCLA)</p> <p>Background: HIV self-testing and PrEP are two new tools for which implementation science is particularly required to support their implementation at scale. For both, there is a need to understand and design service delivery models that are acceptable, can create sufficient demand (PrEP) and reach adequate coverage among the population groups in highest need.</p> <p>Objective: To share examples of ongoing implementation approaches and discuss how implementation science can help inform the design of effective and acceptable HIV self-testing and PrEP services in an EECA context.</p>		
15:30– 15:45	HIV self-testing/self-sampling – an overview of ongoing EU country pilots and development of toolkit to support further implementation	Meaghan Kall (INTEGRATE)
15:45– 16:00	Acceptability of HIV self-testing in five Russian cities – a qualitative research project	Peter Meylakhs (Higher School of Economics, St Petersburg)
16:00– 16:30	Discussion: How can implementation science help inform the design of a useful approach to HIV self-testing in EECA?	
16:30– 16:45	Implementing PrEP – assessing strengths and weaknesses of community versus clinic-based PrEP delivery in France	Jérémy Zeggagh (APHP, France)
16:45– 17:00	Early experiences with PrEP implementation in Georgia	Akaki Abutidze (Georgia)
17:00– 17:30	Discussion: How can implementation science help inform the development of effective and acceptable service delivery models?	

Tuesday 11 February

<p>Session 3c: HIV and viral hepatitis services for people who inject drugs</p> <p>Chairs: Niklas Luhmann (WHO/HQ) and Maria Plotko (EHRA)</p> <p>Background: There is a substantial gap between evidence on effective HIV and viral hepatitis prevention interventions and their actual delivery to the full range of people most at risk. Barriers include health systems factors, legislation/criminalization and insufficient political support.</p> <p>Objective: To share examples of data-informed programming and implementation research that have helped improve impact of HIV and viral hepatitis services for people who inject drugs.</p>		
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9:00–9:20	Rapid scale-up of harm reduction and impact on HIV incidence among PWID in China	Xiaobin Cao (NCAIDS, China)
9:20–9:35	Integration of HCV testing into harm reduction sites – implementation research protocols and results from the FIND project in Georgia	Maia Japaridze (NCDC, Georgia)
9:35–10:00	Facilitated plenary discussion	
<p>Session 3d: HIV and viral hepatitis treatment and care</p> <p>Chairs: Nicole Seguy (WHO/Europe) and Vladimir Chulanov (Russian Federation)</p> <p>Background: Losses are occurring throughout the continuum of care – from confirmatory diagnosis and linkage to care through initiation and retention in treatment, with large differences by population and location. Factors associated with timely (or delayed) diagnosis, linkage to care, treatment initiation, viral suppression and survival need to be better understood at local and national level.</p> <p>Objective: To share examples of implementation science, including cost–effectiveness analysis, and discuss how implementation science can help assess barriers for reaching the second and third “90” targets and improve the quality of treatment and care for better outcomes.</p>		
10:00–10:15	Assessing the quality of HIV care in Ukraine – barriers, actions and need for further research	Igor Semenenko (WHO consultant, Ukraine)
10:15–10:30	Implementation research to improve linkage to care, treatment and other outcome measures for PWID	Kostyantyn Dumchev (Ukrainian Institute on Public Health Policy)
10:30–11:00	Facilitated plenary discussion	
11:00–11:30	Coffee break	
11:30–11:45	Hepatitis treatment cost–effectiveness analysis: WHO Hepatitis B and C treatment calculators	Niklas Luhmann (WHO/HQ)
11:45–12:00	Facilitated plenary discussion	
12:00–12:15	Evaluating TB-HIV collaborative activities – a pilot WHO protocol	Giedrius Likatavicius (WHO consultant)
12:15–12:30	Facilitated plenary discussion	
12:30–13:30	Lunch break	
<p>Session 4: Working groups on priorities for an implementation science agenda in EECA</p>		

