

Training module
Access to HIV care and treatment for people who inject drugs
(PWID)

The three days training module is designed for organisations working with PWID aiming to improve access to care and treatment for people who inject drugs living with HIV.

Authors: Olga Denisiuk, Constantine Lezhentsev
July 2015



Acknowledgements

This manual required a large amount of work, technical expertise and dedication, and would not have been possible without the support of many individuals and organizations. The manual has been developed as a part of Community Action on Harm Reduction (CAHR) project, finance by the Dutch Ministry of Foreign Affairs.

We would like to extend our sincere thanks to all of them. First of all, we are grateful to the International HIV/AIDS Alliance in Ukraine team, for financial and logistical support and for providing necessary guidance concerning manual development and the pilot launch of the training.

We are also grateful to Professor Julio Montaner for providing expertise and technical support in implementation. Without his superior knowledge and experience, the manual would lack user-friendly information about evidence-based facts and research outcomes that the authors used as a platform for developing this curriculum.

We would like to express our sincere thanks to implementers of case management projects in Ukraine, particularly to Pavlo Smyrnov from the International HIV/AIDS Alliance in Ukraine, who developed the concept and strategy for its launch in Ukraine.

The authors would like to thank Maryna Braga and Tetyana Deshko, our counterparts on behalf of the CAHR project, for their constant support and assistance in developing the manual and Lily Hyde for editing the module.

Finally, we would like to thank all our workshop participants: Dr. Aung Zayar Paing and Dr. Nwe Ni Myint (Alliance Myanmar), Agus Suryadinata (Yakeba, Indonesia), Raditya (Rumah Cemara, Indonesia), Onesmus Kalama (Kenya AIDS NGOs Consortium), Sun Jiangli (AIDS Care China), Malini Sivapragasam and Manohara Subramaniam (Malaysian AIDS Council) and Maria Malakhova (Alliance Consultancy) for their work during the training launch in Bangkok, Thailand, December 2014.

Constantine and Olga

Context	
Abbreviations.....	3
Training principles and module use.....	3
Aim and objectives of the training	4
Training structure	4
Agenda	5
Day 1.....	8
Introductory session.....	8
Organizing access to ARV for PWIDs	10
Introduction to treatment cascade and Stage I of the care continuum	16
Stage II. Linking outreach clients to HIV healthcare centres	22
Day 2	25
Stage III. Dealing with co-infections (TB, HCV), treatment inclusion criteria, counselling and support	25
Adherence in PWIDs: effective approaches to maintaining adherence in PWIDs.....	28
Group work. Case discussion and presentation.	31
Day 3	33
What's new in the ARV world?	33
Country group work.....	35
Annex 1. Pre/post-workshop questionnaire.	36
Annex 2. Julio Montaner video lecture.	38
Annex 3. Cases.....	38
Annex 4. Workplan template.....	39
Annex 5. Principles of CITI.....	40
Annex 6. Lancet Article.....	40
Reading list.....	50

Abbreviations

AIDS – acquired immunodeficiency syndrome

ARV – anti-retroviral therapy

CAHR – Community Action on Harm Reduction Project

CITI – community initiated treatment intervention

GO – governmental organisation

HAART – highly active antiretroviral therapy

HIV – human immunodeficiency virus

NEP – needle exchange point

NSP – needle and syringe programme

PDI – peer driven intervention

PreP – pre-exposure prophylaxis

ST – substitution therapy

UNAIDS – the Joint United Nations Programme on HIV/AIDS

UNODC – United Nations Office on Drugs and Crime

VCT – voluntary counselling and testing for HIV

VL – viral load

WHO – World Health Organisation

Training principles and module use

The ideal number of training participants is 10–15 people. It is advisable to accommodate all participants at the location where the training will be conducted, as there will be homework at the end of each day in order to prepare training sessions in small groups. Staying in the same place as the training also encourages informal communication and team building.

Training principles:

- All participants (including facilitators) are equal and free to express their opinions and ideas.
- Facilitators are flexible in adapting the context of the training, based on country context and participants' needs and requests received before or during the workshop.
- Facilitators provide necessary support to participants for their homework, upon request.
- Participants are informed that, as part of the training concept, they will be required to perform post-training tasks and send their materials to facilitators.

Aim and objectives of the training

Aim: To present participants with a theoretical basis and practical models of building effective programmes on access to care and treatment for PWIDs, using community-based outreach services for marginalized groups as a platform.

Objectives:

- To present modern approaches for organizing ART for PWIDs, including regimen selection, adherence support and case management
- To develop best models for an effective case management model, using NSP and outreach projects that meet the requirements of both national specifics and client needs
- To develop project plans with a specific focus on scaling up ART for project clients.

Training structure

The training module is planned for three training days. It envisions day I focussing primarily on an introduction and lectures, day II combining both teaching and practical exercises, and day III focussing mainly on developing and presenting project workplans. All training days start at 9.30am and finish at 5.30pm with two coffee breaks. Each day participants will have a regular wrap up session to share the results of the day, and start every morning with a short Q&A session to reinforce key topics of the previous day.

Each teaching session is supported by practical exercises and interactive discussion. This will allow participants to gain a full understanding of models and approaches, as well as key principles of managing HIV positive clients in need of ART, including clients with co-morbidities and various social barriers to effective initiation of a care continuum.

The main focus of the training is on ensuring participants' full understanding of the potential of NSP/outreach projects to effectively manage clients with HIV, link outreach projects to HIV service sites, and the integral role of outreach teams in the continuum of care for PWIDs.

Agenda

Day 1

Time	Session title
9:30 – 10:00	Introduction (aim and objectives of the workshop) Questionnaire (pre-workshop)
10:00 – 10:20	Introduction of the facilitator and participants Participants' expectations
10:20 – 11:30	Organizing access to ART for PWIDs: historical overview, key principles and most effective models. New approaches to ART in PWIDs, role of NSP and access to ARV treatment in reversing the HIV epidemic in marginalized communities Video lecture by Julio Montaner Interactive presentation and discussion
11:30 – 12:00	Coffee-break
12:00 – 13:00	Treatment cascade concept: definition, key components of the continuum of care, flowchart of services and barriers Stage I discussion Outreach programmes as a vanguard of VCT and treatment continuum Facilitator: Making treatment in proximity and accessible – role of outreach programmes in ensuring entry to the care continuum Mini-presentations from countries (10 min/case presentation) – maximum 3

	<p>presentations</p> <p>Discussion</p>
13:00 – 14:00	Lunch
14:00 – 15:30	<p>Stage II discussion</p> <p>Linking outreach clients to HIV healthcare centres: access to HIV disease monitoring (CD4 cells, VL); case management, treatment counselling, integrated approach</p> <p>Facilitator:</p> <p>Mini-presentations from countries (10 min/case presentation) – maximum 2 presentations</p> <p>Discussion</p>
15:30 – 16:00	Coffee break
17:00 – 17:30	Feedback on day 1. Expectations for day 2

Day 2.






Time	Session title
9:00 – 9:30	Briefing on day 1
9:30 – 11:00	<p>Stage III discussion</p> <p>Within the healthcare system: dealing with co-infections (TB, HCV), treatment inclusion criteria, counselling and support</p> <p>Mini-presentations from countries (10 min/case presentation) – maximum 2 presentations</p>
11:00 – 11:30	Coffee break


11:30 – 13:00	<p>Stage IV discussion</p> <p>Adherence and effective viral suppression – the primary goal</p> <p>Facilitator:</p> <p>Adherence in PWIDs: effective approaches to maintaining adherence in PWIDs. Best models of ensuring high levels of adherence in PWIDs: peer counselling, modified DOTS, reaching “dropouts” and working with treatment failures.</p> <p>Mini-presentations from countries (10 min/case presentation) – maximum 1 presentation</p> <p>What should be in place to ensure effective adherence support for PWIDs who initiated ARV?</p> <ul style="list-style-type: none"> - medicines - integrated care sites - multi-disciplinary approach - peer counsellor - co-infection treatment (TB, HCV) - social and psychological support <p>Facilitated discussion</p>
13:00 – 14:00	Lunch
14:00 – 15:30	<p>Cases</p> <p>Group work</p> <p>4 cases given out (NSP client/VCT; TB co-infection ST client; treatment denial)</p> <p>Each group should finish with an individual plan for managing the client to ARV initiation</p>
15:30 – 16:00	Coffee break
16:00 – 17:00	Presentations from the groups
17:00- 17:30	Feedback on day 2. Expectations for day 3

Day 3.





Time	Session title
9:30 – 10:00	Briefing on day 2
10:00 – 11:00	<p>Experience of community-driven advocacy for access to treatment</p> <p>What's new in the ARV world? pre-contact prevention strategy (PreP); test and treat strategy; role of HAART in HIV prevention.</p> <p>Mini-presentations from countries (10 min/case presentation) – maximum 1 presentation (optional)</p> <p>Discussion</p>
11:00 – 11:30	Coffee break
11:30–12:30	<p>Country group work</p> <p>Developing an annual project plan for scaling up access to treatment for PWID</p>
12:30 – 13:30	<p>Presentations from country groups:</p> <p>Country project plans</p>
13:30 – 14:00	<p>Wrap up</p> <p>Feedback from participants</p> <p>Post-workshop questionnaire</p>