Chairs: Elena Vovc (WHO/Europe) and Viatcheslav Grankov (WHO Country Office in Belarus)		
Objective: To discuss implementation science priorities and gaps with a view to informing a draft HIV and viral hepatitis implementation research agenda for eastern Europe and central Asia.		
13:30–14:30	Working groups on country priorities for implementation science and technical recommendations for a draft implementation research agenda for the EECA	All
14:30–15:30	Feedback from working groups	All
15:30–16:00	Coffee break	
Session 5: Practical next steps and conclusions		
Chairs: Nicole Seguy (WHO/Europe) and Michel Kazatchkine (Special Advisor to UNAIDS in EECA, Graduate Institute of International and Development Studies)		
Objective: To discuss priorities for a draft implementation science agenda in the EECA and the practical next steps for its realization.		
16:00–16:45	Panel discussion: The role of regional partners in strengthening implementation science in EECA – options for funding and research collaboration across the Region	<ul style="list-style-type: none"> • David Kokiashvili (The Global Fund) • Annemarie Stengaard (WEEPI) • Mohammed Khogali (WHO TDR) • Olga Denisiuk (Alliance for Public Health/#SoS project) • Clint Liveoak (CDC/PEPFAR central Asia) • Eleanora Gvozdeva (UNAIDS RST) • Ivana Bozicevic (WHO Collaborating Centre on HIV Strategic Information) • Anke van Dam (AFEW) • Patrizia Carrieri (ANRS)
16:45–17:15	Facilitated plenary discussion	Michel Kazatchkine
17:15–17:25	Meeting conclusions and wrap up	Masoud Dara (WHO/Europe), Viviane Bremer (RKI), Nicole Seguy (WHO/Europe)
17:25–17:30	Meeting closure	

Annex 2 List of participants

Country representatives

Armenia

Hasmik Ghazinyan
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Norq Clinical Hospital of Infectious Diseases

Naira Sergeeva
Monitoring and Evaluation Specialist of HIV/AIDS and TB Grants
The Global Fund Programme Coordination Team
Ministry of Health

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Annex 3 Feedback from selected country working groups

Key technical priorities that are challenging to implement in practice		
Country	HIV	Viral hepatitis
Armenia	<ul style="list-style-type: none"> • Scaling up HIV testing through primary health care facilities and clinical settings • Increasing testing coverage among key populations • Improving linkage to care, treatment adherence and retention in care • Service integration • Coverage of key populations with prevention services 	<ul style="list-style-type: none"> • Reaching and screening the undiagnosed • Early treatment • Prevention of HBV (vaccination) and HCV (harm reduction)
Azerbaijan	<ul style="list-style-type: none"> • Cascade of care and reaching the 90–90–90 targets especially testing, linkage to care and treatment and treatment adherence • Testing coverage is low but scale-up is limited by current state regulations which only allow medical staff to collect and test blood samples 	<ul style="list-style-type: none"> • The Hepatitis Commission ceased operating in January 2020 as a result of health system reforms including a shift from state-financed health care to obligatory health insurance – challenges in access to testing and treatment are anticipated during the transition period – also challenges to service integration as HIV services remain under the MOH but TB services are now under the new State Insurance Agency • Effective promotion of voluntary HBV and HCV screening to younger people e.g. through use of social media
Belarus	<ul style="list-style-type: none"> • Adherence to ART and reaching viral suppression – • Implementation of the state social project/order on HIV prevention in key populations • PrEP in key populations 	<ul style="list-style-type: none"> • Estimating hepatitis prevalence • Decreasing the costs of the HCV treatment • Assure outpatient treatment for HBV free of charge
Estonia	<ul style="list-style-type: none"> • Reaching lost to follow-up • Reaching MSM • Rehabilitation and dependency treatment for PWID 	<ul style="list-style-type: none"> • Treating all • Hepatitis screening • Implementation of a strong strategic information system to

		guide the response, coverage with and uptake of prevention services
Georgia	<ul style="list-style-type: none"> • Increase case detection among key populations • Linkage to and uptake of care through decentralized service delivery • Stigma and discrimination 	<ul style="list-style-type: none"> • Linkage to care • Decentralization of diagnosis and treatment • Management and funding of HCV-related liver diseases
Kazakhstan	<ul style="list-style-type: none"> • Testing in key populations and scaling up PrEP • Assure trust in the services offered by the AIDS centres • Decreasing stigma and discrimination in general population and among health care workers • Reaching adequate treatment coverage and reaching viral suppression 	<ul style="list-style-type: none"> • Lack of credible comprehensive data on viral hepatitis in the overall population and in the key population groups • Coverage with testing and treatment for viral hepatitis in key populations • Elimination of HBV and HBC
Lithuania	<ul style="list-style-type: none"> • Linkage to care • Reaching some key populations, e.g. MSM, PWID (and in prisons) • Setting testing priorities • Strategic information on modes of transmission (misclassification due to stigma) 	<ul style="list-style-type: none"> • Development of population screening strategies • Assessment of the epidemiological situation • Reaching some key populations • Ensuring access to treatment
Republic of Moldova	<ul style="list-style-type: none"> • Reach the first 90 i.e. achieve higher national testing coverage; understand the barriers to HIV testing and why there is still reluctance to test for HIV 	<ul style="list-style-type: none"> • Testing at different levels (social networks, communities, health care settings) • Simplified models of care, services integration for communities needs • Cost-effective analysis on HCV treatment
Russian Federation	<ul style="list-style-type: none"> • Focused interventions and more support to services for key populations (PWID, MSM, CSR) • Hard access for specialized institutions to funds allocated strictly for research projects in the country 	<ul style="list-style-type: none"> • National programme on viral hepatitis • Decentralization of services • Decreasing the costs of direct acting antivirals (DDAs)