Day 1.**Introductory session**

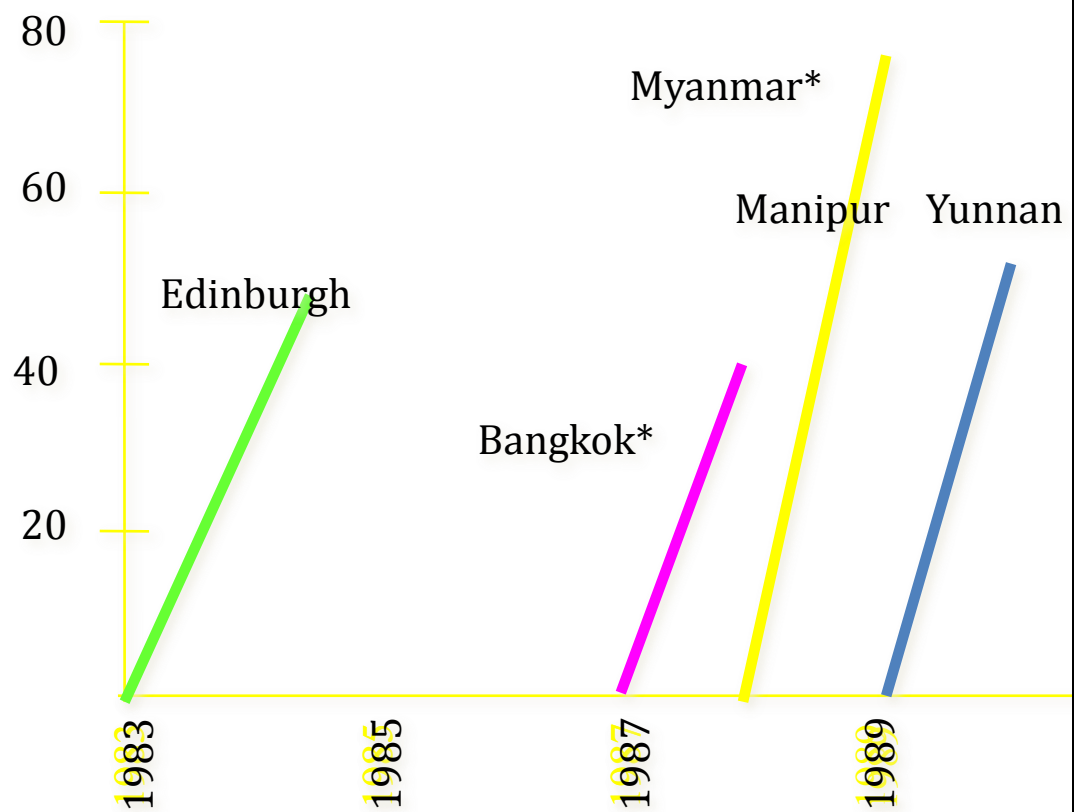
Objectives 	<ol style="list-style-type: none"> 1. Introduce training participants and facilitators 2. Gather expectations of participants and match them with the programme context 3. Present aim, objectives and agenda 4. Establish ground rules 5. Assess participant's knowledge/pre-workshop questionnaire
Time 	1 hour
Materials/ resources 	Flipchart paper, markers, coloured or felt-tip pens, a “tree of expectations” on a flipchart, a painting which symbolically presents the agenda, paints.
Step-by-step instructions  	<p>Step 1. Questionnaire sheets should be distributed beforehand in participants' folders. Each participant should fill in the questionnaire before the introductory session starts. ANNEX I</p> <p>Ask national partners to make a welcoming speech on behalf of the hosting organization (5 min)</p> <p>Step 2. Ask a healthcare professional who is a champion of promoting access to make a short inspiring speech on the role of harm reduction in access to care for PWIDs (10–15 min)</p> <p>Step 3. Introduce yourself, the group of co-trainers and administrative personnel. Try to give exact information:</p> <ul style="list-style-type: none"> - What project do you work for? - What is your experience as a consultant and trainer? - What's your relation to the hosting organization? <p>Your colleagues then make their presentations according to the same algorithm (15 min.)</p> <p>Step 4. Round of introductions from participants and their expectations from the training (20 min.)</p> <p>Give each participant one post-it note and ask them to write a short mini-presentation of themselves and their expectations from the training:</p> <ul style="list-style-type: none"> - My name and occupation

	<ul style="list-style-type: none"> - Where I come from - My expectations for this training - What I think is the most interesting/new thing to get from this training <p>Step 5. All participants put their notes on a “tree of expectations” (a tree drawn on a flipchart) that should stay on the wall during the entire training.</p> <p>Mention which expectations can be achieved during the training and which can be hard to achieve.</p>
<p>Key messages</p> 	<p>An introductory session usually follows the following sequence:</p> <ul style="list-style-type: none"> • Knowledge assessment • Introduction of training facilitators • Presentation of aim and objectives • Introduction of participants and expectations <p>Though the sequence can be changed, it is important not to forget any of the components.</p> <p>Make sure you have enough time for introductions when participants meet for the first time.</p> <p>The introductory session works as an ice-breaker and establishes the atmosphere for the whole training.</p>

Organizing access to ARV for PWIDs

Objectives 	<ol style="list-style-type: none"> 1. Give a historical overview of the development of access to treatment for PWIDs: concept, strategy and principles. 2. Present key principles of organizing ARV for PWIDs, most effective models and approaches. 3. Give information about new findings on ART for PWIDs, and the role of NSP and community outreach in access to ARV treatment. 4. Present the new vision and philosophy of ART and its role in reversing the epidemic in marginalized communities.
Time 	1–1.2 hours
Materials/ resources 	PowerPoint presentation ¹ , video lecture, flipchart paper, markers, 6 sets of paints, brushes.
Step-by-step instructions 	<p>Step 1.</p> <p>Start with slides giving a historical overview of the development of the concept of ART access for PWIDs.</p> <p>Focus specifically on barriers to scaling up ART for marginalized communities; provide parallels with negative stereotypes and denials that prevented scale up of ART access in developing countries.</p> <p>HIV in PWIDs: the neglected epidemic</p> <p>30% of all new HIV cases happen outside Africa’s sub-Sahara region</p> <p>30% of all HIV cases outside the sub-Sahara region are due to injecting drug use</p> <p>In many countries a generalized HIV epidemic started in the PWID community and quickly increased and spread to the general population</p> <p>Present this graph showing the exploding character of the HIV epidemic in PWID communities.</p>

¹ “Access to care and Treatment for PWIDs”, Day I presentation, Constantine Lezhentsev, Bangkok, Thailand, 2014



Make sure participants understand the key feature of the HIV epidemic in PWIDs: “once the virus gets into the PWID community it takes 5–7 years to develop into a full-blown epidemic that affects this population very severely”.

An effective response to the HIV epidemic is a combination of targeted prevention programmes (i.e. harm reduction) and access to treatment for vulnerable groups (ART).

Describe the situation with access to ART for PWIDs based on examples from selected countries: in China, Russia, Malaysia, Vietnam and Ukraine. In all these countries where PWIDs made up 67% of all HIV cases, only 25% of this category of patients received ART (2008–2010).

Make sure participants understand that limited access to ART for PWIDs is a universal problem and does not depend on economic development, healthcare infrastructure, etc.

Barriers to access to ART

- Chaotic lifestyle
- Poverty
- Double stigma in society
- Discrimination in medical facilities
- Fear of police harassment
- Arrest and incarceration
- Inability of healthcare system to work with this category of patients outside specialized institutions

Go through the barriers and make sure participants understand and agree with them.

Step 2.

Provide scientific data and evidence-based information about adherence, access to treatment and effective models of ART provision for PWIDs.

Present WHO guiding principles of ART organization in PWIDs. Each principle/approach should be supported by a case study description.

Be objective and try to describe each barrier specifically with proven ways to overcome it.

WHO guiding principles of organizing ART access for PWIDs (WHO, 2006–2014).

- ART as effective in PWIDs as in any other category of patients.
- In case there is a well-organized care and support for ART provision, both active and ex-PWIDs reach relevant adherence levels and respond effectively to ART.
- Access to quality drug treatment (first of all, Substitution Treatment) is critical for effective ART provision in PWIDs.
- Harm Reduction projects are vital for building entry point for PWIDs to healthcare system and ART provision and their integration into Treatment cascade is crucial for access to life-saving treatment for this category of patients.

Go through the guiding principles and focus specifically on the 4th principle that underlines the role of outreach/harm reduction projects.

Principles of organizing care for PWIDs

• **Accessibility.** Services should be in close proximity to the client, located near his or her place of living and/or an area of frequent community activities. They also should be part of the general system of healthcare

(decentralization, public health approach).

- Integration of services (one-stop shopping). Concentration of maximum quantity of the most needed services in one site.
- Gradual increase of complexity of healthcare interventions (except in urgent cases).
- Linkage with harm reduction programmes. Effective use of outreach routes, NEPs, drop-in zones as an entry point to healthcare interventions.

Provide examples of the best models of organizing care for PWIDs. Specifically focus on integration of substitution treatment (ST) and ART.

Examples:

- Canada. With ARV/ST integration, 35 out of 54 clients reached undetectable viral load in 24 months.
- USA. With ART/ST, 79% reached less than 400 copies viral load in 6 months compared to 54% in general healthcare settings.
- USA. 54% of patients achieved undetectable viral load when ART was delivered at needle exchange points; 69% chose to enter drug treatment .
- Ukraine. Combined tuberculosis treatment, ART, and buprenorphine was associated with undetectable HIV viral load, increased CD4 cell count, and sputum negative tuberculosis test after 6 months.

Step 3.

Describe new developments in ART and their role in effective management of treatment in PWIDs. Present results of studies on ART utilization in PWIDs.

Since 2004 there has been a breakthrough in developing new ART medicines, presenting optimal ART combinations and significantly cutting the price of ARVs.

What have we gained?

- Better regimens: simple, fewer side-effects
- Fixed dose combinations: number of pills decreased from 20 pills a day to 1 per day
- We have better knowledge about resistance, ways to prevent it, interactions between ART and substitution treatment medications/street drugs
- We know when to start, how to avoid complications and reduce mortality
- ART is a powerful tool to decrease HIV transmission

We have proven:

- Scaling up ART in PWIDs is not associated with increased levels of resistance to ARVs
- PWIDs (including active users) can be adherent to ART and reach undetectable levels of viral load as well as other patients

Studies:

• In the largest of the available studies (n=1191) investigators compared HIV resistance to all major classes of antiretroviral drugs in PWIDs and other patients during the first 30 months of ART.

• No difference in rates of resistance has been found.

• A 2010 meta-analysis concluded that PWIDs had no greater odds of developing antiretroviral resistance than did other patient populations.

Step 4.

Introduce Julio Montaner's lecture. Talk about Julio Montaner's role in developing evidence-based data on ART in PWIDs, his role in advocacy, research and delivery of medical care for marginalized communities.

Who is Julio Montaner?

Dr. Julio Montaner is a B.C. clinician and researcher recognized by the international community as a leader in the field of HIV for over 20 years.


Over the course of his career, Dr. Montaner's achievements have benefited thousands of British Columbians, as well as people living with HIV across the globe.

Among his many achievements, Dr. Montaner helped pioneer a "made in B.C." gold standard treatment for HIV, Highly Active Antiretroviral Therapy (HAART) – an achievement that has saved thousands of lives.





Dr. Montaner has played a pivotal role in establishing and evaluating the effectiveness of Vancouver's Supervised Injection Site, which supports hundreds of people who use injection drugs in Vancouver.

Currently, Dr. Montaner is leading a scientific inquiry to determine whether increasing HIV treatment coverage among affected individuals can reduce HIV transmission, a strategy that could offer new hope in the global battle against AIDS.

Dr. Montaner is a catalyst and leader of the main studies that we use as evidence when addressing adherence in PWIDs. He is an internationally known advocate for harm reduction and equal access to treatment for PWIDs.

	<p>Step 5. Start the video lecture. Make sure you study the lecture before the presentation and develop a “facilitation plan” (i.e. identify and underline key recommendations, statements and parts that require additional explanation).</p> <p>You can make pauses in the video lecture and encourage participants to comment. Make sure you facilitate interactive group discussion, so participants easily translate scientific data into practical solutions.</p> <p>Key questions participants raise could be the following:</p> <ul style="list-style-type: none"> - Do we have enough data to state that scaling up ART in PWIDs does not lead to resistance development? - Did Julio Montaner study active drug users or only clients of ST programmes in his research? - Did Julio Montaner suggest to start ART as early as possible also in PWIDs? <p>The video lecture is in Annex II.</p> <p>Step 6.</p> <p>Facilitate discussion based on two information blocks and reflect key points and summaries on the flipchart.</p> <p>Make a short summary of the knowledge gained from this section, and its importance for further discussion and group work.</p>
<p>Key messages</p> 	<p>It is important that participants remember and accept key statements on ART provision for PWIDs (reflected on the flipchart) that include:</p> <ul style="list-style-type: none"> • adherence in PWIDs – facts versus stereotypes • myths about ART in PWIDs and evidence-based study results • what works and does not work in organizing ART for PWIDs <p>The main message should reflect global acknowledgement of the role of harm reduction/outreach projects in organizing ART for marginalized communities, and that access to ART for their clients is their responsibility.</p>

Introduction to treatment cascade and Stage I of the care continuum

Objectives 	<ol style="list-style-type: none"> 1. Present the treatment cascade concept: modern definition and its epidemiological and programmatic value. 2. Discuss the care continuum concept and its main components/stages. 3. Discuss and identify main barriers in reaching treatment cascade goals. 4. Present stage I of the treatment cascade and discuss the role of outreach programmes in enhancing VCT and further treatment continuum.
Time 	1.5 hours
Materials/ resources 	PowerPoint presentation ² , flipchart paper, markers, coloured or felt-tip pens
Step-by-step instructions 	<p>Step 1.</p> <p>Start with the PowerPoint presentation slides that give a definition of the treatment cascade, and its practical use in organizing universal access to HIV treatment and care.</p> <p>Present the treatment cascade concept as a tool to understanding the link between prevention/VCT and treatment as integral components of the comprehensive strategy to control the HIV epidemic. (10 min.)</p> <p>What is the HIV treatment cascade?</p> <p>The HIV treatment cascade—also referred to as the HIV care continuum—is a system to monitor the number of individuals living with HIV who are actually receiving medical care and the treatment they need.</p> <p>It was developed to recognize the various steps necessary for everyone who needs HIV care to remain engaged in it—from the initial stage of getting tested for HIV, to being able to suppress the virus through treatment.</p> <p>The system recognizes the new science of viral suppression, which states that</p>

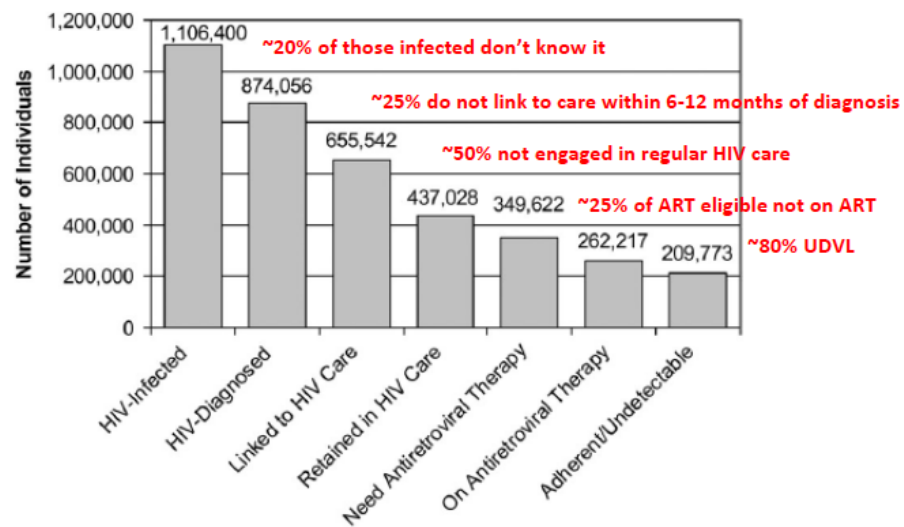
² “Treatment Cascade: definition and role in organizing universal access to HIV treatment and care”, Day I presentation, Olga Denisiuk, Bangkok, Thailand, 2014

when people are engaged in care and taking antiretroviral therapy (ART) to reduce the amount of virus in their bodies, it makes them less likely to transmit HIV to others.

We use treatment cascade as a powerful tool to monitor effectiveness of our outreach projects in their work linking people to care. Our programmes can use the treatment cascade to keep track of the progress our clients make after receiving a positive diagnosis, and throughout their lives.

Example of treatment cascade

Engagement in HIV care and Treatment in the US



Gardner et al. CID 2011

Step 2. Continue with information about key components/stages of the treatment cascade and mention work required at each stage:

- Stage I: enhancing coverage with HIV testing
- Stage II: linking PWIDs to HIV healthcare centres
- Stage III: Early (timely) ART initiation
- Stage IV: ART adherence support and support of retention in care

Describe the importance of community-based organizations in monitoring and sustaining the progress that clients make after receiving a positive diagnosis, and throughout their lives. (20 min.)

Step 3.

Interactive exercise: checking participants' knowledge and understanding of the key principles and activities in each stage of the treatment continuum.

(20 min.)

This exercise requires two facilitators (one making the round of questions and the other writing the answers on the flipchart). Start with the following questions:

- ✓ What is the key question for the stage 1 evaluation?

Answers :

How many PWIDs living with HIV are getting tested and diagnosed (and where to find them)?

Who is not covered?

Whom we are missing?

- ✓ What are the priority actions/solutions for stage 1?

Answers:

1. *Enhance and modify outreach testing models to cover hard to reach clients.*
2. *Risk network PDI (RNPDI) – active recruitment of HIV-positive clients and their risk networks.*

Write answers on the flipchart.

Discuss if there are any other proposed answers. Make sure ALL participants fully understand the recorded answers.

- ✓ What are the priority questions for stages 2 and 3?

Answers:

1. *How many HIV-positive PWIDs are linked to medical care (registered)?*
2. *How many have at least had a CD4 test (when was the latest?) and clinical assessment?*
3. *Of those, how many are receiving ART?*

- ✓ What are the main actions/solutions appropriate at stages 2 and 3?

Answers:

1. Community initiated treatment intervention (CITI) – rapid linkage to treatment intervention that ensures early treatment access for active drug users with follow-up adherence support.

Write answers on the flipchart.

Discuss if there are any other proposed answers. Make sure ALL participants fully understand the answers.

- ✓ What is the key question for the stage evaluation?

Answers:

1. *How many HIV-positive PWIDs are retained in HIV care and achieve effective viral suppression?*

- ✓ What are the main actions/solutions appropriate at stage 4?

Answers:

1. *Community initiated treatment intervention (CITI) – support during HIV treatment, adherence support.*
2. *Special adherence support programmes for PWIDs.*
3. *Client-centred approach.*
4. *Comfortable and safe atmosphere at treatment sites.*

Write answers on the flipchart.

Discuss if there are any other proposed answers. Make sure ALL participants fully understand the answers.

Step 4.

Give participants information about types of VCT and their advantages and disadvantages. Outreach is a cornerstone for effective VCT organization in specific populations. Provide more details for this.

(10 min.)

Step 5.

Describe different settings for VCT provision. What are the best settings for organizing VCT in PWIDs³?

³ WHO (NA), HIV testing services. Accessed in December 2014. Available at: www.who.int/hiv/topics/vct/en/

Start by outlining different types of VCT sites. VCT is being carried out in various settings in industrialized and developing countries, depending on needs and resources, including:

- Freestanding sites
- Hospital services
- NGOs within hospitals
- Integrated into general medical services as part of specialist medical care (STI, dermatology or chest clinic; antenatal and family planning services, etc.)
- Part of the continuum of care/home-based care (including palliative care services)
- Health centre (urban or rural)
- Private sector (clinics and hospitals)
- Workplace clinics
- Legal requirements: pre-employment, pre-travel, premarital
- Youth and school health services
- Health services for vulnerable groups
- Children and orphans
- Self testing/home testing
- Research project/pilot project
- Associated with antenatal services and interventions
- Associated with tuberculosis service and TB prevention therapy
- Blood transfusion services

Problems associated with VCT for PWIDs:

- Lack of resources and available services
- Illegality of intravenous drug use
- Hard to reach population
- Psychosocial problems frequently associated with drug use
- Punitive rather than prevention and care approach to PWIDs
- Needs of PWIDs in prisons ignored
- Mandatory testing before medical and psychosocial treatment or entry to prison

Emphasize important features of VCT for PWIDs. (20 min.)


Before providing this information, ask the group what the particular qualities of VCT provision for PWIDs are at their sites.

Write answers on the flipchart.


Step 6.




Ask participants What are the main barriers they face to providing VCT at their sites?

What model(s) do they use?

	<p>Provide an interactive comparative analysis of pros and cons of different VCT types when working with PWIDs.</p> <p>Example:</p> <p>Community-based VCT. Pros: close to target group, accessible, flexible working schedule, trusted, etc. Cons: recognition of the results in healthcare settings, follow up, safety, etc.</p> <p>Step 7.</p> <p>Wrap-up exercise. Brainstorming session:</p> <p><u>Ask yourself before you start outreach VCT: What should you have in place when starting outreach VCT?</u></p> <p>Write answers on the flipchart.</p> <p>Examples:</p> <p>Trained personnel</p> <p>Permission from authorities</p> <p>Links to healthcare facilities</p> <p>Storage conditions</p> <p>Infection control</p> <p>Data management</p>
<p>Key messages</p> 	<p>It is important participants appreciate that treatment cascade is a practical concept of understanding how treatment and prevention work together and are integral parts of a comprehensive strategy to control the HIV epidemic.</p> <p>It is critical to make sure participants understand that outreach projects are the cornerstone of effective VCT for PWIDs, and therefore the entry point for the whole continuum of care and treatment.</p>

Stage II. Linking outreach clients to HIV healthcare centres

<p>Objectives</p> 	<ol style="list-style-type: none"> 1. Inform participants about the main principles and models of effective involvement of harm reduction/outreach projects in the process of organizing access to ART for PWIDs. 2. Community initiated treatment intervention – definition, principles of organization, technical and human resource needs. 3. Algorithm of case management and linking to healthcare centres.
--	---

	4. Principles of integrated care and on-site access to healthcare interventions.
Time 	1.5 hours
Materials/ resources 	PowerPoint presentation ⁴ , flipchart, short PowerPoint presentations from countries (experience, service models, problems)
Step-by-step instructions 	<p>Step 1.</p> <p>Start the session with questions to refresh previously discussed issues related to Stages I–II. (5–10 min.)</p> <p>Step 2.</p> <p>Continue with the definition of <u>CITI (community initiated treatment intervention)</u>. Provide participants with the aims and principles of organizing CITI.</p> <p>Main steps of CITI intervention:</p> <ul style="list-style-type: none"> ✓ Meeting the client after rapid test positive result, or recruited lost cases from AIDS clinic registers ✓ Signing informed consent, client card and support plan ✓ Navigation through registration process (tests, meetings with clinicians, etc.) – creating a “green corridor” ✓ Work with client motivations and myths ✓ Support during HIV treatment, adherence support (20 min.) <p>Step 3.</p> <p>Presentation on integrated services: principles of integrated services</p>

⁴ “CITI: definition and role in organizing access to care and treatment for PWIDs”, Day I presentation, Olga Denisiuk, Bangkok, Thailand, 2014

provision, aims and barriers for effective organization of integrated services. (20 min.)