Tajikistan	<ul style="list-style-type: none"> • Reaching first 90 and assure coverage with testing services for migrants • Labour migrants • Criminalization of drug use • Challenges in assuring adherence to treatment in key populations 	<ul style="list-style-type: none"> • Access to testing (quality, lower cost for tests) • Health systems related structural barriers, need to organize better decentralization of services • Lack of national programme • Focused work in the groups that are most at risk in the country (pregnant women, IDUs, blood donors, PLHIV and migrants) • Need of a national strategy and targets for viral hepatitis elimination
Ukraine	<ul style="list-style-type: none"> • HIV status awareness gap, insufficient coverage and focus of HIV testing services • Up to date information on MOT is needed to guide prevention programmes • New prevention approaches are needed to cover the existing gaps in prevention 	<ul style="list-style-type: none"> • HCV status awareness gap, insufficient coverage and focus of HCV testing services • Implementation of simplified diagnosis and treatment algorithms • Insufficient levels of HBV vaccination especially among adult population

Three most important priorities for implementation research		
Country	HIV	Viral hepatitis
Armenia	<ul style="list-style-type: none"> • Stigma index • Classification/misclassification of MOT • Notification of partners of index cases • Incidence calculation • Cost-effectiveness of HIV interventions 	<ul style="list-style-type: none"> • HCV prevalence survey • HBV prevalence survey (including vaccinated population)
Azerbaijan	<ul style="list-style-type: none"> • Improving adherence, viral suppression, survival and other outcome measures • Community-based testing for HIV, hepatitis, TB and STIs • MOT validation studies 	<ul style="list-style-type: none"> • Identifying risk factors for current hepatitis virus transmission • Testing for HBV and HCV in primary care • Simplified models of care for HCV including in primary care
Belarus	<ul style="list-style-type: none"> • Research on data validation on ways of transmission 	<ul style="list-style-type: none"> • Cost-effective analysis (on the use of direct acting

	<ul style="list-style-type: none"> • Study the models of implementing PrEP • Social network driven testing (HIV/viral hepatitis) • Community based testing (HIV / viral hepatitis/ STIs/ TB) • Testing services provision at primary care level • Cost-effective analysis of transition to dolutegravir (DTG) in HIV treatment and the use of fixed-dose combinations (FDC) of ARVs 	<p>antivirals (DDAs) for HCV treatment)</p> <ul style="list-style-type: none"> • Estimated prevalence of viral hepatitis (number of not diagnosed people by population groups and their geographical location, size estimates) • Monitoring the reinfection with HCV
Estonia	<ul style="list-style-type: none"> • Support for assessment of quality of ARV (national HIV cohort study) • Mode of transmission validation studies (HIV), estimates of key populations size studies • Linkage to care and adherence • Testing in primary care 	
Georgia	<ul style="list-style-type: none"> • Acceptability of self-testing among key populations • Comparison of modalities of delivering testing to key populations • Stigma index 	<ul style="list-style-type: none"> • Simplified models of care • Same day treatment approach • Cost-effectiveness • Delivery of HBV vaccination for MSM
Kazakhstan	<ul style="list-style-type: none"> • Cost-effectiveness of various approaches to testing for key populations • Assessing possibilities for PrEP implementation in health care settings as compared with community based • Improving adherence, reaching viral suppression, survival of PLHIV from key populations 	<ul style="list-style-type: none"> • Testing at different levels (social networks, communities, health care settings) • Simplified models of care, services integration for communities needs • Cost-effective analysis on HCV treatment
Kyrgyzstan	<ul style="list-style-type: none"> • Improving HIV testing services, including self-testing and using the methodologies like RDS, Flagman project (PSI) in the country • Improving data quality – quality of identifying the ways of transmission 	<ul style="list-style-type: none"> • Implementation of free of charge population's screening for viral hepatitis • Improving surveillance and quality of data to produce accurate estimates on HCV and HBV prevalence in the population