Actualize main aspects of integrated services provision:

1. Providing services at a “one-stop shop”. Research indicates that providing all services at a “one-stop shop” is much more efficient than referring patients to other healthcare facility services, even when all necessary agreements and mechanisms are in place.
2. Multidisciplinary approach. Case management by a group of specialists who meet regularly to coordinate their activities guarantees rational organization, timely response and greater efficiency of treatment.
3. Partnering with patients. Trust and mutual understanding between patients and health or social workers decreases the risk of treatment interruption associated with the side effects of medication, inadequate dosage, or violation of programme rules; supports greater achievement of therapeutic goals, and decreases the risk of burn-out among project personnel.
4. Applying harm reduction principles.
5. Intersectoral cooperation. Cooperation between governmental and nongovernmental sectors in the organization and provision of services is both useful and necessary.

Mention the importance of referrals from the community involvement perspective:

- ✓ *If it is not possible or reasonable to provide a certain service at health care facilities, that service should be provided through referral.*



Step 4.

Brainstorming exercise: What are the most needed services for our clients (PWIDs in our countries)? Write answers on the flipchart. (20 min.)

Example:


- Access to rapid testing (HCV, HIV)
- Access to TB diagnosis and treatment
- Substitution therapy
- Housing
- Food
- NSP and clean water
- ART delivery




Step 5.

	<p>Go through the list and discuss proposed services. Select the most needed, encourage participants to provide arguments why they think these services are most critical in their national/project context. (10min.)</p> <p>Step 6.</p> <p>Prepare a short presentation about effective models of treatment linkage and CITI. Use the information in ANNEX III as a resource. (10 min.) Facilitated discussion and wrap up.</p>
<p>Key messages</p> 	<p>Participants should understand the key principles of CITI and integrated services provision. The key message is that harm reduction/outreach sites should be the catalysts and drivers of services implementation.</p> <p><i>If it is not possible or reasonable to provide a certain service at healthcare facilities, that service should be provided through referral.</i> This slogan should be written on the flipchart and put on the wall.</p>
<p>Feedback from day 1/ expectations for day 2</p> 	<p>Facilitated discussion</p> <p>Participants are invited to answer three points in turn:</p> <ol style="list-style-type: none"> 1. Share your feelings from the day. 2. What is the most important/interesting information you got during day 1? 3. Share your expectations for tomorrow. <p><u>Make sure all participants share their thoughts and feelings from the day!</u></p>

Day 2

Stage III. Dealing with co-infections (TB, HCV), treatment inclusion criteria, counselling and support

<p>Objectives</p> 	<ol style="list-style-type: none"> 1. Present the basics of managing TB and HCV co-infection; its role in HIV mortality; why TB is a key risk factor for HIV-positive PWIDs. HCV/HIV co-infection and ART: facts and developments. 2. Best models of organizing care for people with TB/HIV co-infection who are PWIDs.
--	---

	<p>3. What is the integrated care model? How does it work?</p> <p>4. Role of community-based counselling and service provision in managing TB/HIV/HCV co-infection.</p>
Time 	1.5 hours
Materials/ resources 	PowerPoint presentation ⁵ , flipchart, short PowerPoint presentations from countries (experience, service models, problems)
Step-by-step instructions 	<p>Step 1.</p> <p>Start with the “throw the ball” exercise: the facilitator starts off by throwing the ball to a participant and asking a question from the topics of day 1. The participant answers the question and throws the ball with a relevant question to the next participant. The exercise continues until all participants have answered. (15 min maximum).</p> <p>Step 2.</p> <p>After the exercise, make an introductory presentation on key pillars of stage III.</p> <ul style="list-style-type: none"> • What is our role within the healthcare system? • What are the most needed services that have to be in place for our clients? • How we can make these services accessible and in proximity to clients? • Main gaps in managing clients with dual/triple diagnosis (HIV/TB/HCV). <p>Step 3.</p> <p>Make sure you prepare a case model from a country that shows how effectively TB, ARV and ST services can be integrated. We propose using the Ukrainian example of ensuring access to ST in TB hospitals and organizing on-site access to ART for TB patients.</p>

⁵ “Integrating HIV, ST and TB services: model of Ukraine”, Day II presentation, Olga Denisiuk, Bangkok, Thailand, 2014

Case study: TB/ART/ST.

In Ukraine TB is responsible for more than 75% of all AIDS-related deaths. The majority of PWID patients are expelled from TB wards due to drug use and “security violations”, cannot benefit from TB treatment, and add to the growing incidence of multi-drug resistant TB in the country.

Within the Global Fund to fight AIDS, TB and Malaria project we equipped TB hospitals with storage conditions for narcotic medications and ensured hospitals obtained a license to store and prescribe ST medications.

On-site access to ST ensured compliance of PWID patients to treatment regimens, successful completion of TB courses and effective initiation of ART while on TB treatment.

Most of our clients arrive at TB wards with severe immunodeficiency and have to start ART together with TB treatment. We organized on-site counselling with infectious disease specialists, and delivery of ARV stocks to TB wards.

It is important to underline that these services are usually the most needed for our clients. Make sure participants understand why this is so.

- Who are late presenters to treatment?
- Why do the majority of marginalized patients present late to treatment (main reasons)?


Step 4.

Ensuring services are close to, and accessible by the client. Make sure you prepare a case model/project experience of how NSP sites can be used for actual treatment delivery: blood sampling for CD4/viral load, ART distribution, treatment counselling, etc.; explain why it is important. Try to link project activities to specific barriers in accessing ART by PWIDs.



Step 5.



Effective cooperation with healthcare structures/clinics. Make sure you present a positive experience that describes the partnership between NSP/outreach teams and healthcare clinics. Try to show what innovative approaches healthcare institutions have implemented to provide client-centred, demand-oriented services for PWIDs.

For example: changing working hours to serve clients who constantly fail to come during morning hours; minimizing long waiting times; devoting one

	<p>specific day a week to serve clients with special needs, etc.</p> <p>Step 6.</p> <p>Facilitate discussion on best models of working within healthcare settings. Write best approaches, models and innovations on the flipchart.</p> <p>Key points for discussion:</p> <ul style="list-style-type: none"> - Building a network of trusted physicians - Organizing laboratory diagnostics for our clients: blood sampling on-site, samples delivery, diagnostics, etc. - Making special attendance times in hospitals for PWID clients - Placing an adherence counsellor in the facility
<p>Key messages</p> 	<p>Participants should understand that very simple reforms/innovations can lead to success in managing HIV in PWIDs. It is important that NSP/outreach teams understand the importance of close cooperation with healthcare personnel, and that their knowledge of the clients is critical for effective management of ART and co-morbidities. Specific focus should be placed on the actual use of NSP/outreach sites in ART delivery and supporting other treatments in PWID clients.</p>

Adherence in PWIDs: effective approaches to maintaining adherence in PWIDs

<p>Objectives</p> 	<ol style="list-style-type: none"> 1. Provide basic knowledge about adherence and its role in treating chronic diseases. Why is adherence important in infectious diseases? What are the appropriate adherence levels for ART? 2. Make an overview of the best models of ensuring high levels of adherence in PWIDs. 3. Provide information on the importance of peer counselling: preparing peer counsellors, organizing their effective work, adherence education and adherence support sessions. 4. How to reach “dropout” patients and work with treatment failures 5. Develop a list of adherence support tools together with participants.
<p>Time</p> 	<p>1.5 hours</p>

Materials/ resources 	PowerPoint presentation ⁶ , flipcharts, markers, sheets of paper for case descriptions.												
Step-by-step instructions 	<p>Step 1.</p> <p>Start with information about adherence, its role in effective treatment of chronic diseases, high value of adherence in treating infectious diseases.</p> <p>Make sure participants understand the role of adherence in HIV treatment. Give practical examples of what 90% adherence or sub-optimal adherence (days, doses missed) mean.</p> <p>Facts:</p> <ul style="list-style-type: none"> •80% adherence is optimum for treating many chronic diseases. •Infectious diseases require higher adherence rates because of resistance. •TB is very similar to HIV as 95% adherence leads to optimal outcome, whereas chaotic and irregular pill intake leads to resistance and treatment failure. <p>Adherence and treatment effectiveness⁶</p> <p>What adherence is required?</p> <table data-bbox="363 1249 718 1697"> <thead> <tr> <th><i>AD-ce</i></th> <th><i>VL</i></th> </tr> </thead> <tbody> <tr> <td>>95%</td> <td>81%</td> </tr> <tr> <td>90–95%</td> <td>64%</td> </tr> <tr> <td>80–90%</td> <td>50%</td> </tr> <tr> <td>70–80%</td> <td>25%</td> </tr> <tr> <td><70%</td> <td>6%</td> </tr> </tbody> </table> <p>Examples of non-adherence</p> <ul style="list-style-type: none"> •Chaotic medicine uptake •Frequently missing doses 	<i>AD-ce</i>	<i>VL</i>	>95%	81%	90–95%	64%	80–90%	50%	70–80%	25%	<70%	6%
<i>AD-ce</i>	<i>VL</i>												
>95%	81%												
90–95%	64%												
80–90%	50%												
70–80%	25%												
<70%	6%												

⁶ “Adherence for ART in PWIDs”, Day II presentation, Constantine Lezhentsev, Bangkok, Thailand, 2014

- Terminating uptake of one or more ARVs from the scheme

- Missing visits to the doctor

Step 2. Make an overview of the models and tools for adherence support in PWIDs, link each tool to a specific challenge for adherence in PWID clients.

Make this discussion interactive and try to involve participants by encouraging them to share stories from friends, clients who started to take ART, etc. (10 min):

- What was the biggest problem with adherence?
- What support was provided?
- What was the reason for terminating treatment (in a negative case)?

Step 3. After the presentation, start a brainstorming discussion on “What should be in place to ensure effective adherence support for PWIDs who started ART?” Write all the ideas from participants on the flipchart and make sure participants mention:

- medicines
- distribution of medicines (pre-packed)
- alarms and reminders
- integrated care sites
- multi-disciplinary approach
- peer counsellor
- modified DOTS
- social and psychological support


Summarize the brainstorming session with a list of adherence support tools and methods. (20 min.)

Step 4.





Interactive exercise. Divide participants into groups of 3 people.