	<ul style="list-style-type: none"> Improving adherence to antiretroviral treatment 	<ul style="list-style-type: none"> Advocacy for state funding/allocations for treatment and care of HCV and HBV
Lithuania	<ul style="list-style-type: none"> Determining obstacles to linkage to care in different risk populations and different regions Determining barriers to access to testing, treatment and PrEP for MSM (and in prisons) Cost-effectiveness of different testing strategies and in different populations Analysis of misclassification of MOT 	<ul style="list-style-type: none"> Assessment of epidemiological situation of viral hepatitis B and C Feasibility of integrated mobile team services
Republic of Moldova	<ul style="list-style-type: none"> HIV self-testing models implementation tailored to the context of the country (involving pharmacies or NGOs) Cost-effectiveness of HIV screening strategies Testing services in primary care settings – dual testing for HIV & Syphilis 	<ul style="list-style-type: none"> HCV self-testing models tailored to the context of the country (involving pharmacies or through NGOs providing HIV services) Estimates of undiagnosed by type of population and location, population size estimates) Identifying risk factors for current viral hepatitis transmission patterns
Russian Federation	<ul style="list-style-type: none"> Cost-effectiveness analysis for prevention, testing, treatment and care interventions tailored to the national context Improving linkages to care Use of new ARVs and FDC in HIV treatment and HIV drug resistance monitoring 	<ul style="list-style-type: none"> Assessing key risk factors for ongoing transmission Harm reduction Simplified models of care
Tajikistan	<ul style="list-style-type: none"> HIV testing and confirmation of diagnosis in labour migrants returning from highly affected areas Levels of information on HIV infection among labour migrants Stigma index 	<ul style="list-style-type: none"> Testing and screening for HCV and HBV Quality of care Coverage with testing and treatment services Cost-effectiveness of prevention interventions in Key Populations
Ukraine	<ul style="list-style-type: none"> Design and evaluate HIV testing model based on pharmacies 	<ul style="list-style-type: none"> Design and evaluation of an HCV testing model at primary

	<p>Evaluate HIV self-testing (HIVST) models for different subgroups</p> <ul style="list-style-type: none"> • Evaluate the effectiveness of the index testing strategy (currently implemented by PEPFAR) • Update the MOT study, with specific focus on heterosexual cases and their partners 	<p>care level and/or addiction treatment centres</p> <ul style="list-style-type: none"> • Implementing simplified HCV diagnosis and treatment algorithms/strategies at non-specialized settings • Strategies to provide HBV testing to adult population
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Country	Key barriers and support needs for conducting implementation research	
Armenia	<ul style="list-style-type: none"> • Stigma and discrimination • Lack of political will and attention to needs of key populations • Lack of funding 	
Azerbaijan	<ul style="list-style-type: none"> • Technical support for research design and for implementation and supervision of research projects • Additional financial support for implementation research • Transition following health system reforms 	
Belarus	<ul style="list-style-type: none"> • Financial and technical support for pilot research initiatives on validating the HIV ways of transmission, research protocol and implementation the national programme • Lack of protocols for PrEP implementation, insufficient information on PrEP for stakeholders in key financing federal entities in the country • Low cooperation between TB specialists, epidemiologists, testing points hosted by NGOs providing HIV services • Lack of funding for operational research overall • Insufficient involvement of civil society organizations in working with PLHIV with coinfections 	
Estonia	<ul style="list-style-type: none"> • Research is not a national priority – lack of funding and “moral” support • Technical capacity for modelling • Some groups are especially hard to reach – i.e. MSM for HIV 	
Georgia	<ul style="list-style-type: none"> • Funding • Technical assistance 	
Kazakhstan	<ul style="list-style-type: none"> • Technical support and technical guidance (in English and most needed in Russian) for developing research protocols for implementation/operation research • Lack of funding 	
Kyrgyzstan	<ul style="list-style-type: none"> • Lack of funding • Human and technical resources • Fostering an open dialogue with multiple national partners and stakeholders 	

Lithuania	<ul style="list-style-type: none"> • Research is not a national priority; decisions are often no based on data or analysis • Lack of funding • Lack of coordination and collaboration of different sectors e.g. health, social welfare, prison system
Republic of Moldova	<ul style="list-style-type: none"> • Research is not a national priority • Technical capacity to develop research protocol and implement operational research studies • Lack of funding
Russian Federation	<ul style="list-style-type: none"> • Operational research on HIV and viral hepatitis is not a national priority • Lack of national scientific foundations (as alternative to scarce state budget allocations focused mainly on fundamental research)
Tajikistan	<ul style="list-style-type: none"> • Lack of national funding for operational research • Lack of national priority supported through a national programme on viral hepatitis • Implementation of regular research initiatives following the priorities of the national programme
Ukraine	<ul style="list-style-type: none"> • Research is not a national priority; funding exists only in donor-funded programmes (GF and to limited extent in PEPFAR) • Limited technical research capacity, especially in governmental institutions and universities

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