Each group should write the story of a client who starts ART (either a real one or an invented). The portrait should include:

- Age, sex, place of living (province, big city, small village)
- His/her drug-use experience: how many years, which drugs, alcohol use,

	<p>etc.</p> <ul style="list-style-type: none"> - How did you met him/her? - Why does he/she have to start ART: laboratory results, clinical condition, how does he/she feel? - What is his/her knowledge of ART, and attitude towards treatment? - Social conditions and way of life. <p>Make an analysis of potential risk factors for the client's adherence. Why does the group think they are important?</p> <p>Propose a strategy for supporting adherence in the client. Participants should describe what tools they will use, and how they will provide adherence education/adherence support. What they will need for this strategy?</p> <p>Time to prepare oral presentation: 30–40 min.</p> <p>Step 5. Facilitated discussion. Each group presents their “client” and strategy. Other participants ask questions and make recommendations after each presentation. The facilitator makes an assessment of the strategy and summarizes group recommendations and evaluation of each presentation. (20 min.)</p>
<p>Key messages</p> 	<p>Participants should gain a clear understanding of the role of adherence, its importance for effective HIV treatment and optimal adherence rates. They should understand the specifics of adherence in PWIDs, and get objective information about potential problems with adherence and why they appear. Participants should understand the main tools and methods for adherence support in PWIDs.</p> <p>It is important that participants understand when an intensive period of adherence support is needed. Why? What is the role of peers/outreach workers in adherence support? Participants should gain practical knowledge in assessing risks and factors influencing adherence and develop relevant strategies for adherence support.</p>




Group work. Case discussion and presentation.


Objectives 	<ol style="list-style-type: none"> 1. Carry out a practical exercise on managing clients with various needs and barriers to access to ART. 2. Participants should gain practical experience in identifying client needs and developing strategies for managing clients.
Time 	1–1.5 hours
Materials/ resources 	<ul style="list-style-type: none"> • Flipchart, markers, handouts
Step-by-step instructions 	<p>Step 1:</p> <p>Ask participants to divide into 4 groups. (if the audience is small, having 2 groups working on 2 cases each is an option). (10 min.)</p> <p>Step 2.</p> <p>Start by presenting key components of the case management strategy for each client. Briefly present the cases (you can note that they are taken from real life). Then, give out handouts with the cases (see ANNEX III) to each group and make sure each group has a space to work, flipchart paper/laptop, handouts. Make sure you divide facilitators between the working groups to supervise and assist each group. (20 min.)</p> <p>Key components of the case management strategy:</p> <ul style="list-style-type: none"> - Key problems/barriers in assessment/utilization of treatment. - Reasons they appear - How to classify problems/barriers (i.e. social, psychological, adherence, drug use, co-infection, etc.) - What should you start with? - Whom should you involve? - What approaches/models will you use? - Describe specifically the role of the outreach programme in managing your client. (1 hr)


	<p>Step 3.</p> <p>Facilitate a presentation session based on the results of group work. Make sure you upload the PowerPoint presentations and make them available to participants. Make sure you discuss each case presentation with involvement of the whole audience. Focus on specific identified barriers and solutions proposed by the group in each case. (30 min.)</p> <p>Discussion and wrap up.</p>
<p>Key messages</p> 	<p>Participants should gain practical experience in identifying key barriers/problems to clients accessing ART, how to prioritize activities in managing your client, and the role of the case manager in ART initiation, retention and re-starting.</p>
<p>Feedback from day 2/ expectations for day 3</p> 	<p>Facilitated discussion</p> <p>Participants are invited to answer three points in turn:</p> <ol style="list-style-type: none"> 1. Share your feelings from the day 2. What important/interesting information have you got during day 2? 3. Share you expectations for tomorrow <p>Make sure all participants share their thoughts and feelings from the day!</p>

Day 3




What's new in the ARV world?



<p>Objectives</p> 	<ol style="list-style-type: none"> 1. Give an overview of new developments in ART that could improve access to treatment and adherence in PWIDs. 2. Provide information about pre-contact prevention strategy (PreP), test and treat strategy and overall role of ART in prevention of HIV transmission.
<p>Time</p> 	<p>45 min.</p>
<p>Materials/</p> 	<p>Flipchart paper, markers</p>

resources	
<p data-bbox="108 232 300 309">Step-by-step instructions</p> 	<p data-bbox="363 315 469 349">Step 1.</p> <p data-bbox="363 394 1469 600">Start with the “throw the ball” exercise: the facilitator starts by throwing the ball to a participant and asking a question on the topics of day 2. The participant answers the question and throws the ball with a relevant question to another participant. The exercise continues until all participants have answered questions. (15 min maximum).</p> <p data-bbox="363 645 469 678">Step 1.</p> <p data-bbox="363 723 1401 790">“When to start?” considerations and how they change over a period of time. Recent WHO recommendations, US and EU guidelines. (10 min.)</p> <p data-bbox="363 835 1469 902">June 2013 was a turning point in ART, when WHO issued new recommendations that envision new criteria for an early start of ART.</p> <p data-bbox="363 947 1453 1059">As a priority, ART should be initiated in all individuals with severe or advanced HIV clinical disease (WHO clinical stage 3 or 4) and individuals with CD4 count ≤ 350 cells/mm³ (<i>strong recommendation, moderate-quality evidence</i>).</p> <p data-bbox="363 1059 1445 1171">ART should be initiated in all individuals with HIV with a CD4 count >350 cells and ≤ 500/mm³ regardless of WHO clinical stage (<i>strong recommendation, moderate-quality evidence</i>).</p> <p data-bbox="363 1171 1390 1238">ART should be initiated in all individuals with HIV regardless of WHO clinical stage or CD4 cell count in the following situations:</p> <ol data-bbox="523 1238 1453 1574" style="list-style-type: none"> a. Individuals with HIV and active TB disease (<i>strong recommendation, low-quality evidence</i>). b. Individuals coinfectd with HIV and HBV with evidence of severe chronic liver disease (<i>strong recommendation, low-quality evidence</i>). c. Partners with HIV in serodiscordant couples should be offered ART to reduce HIV transmission to uninfected partners (<i>strong recommendation, high-quality evidence</i>). d. Pregnant and breastfeeding women with HIV. <p data-bbox="363 1619 469 1653">Step 2.</p> <p data-bbox="363 1697 1469 1765">What is PreP(pre-exposure prophylaxis). Research study, results. Pros and cons. Current international discussion.</p> <p data-bbox="363 1809 1469 1877">PreP is a strategy of using antiretroviral medications in preventing transmission of HIV in men having sex with men.</p> <p data-bbox="363 1921 1430 2063">PreP strategy is based on the encouraging results of the IPERGAY and PROUD TRIALS that studied the influence on transmission of antiretroviral combinations (2 ARVs) taken before and after unprotected sex. The key innovation was assessment of pre-contact versus daily intake of pills.</p>

	<p>UNAIDS states that no single intervention is completely protective in preventing HIV transmission, which is why UNAIDS advocates strongly for combination HIV prevention. This includes correct and consistent use of condoms, delaying sexual debut, having fewer sexual partners, male circumcision, access to antiretroviral therapy, reducing stigma and discrimination.</p> <p>Discussion with the audience. (10 min.)</p> <p>Step 3.</p> <p>How can new developments in ART be beneficial for our clients?</p> <p>Facilitated discussion. (10 min.)</p>
<p>Key messages</p> 	<p>Participants should understand that ART has hugely improved over the last decade; we now have much simpler, less toxic, user-friendly combinations.</p> <p>At the same time the necessity to start earlier gives us all another challenge in terms of recruitment, timely initiation and effective management of ART in PWIDs.</p> <p>Scaling up ART access in PWIDs is not only a life-saving humanitarian act, but an effective tool of prevention of new cases in the PWID community which is critical to controlling the epidemic.</p>

Country group work

<p>Objectives</p> 	<ol style="list-style-type: none"> 1. Develop an annual plan for scaling up access to treatment for PWIDs. 2. Present and review country access to treatment plans, discuss technical assistance needs and operational research component.
<p>Time</p> 	<p>1.5–2 hrs</p>
<p>Materials/ resources</p> 	<p>Flipchart paper, markers, handouts/templates</p>
<p>Step-by-step instructions</p>	<p>Step 1.</p> <p>Present a template of project annual plans: what components should be included, indicators, technical assistance and operational research components. See ANNEX IV</p>

	<p>(10–20 min.)</p> <p>Step 2.</p> <p>Participants are divided into country groups; in case there is only one country representative, propose that he/she joins a neighbouring country group. (10 min.)</p> <p>Step 3.</p> <p>Participants work in country groups for 1 hour; after completing the exercise they return to the conference room.</p> <p>Step 4.</p> <p>Presentations from- country groups Group discussion</p> <p><i>Note: All presentations should be filed by programme staff for further review and follow-up. It is important to agree with each country team on terms and deadlines for completion of the scaling up plan.</i></p>
<p>Key messages</p> 	<p>What was new and what was most important during the last 3 days? What further information and what technical assistance might you need to launch activities outlined in our training?</p> <p>Make sure you describe options and procedures for follow-up and next steps as part of project implementation. Supply the relevant email address of the facilitator responsible for follow-up.</p>

Annex 1. Pre/post-workshop questionnaire.

1. What are the main barriers to access to ART for PWIDs?

- Limited skills to adjust their lifestyle to pill-taking schedules
- Discrimination in the healthcare system
- Fear of criminalization
- Geographical location and working hours of HIV clinics
- Lack of knowledge about ART and myths (disbelief in treatment)

Your view_____

2. What can outreach projects do to ensure access to HIV treatment for their clients?

- Give information about treatment facilities
- Provide VCT on site
- Do treatment counselling
- Take blood for CD4 tests
- Link their clients to ARV sites

Your view_____

3. What are the key principles of organizing access to ART for PWIDs?

- Concentration of most needed services in one place
- Use of harm reduction projects as an entry point to care and treatment
- Effective treatment counselling as part of outreach work
- Accessibility – ART delivery should be close to their place of living
- Peer counselling and adherence work
- All of the above

Your view_____

4. When do we need to start ART in PWIDs?

- When they stop active drug use and start ST
- When they develop TB
- When they have indications based on their CD4 cell count
- When they have clinical symptoms of AIDS

Your view_____

5. Who will fail their ART regimen?

- People who actively use heroin
- People who actively use amphetamines
- People on ST who use alcohol
- It is really hard to predict

Your view_____

6. What defines successful ART?

- Client feels better and has no side-effects
- Client stops active drug use and starts ST
- Undetectable viral load and increase in CD4 count

Your view_____

Annex 2. Julio Montaner video lecture.

You can watch video lecture [here](#)

Annex 3. Cases.

CASE I.

Farid is a client of the local community-based needle exchange programme. He has been using heroin for 8 years. He has been tested once for HIV when he was in the local clinic with abscesses three years ago. The needle exchange site where he goes with his friend provides sputum collection for TB screening, and his friend got a positive TB result. After the diagnosis of TB was confirmed,

Farid was offered a TB prevention course. In the clinic where he comes to pick up his medicines, he heard that his friend was diagnosed with HIV and hospitalized with severe immunodeficiency.

Farid does not believe he has HIV, he says he was tested three years ago, and has a very negative experience of visiting the TB clinic: “People are dying there, I don’t want to come to any clinic anymore...”

In the HIV clinic he was treated in a discriminatory way by the doctor, who simply sent him away from the clinic. “They all hate me, I have no reason to go there...”

CASE II.

Anita was diagnosed with HIV more than 5 years ago when she took an HIV rapid test at a needle exchange point. She is an active drug user and often works as a street sex worker to support her habit and send money to her family in the village. She is a regular client of the local NEP and regularly takes condoms and syringes. She became good friends with an outreach worker and once said that since she was diagnosed she has never visited the HIV clinic and does not know her CD4 count (actually she doesn’t know what CD4 means).

CASE III.

Max is a drug user and outreach worker in the local needle exchange project. He has been living with HIV for 7 years. He started treatment 2 years ago with AZT-3TC-NVP, but terminated treatment after 2 months because “of a severe rash and liver pain”. He did not consult his doctor as he was afraid “they would be angry with me”. Later, he moved to a rural area to work on a farm for a year. He is afraid to come back to the clinic and thinks he has already failed all possible treatment options and “it’s better not to know what’s happening with my disease”.

He also works far from healthcare sites and cannot devote half a day to travel there and then “stand in line for hours”.

Annex 4. Workplan template.

No	Component	Objective	Activity	Target Group / Involvement	Technical Assistance
1					

2					
3					
4					
5					

Annex 5. Principles of CITI

Community Initiated Treatment Intervention (CITI) combines:

- peer-navigation
- outreach case management
- community support



To achieve better treatment uptake and outcomes for HIV-positive PWIDs

Model

- Responsibility for linking to care and initiation of ART lies with prevention projects (for their positive clients)
- Aim: individual case management with the purpose of registering clients at the AIDS clinic and getting ART prescribed
- Criteria for inclusion: recently tested positive or know their status but are not accessing HIV treatment services, registered but lost to follow-up
- Case managers are former outreach workers from harm reduction projects
- CITI is designed to support HIV positive clients up to 6 months after registration

Annex 6. Lancet Article.

HIV in people who use drugs 3



Treatment and care for injecting drug users with HIV infection: a review of barriers and ways forward

Daniel Wolfe, M Patrizia Carrieri, Donald Shepard

We review evidence for effectiveness, cost-effectiveness, and coverage of antiretroviral therapy (ART) for injecting drug users (IDUs) infected with HIV, with particular attention to low-income and middle-income countries. In these countries, nearly half (47%) of all IDUs infected with HIV are in five nations—China, Vietnam, Russia, Ukraine, and Malaysia. In all five countries, IDU access to ART is disproportionately low, and systemic and structural obstacles restrict treatment access. IDUs are 67% of cumulative HIV cases in these countries, but only 25% of those receiving ART. Integration of ART with opioid substitution and tuberculosis treatment, increased peer engagement in treatment delivery, and reform of harmful policies—including police use of drug-user registries, detention of drug users in centres offering no evidence-based treatment, and imprisonment for possession of drugs for personal use—are needed to improve ART coverage of IDUs.

Introduction

Although antiretroviral therapy (ART) has changed the natural history of HIV disease, it has also drawn attention to important gaps in HIV testing and treatment access. In industrialised countries, physicians have routinely delayed or withheld ART for injecting drug users (IDUs), fearing non-adherence, complications related to comorbidities, or development of antiretroviral resistance.¹⁻³ Denial of ART or systemic delays in treatment to IDUs have been reported in low-income and middle-income countries in eastern Europe and Asia, where IDUs represent the largest share of the HIV-infected population, as well as in countries with substantial subepidemics in IDUs.⁴⁻⁶ Although studies frequently do not control for causes of mortality unrelated to HIV, IDUs infected with HIV continue to have an increased risk of death even in countries with well established ART delivery systems.^{7,8}

An estimated one in three new HIV infections outside sub-Saharan Africa are in IDUs.⁹ Data for access and adherence to ART in IDUs in countries with low and middle incomes are sparse. No global analysis of the number of IDUs on ART compared with

Lancet 2010; 376: 355-66

Published Online

July 20, 2010

DOI:10.1016/S0140-

6736(10)60832-X

This is the third in a Series of seven papers about HIV in people who use drugs

Open Society Institute, International Harm Reduction Development Program, New York, NY, USA (D Wolfe MPH); INSERM, U912 (SE45), Marseille, France (M P Carrieri PhD); Université Aix-Marseille, IRD, UMR-S912, Marseille, France (M P Carrieri);

Key messages

- Although most analyses of adherence and access to antiretroviral therapy (ART) have focused on individuals, systemic and structural elements of treatment failure such as stigma in health-care settings, police practices, and patterns of detention and incarceration need further investigation
- Injecting drug users (IDUs) have successfully started ART in at least 50 countries, with evidence showing clearly that these patients can achieve excellent virological outcomes
- Early adherence to ART is associated with long-term virological response, with behavioural support and provision of opioid substitution treatment (OST) increasing treatment success in IDUs
- IDUs are disproportionately less likely than are other patients with HIV infection to receive ART, even in countries where this group represents most of the HIV-positive population; in the five countries with the largest HIV epidemics concentrated in IDUs, IDUs were 67% of HIV cases and only 25% of those receiving ART in 2008
- Cost-effectiveness data show clear benefits of targeting of ART to IDUs in areas with concentrated HIV epidemics, and savings ratios as high as 7:1 for provision of drug treatment compared with social and medical costs of drug use
- Systemic barriers to ART and OST provision include stigmatisation of IDUs in health settings, medical treatment separated by specialties, bans on treatment of active IDUs, hidden or collateral fees, and multiple requirements for treatment initiation or modification
- Structural barriers to treatment provision include use of police registries and harassment of patients, detention of IDUs, and harassment of physicians who prescribe opioids
- In countries with large HIV epidemics in IDUs, many IDUs are detained or incarcerated in settings in which ART and OST are unavailable
- Necessary measures to improve ART coverage of IDUs are improved data collection, inclusion of OST in combination treatment, integration of treatment for co-infections, and use of community-based treatment models and peer support
- In view of persistent human-rights violations and negative health effects of policing, detention, and incarceration, law and policy reform is needed to improve ART coverage of IDUs

Search strategy and selection criteria

We searched the Cochrane Central Register of Controlled Trials, Medline, AIDSline, PsychInfo, and Web of Science, without restriction on language, for studies published between 1991 and 2010. Keywords were "adherence", "antiretroviral", "AIDS", "buprenorphine", "cost-effectiveness", "hepatitis C", "HIV", "intravenous", "injection", "illicit", "methadone", "prison", "substance abuse", "tuberculosis", and "treatment". Abstracts presented at international and regional HIV and infectious disease meetings between 2004 and 2010, grey literature from assessments done in eastern Europe and Asia, and country reports to the UN on progress towards treatment scale-up were also reviewed. Results of findings on cost and cost-effectiveness were first converted to 2008 US\$ at the official exchange rate at the year of publication and then adjusted to 2009 US\$ on the basis of the Gross Domestic Product deflator from the US Bureau of economic analysis.

ORS PACA, Observatoire Régional de la Santé Provence Alpes Côte d'Azur, Marseille, France (M P Carrier); and Brandeis University, Waltham, MA, USA (D Shepard PhD)

Correspondence to: Mr Daniel Wolfe, Open Society Institute, International Harm Reduction Development Program, New York, NY 10019, USA
dwolfe@sorosny.org

their proportion of cumulative HIV infections has been attempted since 2006.¹⁰ A 2008 review of barriers and facilitators to ART for IDUs cited only two research studies outside Europe, Australia, or North America.¹¹ In a systematic review of IDU access to ART undertaken in 2010, data were unavailable for two-thirds (66%) of 138 countries.¹² A few low-income and middle-income countries with small injection-driven HIV epidemics, such as Georgia, have reported universal ART access for all patients for whom treatment is medically indicated.¹³ Many others, including China, have a national policy of free universal access to ART, but in practice have disproportionately low access among IDUs.¹⁴

We review information about efficacy, cost-effectiveness, and coverage of ART and substitution treatment for patients who inject opioids, with particular attention to the five low-income and middle-income countries with largest HIV epidemics in IDUs. We also identify systemic and structural barriers to treatment access for IDUs and steps to remove these barriers.

ART for IDUs

Investigators have extensively documented late testing for HIV in IDUs, low uptake of ART, treatment interruptions or failure related to active injecting drug use, and the need to manage treatment of HIV and common comorbidities such as hepatitis C and tuberculosis.^{15–19} Nonetheless, IDUs have successfully started ART in at least 50 countries.¹² Citing evidence that IDUs enjoy significant clinical benefit from ART and that virological resistance does not differ between IDUs and other patients, WHO has issued clinical protocols detailing first-line and second-line ART regimens for IDUs, management of side-effects, and key considerations for treatment of comorbidities.³ The protocols state clearly that active injecting drug use should not be a criterion for ART exclusion and that drug-dependence treatment is not necessary before ART initiation. All UN member states have endorsed universal access to ART for patients infected with HIV⁹—a commitment that is reiterated in many regional declarations and national plans.

In view of increased likelihood of treatment interruption or discontinuation among IDUs, especially in patients who actively inject drugs or who are imprisoned,^{20,21} many investigators have examined mechanisms at individual and system levels to increase ART adherence in this group. Methadone and buprenorphine—which were added to WHO's essential medicines list in 2005, and are generally referred to as opioid substitution treatment (OST)—are among the best-researched of the support strategies, with data showing increased likelihood of ART uptake,^{22,23} treatment adherence,^{24,25} and improved virological response for IDUs receiving OST.²⁶ Panel 1 shows examples of interventions at individual and health-system levels that have increased retention and treatment adherence in patient populations that include IDUs.

Although concern about development of antiretroviral resistance is frequently cited by physicians as a reason to withhold ART from IDUs,^{3,46} health providers are inaccurate in their estimation of which patients will adhere to ART.⁴⁶ Furthermore, few studies have directly compared rates of resistance between IDUs and other patients. In the largest of the available studies (n=1191), investigators compared HIV resistance to all major classes of antiretroviral drugs in IDUs and other patients during the first 30 months of ART, and noted no difference in rates of resistance.⁴⁷ A 2010 meta-analysis concluded that IDUs had no greater odds of developing antiretroviral resistance than did other patient populations.⁴⁸

High rates of injecting and sexual risk behaviour are often reported in IDUs in low-income and middle-income countries,^{49–51} confirming the need for interventions that effectively address several HIV risks. Results of several studies confirm effectiveness of RNA suppression in reducing sexual transmission of HIV,^{52,53} with results of mathematical modelling suggesting that universal voluntary HIV testing followed by immediate ART uptake could prevent 95% of sexually transmitted HIV infections within 5 years.⁵⁴ Universal treatment as preventive intervention has not been clinically tested, even in people at risk of sexually transmitted HIV infection; possible differences in biological mechanisms of parenteral HIV infection and social and structural obstacles to HIV testing and treatment for criminalised groups make further investigation essential before the model is extended to IDUs. Preliminary evidence suggests that reductions in community-level RNA are predictive of reduced HIV incidence in IDUs, irrespective of risk behaviours such as syringe sharing,⁵⁵ reductions in injecting drug use,²⁵ sexual risk behaviour,^{56,57} and use of alcohol and illicit drugs⁵⁷ have also been documented after initiation of ART.

Investigators have modelled the effects on HIV incidence of targeting ART in cities or countries with epidemics concentrated among IDUs. A 2006 study examined the effects of targeting of ART to IDUs in St Petersburg, Russia. With no ART, investigators estimated that HIV prevalence would reach 64% in IDUs and 1.7% in non-IDUs after 20 years. If treatment were targeted to IDUs, more than 40 000 infections would be prevented, of which 75% would be in non-IDUs.⁵⁸ In the first report in this Series, Strathdee and colleagues⁵⁹ estimated that scale-up of ART, OST, and provision of sterile injection equipment to reach 60% of IDUs in need in Odessa, Ukraine would avert an estimated 41% of new HIV infections during the next 5 years.

Access to ART and OST

Over-reliance on police and drug treatment statistics, inconsistencies in classification and definitions of injecting drug use, and inconsistent data hamper estimates of the number of IDUs and extent of ART coverage in this population.^{60,61} Despite these limitations,

data show clearly that IDUs are disproportionately less likely than are others with HIV infection to receive ART, even in countries where IDUs are the largest share of those infected with HIV. Five countries—Russia, China, Malaysia, Ukraine, and Vietnam—have what might be termed megaepidemics in IDUs (ie, more than 75 000 registered HIV cases, with the largest share of these in IDUs). Together, these countries account for an estimated 2.72 million HIV cases, and roughly half (47%) of IDUs living with HIV in low-income and middle-income countries.⁵⁰ Examination of ART coverage of IDUs in these countries helps us to understand the limitations of present treatment efforts.

Of the five countries, all but Malaysia have received support from international donors to increase ART access.⁶²⁻⁶⁴ In Malaysia, people with HIV infection were initially required to pay for one of three ART drugs—a restriction that resulted in de-facto exclusion of IDUs from treatment—but the country has since moved to importation and manufacture of generic drugs and universal provision of ART without charge.⁶⁵ Vietnam and China also offer universal access to ART using Global Fund support and some domestically produced drugs.⁶⁶ All five countries have explicitly recognised

IDUs as a key target for ART in their national plans, and have committed government funds to scale up ART.⁶⁷ In all five countries, the largest share of cumulative HIV infections of known origin are in IDUs, although in China IDUs are not the absolute

Panel 1: Interventions to improve adherence to antiretroviral therapy (ART)

Devices to aid adherence

- Improved adherence associated with use of mobile-phone alarms and wall-chart reminders (China).²⁷
- 76% adherence achieved with electronic paging devices and Medication Event Monitoring System caps (alongside directly observed ART, mobile health services, and outreach; USA).²⁸
- Use of preloaded pillboxes associated with an undetectable viral load in 86% of patients who had previously not adhered to ART (alongside peer counselling, case management, and social workers; USA).²⁹

Peer counselling at point of ART delivery

- Associated with 95% retention of predominantly injecting drug user (IDU) patients on ART (ten regions of Russia).³⁰
- Help with HIV disclosure and adherence yielded an undetectable viral load in 86% of patients who had previously not adhered to ART (alongside case management, preloaded pill boxes, and social work; USA).²⁹

Case management (help to resolve issues with medical care and family relationships) and nurse counselling

- Improved adherence achieved through group discussions, individual counselling, and consultations with medical clinics (Brazil).³¹
- Increased adherence and decreased viral load reported in patients receiving three nurse counselling sessions in a 6-month period (France).³²

(Continues in next column)

(Continued from previous column)

- Case management, mental health or chemical dependency counselling, and transport subsidies resulted in increased regularity of clinic visits and 15–18% increased patient retention (USA).³³

Integrated treatment

- 54% of patients achieved an undetectable viral load when ART was delivered at needle exchange; 69% chose to enter drug treatment (USA).³⁴
- Combined tuberculosis treatment, ART, and buprenorphine was associated with undetectable HIV viral load, increased CD4 cell count, and sputum negative tuberculosis test after 6 months (Ukraine).³⁵

Directly observed treatment

- Direct administration of ART (alongside drug treatment counselling and pager) resulted in 76% adherence in patients who injected cocaine, heroin, or both; 35% of patients were homeless, and 57% were severely depressed.²⁸ Randomised trial results showed increased reduction in viral load in patients receiving directly observed therapy (USA).³⁶
- 56% of patients receiving directly observed ART at their methadone maintenance site achieved an undetectable viral load, compared with 32% of IDUs on methadone who self-administered ART (USA).³⁷
- IDUs receiving directly observed community-based tuberculosis treatment achieved similar cure rates to patients who were not IDUs; non-adherence was reduced to a median of 5% (Russia).³⁸
- Four of five patients achieved an undetectable viral load when offered direct ART administration at a methadone clinic and take-home evening doses of ART and a Sunday dose of methadone (USA).³⁹ An undetectable viral load was reported in 59% of methadone patients offered once-daily directly administered ART and 72% of those treated twice a day, with 89% of patients using concomitant heroin or cocaine (Canada).⁴⁰

Incentives or contributions for food or transport costs

- Monetary incentives associated with greater adherence to hepatitis B vaccination than outreach alone (USA).⁴¹
- IDUs offered a US\$5 incentive adhered to treatment at a higher rate with (71%) or without (68%) active outreach compared with those who received outreach alone (13%; USA).⁴²
- Distribution of free antituberculosis drugs and nutritional supplements improved adherence and outcomes in IDUs (India).⁴³
- Patients offered vouchers for adherence to ART or methadone had 78% adherence compared with 56% in those who were not offered vouchers (USA).⁴⁴

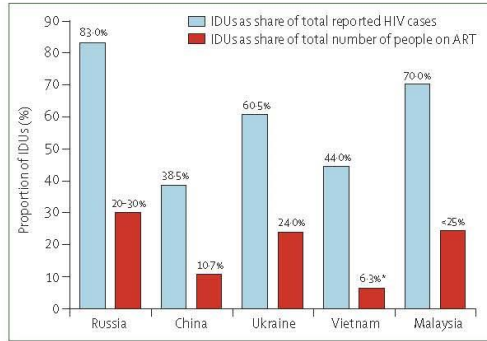


Figure 1: IDUs as share of total HIV cases and of patients receiving ART, 2008
Data sources: number of IDUs infected with HIV,⁶⁰ total HIV cases,⁶⁸ IDUs on ART in Russia,⁶⁹ China,⁷⁴ Ukraine,⁷⁵ Vietnam,^{72,68} and Malaysia.⁵¹ IDU—injecting drug user. ART—antiretroviral therapy. *Data are for 2009.

majority. Patients who contracted HIV through injecting drug use are disproportionately less likely to receive ART than are those infected heterosexually (figure 1). IDUs were 67% of HIV cases in these five countries in 2008, but only 25% of the patients receiving ART.

All countries with megaepidemics in IDUs apart from Russia have started OST; in Russia, methadone and buprenorphine remain illegal for use in addiction treatment. Ukraine began buprenorphine provision in 2004, and increased the number of patients receiving OST substantially by adding methadone treatment in 2008. In Malaysia in 2009, in addition to patients treated in government clinics, as many as 10 000 people received substitution treatment from private physicians.⁶⁵ China has scaled up OST more rapidly than any other low-income or middle-income country, with more than 94 000 patients on methadone treatment by the end of 2008. Nonetheless, no country with a megaepidemic among IDUs offers OST to even 5% of these patients. Considered together, the five governments with the largest established injection-driven HIV epidemics provide OST to less than 2% of IDUs in their countries. Although some IDUs inject stimulants rather than opioids, and so are ineligible for OST, coverage is strikingly low (figure 2).

Cost-effectiveness of ART and OST

Data for cost-effectiveness of ART show additional benefits of targeted treatment in countries where HIV epidemics are concentrated in IDUs. In the 2006 study that modelled benefits of targeting of ART to IDUs in St Petersburg, researchers showed that the intervention added 650 000 quality-adjusted life-years (QALYs) at a favourable ratio of US\$1501 per QALY gained. Universal (untargeted) treatment prevented more infections than did targeted provision, but was less cost effective, adding 950 000 QALYs at a cost of \$1827 per QALY gained. Treatment targeted to patients who were not IDUs was least effective and least cost effective, adding only 400 000 QALYs at a cost of \$2572 per QALY gained.⁵⁸

Although cost-effectiveness data for methadone and buprenorphine treatment are largely drawn from trials in industrialised countries, a 2006 study calibrated costs of these medicines to epidemiological and economic conditions in each of the 14 regions in the world. With representative assumptions (eg, a 35% reduction in mortality with methadone compared with no treatment), the cost-effectiveness of methadone averaged \$2236 (2003) worldwide, with estimated costs ranging from \$408 in high-mortality African countries to \$3726 in low-mortality North American countries.⁷² In a WHO model designed to compare cost-effectiveness of alternative interventions in every region, the cost per disability-adjusted life-year (DALY) averted for methadone maintenance ranged from \$458 in Brazil, Mexico, and other low-mortality countries in the Americas to \$2749 in Nepal, India, and other high-mortality countries in southeast Asia.⁷³ Preliminary findings from Kazakhstan's methadone pilot programme suggest that the yearly cost is \$220 per patient, and that scale-up could reduce government expenditure on drug-dependence treatment by \$2.2 million per year.⁷⁴

Research in industrialised countries has shown that methadone and buprenorphine treatment are less costly than is no drug treatment when considering social costs of drug use, and that the economic value of drug treatment increases substantially when including the amount that citizens are willing to pay per crime averted (eg, armed robberies, estimated at 0.4 per drug treatment client).⁷⁵ Using a benefit-cost framework, the California Treatment Outcome Project assigned monetary values to changes in non-health outcomes such as crime, imprisonment, and law enforcement. The average weighted cost of 9 months' treatment was \$1583 and the corresponding benefits were \$11 487, for a benefit-to-cost ratio of 7:1.⁷⁶

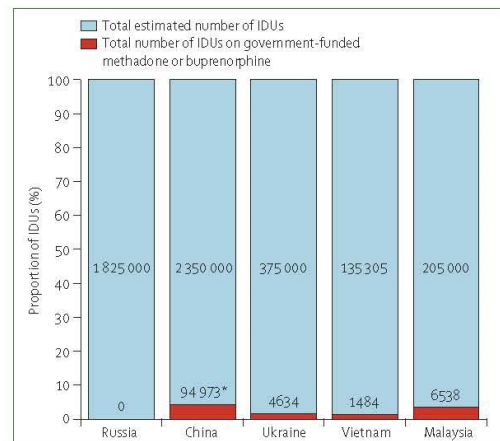


Figure 2: IDUs receiving government-funded methadone or buprenorphine treatment, 2009

Data sources: total estimated number of IDUs,⁶⁰ methadone and buprenorphine coverage in China, Ukraine, and Vietnam⁷² and Malaysia.⁷¹ IDU—injecting drug user. *Data are for 2008.

No studies of cost-effectiveness of methadone or buprenorphine have been reported from penitentiary systems in low-income countries. Results of an Australian study showed that prison-based methadone treatment was no more costly than were similar interventions in community settings, and estimated the economic cost per inmate per year (including the value of correctional officers' time) at \$4201. Inclusion of reductions in risk to inmates and others yielded incremental cost-effectiveness ratios of \$11000 per additional heroin-free year, \$359 000 per death averted, and \$32 000 per hepatitis C infection averted.⁷⁷ Investigators comparing costs of methadone treatment to long-term detention, which is common for IDUs in Vietnam, reported that outpatient methadone treatment, HIV testing, counselling, and education could be accomplished for less than the costs of involuntary detention, with much greater effectiveness.⁷⁸

Identifying systemic and structural barriers to treatment

With few exceptions,^{4,80} researchers studying the association between illicit drug injection and ART failure have focused on the drug user as the unit of analysis, identifying active drug use, attitudes toward treatment, and individual conditions such as social support, housing, or belief in treatment effectiveness as factors in treatment success.^{15,22,79,80} Advocates for HIV prevention have urged a move beyond assessment of individual risk to consideration of factors that contribute to social or structural risk or the risk environment.^{56,61-63} A similar reframing of HIV treatment is needed in view of the fact that many health-care providers regard drug dependence as an issue of morality rather than a medical disorder, that health systems impose conditions on IDUs seeking treatment that are difficult to meet, and that greater numbers of IDUs in all countries with megaepidemics in IDUs are engaged by police, detention centres, and penitentiary institutions than by programmes providing ART. Treatment failures can be understood in these instances to be systemically or structurally induced rather than emerging from the individual.

Treatment providers are often poorly educated about addiction, and regard IDUs as troublesome or non-compliant patients. In China, for example, 50% of physicians working in substance misuse surveyed in 2005 had no previous training related to drug use or dependence.⁸⁴ Regulations barring or discouraging provision of ART or hepatitis C treatment to active drug users cause patients to lie about illicit drug use, reinforcing physician prejudices that label IDUs as untrustworthy.⁴ In Russia, an 18-city survey revealed that all cities required patient review by external medical commissions before ART initiation; in ten cities, active drug use was regarded as grounds for denial of treatment.⁸⁵

IDUs are reluctant to share details about their practices or even to seek treatment for acute issues such as opioid overdose, abscesses, or AIDS-related infections, especially in countries where public campaigns cast drug use as a

social evil and where health providers are seen as closely linked to systems of social control.^{4,86,87} Fear of stigma is often cited by IDUs as a reason for delay of treatment in China, as well as in Russia and Ukraine.^{77,88-90} A 2009 survey of 949 IDUs recruited by snowball sample in Vietnam and four other Asian countries showed that nearly one in six had been denied treatment outright.⁹¹ In Malaysia, 67% of people infected with HIV surveyed reported having experienced discrimination in health-care settings, including refusal of services, breaches of confidentiality, and verbal abuse, with 25% noting that these reactions occurred very often.⁹²

Systems that require IDUs to make visits to many different clinics, and those that demand collateral fees for ART or immune-system monitoring, also induce non-adherence. In Russia and Ukraine, as elsewhere in the former Soviet Union, medical treatment has historically been separated by discipline, with tuberculosis hospitals, AIDS centres, and narcological (drug treatment) dispensaries all claiming exclusive authority for treatment of their specialty.⁴ In Ukraine, for example, IDUs co-infected with HIV and tuberculosis have reported that ART clinics will not treat them until they have completed inpatient tuberculosis treatment, and that tuberculosis hospitals will not offer methadone or buprenorphine. Although integrated sites are now being piloted, treatment interruption—particularly discharge from tuberculosis treatment as a result of active drug use or HIV infection—has been common.⁹³⁻⁹⁵ Female IDUs report that AIDS centres and narcological dispensaries will not treat sexually transmitted infections or refer them to obstetricians and gynaecologists, and that doctors frequently disparage them or tell them they should return to the narcological dispensary.⁹⁶

Informal fees or collateral costs for laboratory tests, treatment drugs, or physician care are a substantial barrier for drug-dependent IDUs in all five of the countries that we have considered.^{97,98} In two regions in China, charges to patients were estimated to vary between 116% and 350% of average yearly income, despite the free ART programme.⁹⁹ Demands for collateral fees are only one of many barriers to methadone and buprenorphine treatment in low-income and middle-income countries with IDU-driven HIV epidemics. Other barriers include reviews by panels of physicians before admission, restrictions on dose adjustments, requirements that providers cease or reduce doses after urine tests showing illicit drug use, and demands that prospective patients show several documented periods of drug-free treatment, even in countries where that treatment is unaffordable or unavailable.¹⁰⁰

IDUs seeking publicly funded drug-dependence treatment in each of the five countries have their names added to government registries that, by practice or by law, are shared with the police. Registered IDUs report being subject to stop-and-frisk procedures or repeated urine testing by police, denial of basic privileges such as driving

licences and employment, and in Russia and Ukraine, removal of child custody rights.¹⁰¹⁻¹⁰³ These sanctions apply to people who have completed drug treatment as well as those receiving OST. In China, methadone patients presenting national identity cards to check into a hotel or register children for school have reported that police arrive shortly thereafter to demand a urine test.¹⁰³ Unsurprisingly, IDUs report that fear of registration is a deterrent to seeking of treatment.^{88,89,95}

Other forms of police harassment, including arrest of methadone patients outside clinics, searches of patient homes, removal of ART from IDUs by police convinced that the drugs are illicit, and detention in police facilities, also deter ART or drug-dependence treatment.^{4,93} In Ukraine, IDUs can be detained for up to 72 h without charge, with police using painful withdrawal from opioid dependence, or threat of it, to coerce confessions to unsolved crimes or to extract bribes.^{93,95} In Malaysia, detention on suspicion of drug use can extend to 2 weeks, with positive urine tests followed by flogging and remand to compulsory treatment.¹⁰⁴ International human rights experts have noted that use of a painful medical disorder to extract confessions, which is reported by IDUs in many countries, meets the definition of torture.¹⁰⁵

In Malaysia, China, and Vietnam, suspicion of drug use or a positive urine test can result in detention in compulsory rehabilitation centres. Detainees in these centres, which are often run by the police or military, are not medically assessed for addiction severity or need of treatment, and in China and Vietnam have no access to lawyers, trial, or right of appeal. Roundups of alleged drug users are frequent, especially before national holidays or in conjunction with national war-on-drugs campaigns designating drugs, drug users, and drug dealing as social

evils.^{4,106} Despite reported HIV prevalence ranging from 10% to 65%, ART is largely unavailable to detainees in the centres, as is evidence-based treatment for drug dependence.¹⁰⁷⁻¹¹⁰ Detainees are instead required to do military-style drills and chant slogans, and are punished for infractions of centre rules with beatings, food deprivation, sexual assault, and physical and verbal abuse by guards or inmates acting at the behest of guards. In violation of international labour law, China and Vietnam force detainees to work, often in the service of private companies.^{103,108}

Estimated rates of return to drug use after release from rehabilitation centres range from 75% to 95%.¹¹¹ With the notable exception of Malaysia, where the government has shifted funding to methadone treatment and reduced the numbers of people in compulsory drug-free rehabilitation by 29% since 2003,⁶⁵ the number of centres and length of detention has increased, with detention reaching 4 years in Vietnam and 2 years in China in 2009.^{110,112} The numbers of drug users in these centres exceed the numbers in government-funded outpatient treatment in all countries where drug detention is practised (figure 3).

For IDUs charged with a crime, pretrial detention is another barrier to treatment. Pretrial detainees in Russia and Ukraine often await trial for a year or more; both countries have been found guilty by the European Court of Human Rights of ill-treatment of detainees and violations of due process.⁴ Conditions reported by detainees in Russian pretrial detention facilities include denial of medical treatment for life-threatening disorders, below freezing temperatures, food deprivation, isolation without cause, and beatings by guards.¹¹⁴

Imprisonment after conviction is also associated with interruption of ART and OST. In Malaysia, for example, possession of any amount of illicit substance is punishable by flogging and imprisonment for up to 2 years. In Ukraine, IDUs can be sentenced for up to 3 years for possession of less than one daily dose of a homemade opioid that is most often injected.⁹⁵ Between 1998 and 2003, Russian authorities imprisoned IDUs for up to 4 years for residue found in a used syringe. Although the country has since eased drug penalties, people possessing 0.5 g of heroin can still be imprisoned for up to 3 years.¹¹⁵

Access to ART in prisons is restricted or unavailable in all five countries. In Malaysia in 2009, fewer than one in 15 detainees estimated to be infected with HIV received ART.⁶⁵ In Ukraine, where an estimated one in three participants in HIV services has been in prison,¹¹⁶ officials report that ART was available to fewer than one in ten of the estimated 6062 incarcerated people infected with HIV in 2009.¹¹⁷ In Russia, where more than 49 000 people with HIV were incarcerated in 2009,¹¹⁸ patient accounts suggest that bureaucratic delays, scarcity of trained personnel, and unsanitary conditions impede or prevent access to treatment (panel 2). Incarceration interrupts ART in Vietnam, with prisoners held without treatment and then released if they become

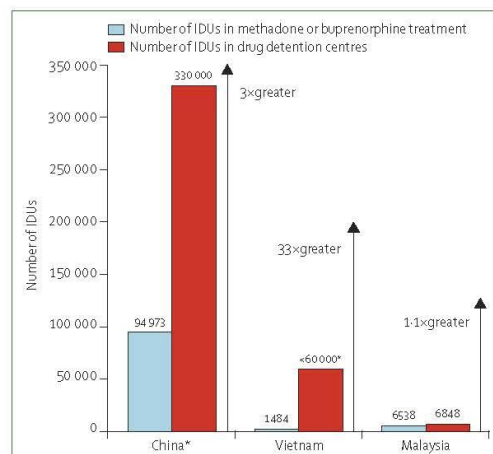


Figure 3: Number of IDUs receiving government-funded methadone or buprenorphine treatment versus those in drug detention, 2009
Data sources: methadone or buprenorphine treatment in China and Vietnam,⁷² Malaysia;⁷¹ drug detention in China,^{71,113} and Vietnam and Malaysia.¹² IDU—injection drug user. *Data are for 2008.

seriously ill.¹¹⁹ None of the countries with megaepidemics in IDUs offers OST in prison, though Malaysia has begun starting prisoners on a 6-month course of methadone treatment before release.⁶⁵

Risk of fatal opioid overdoses is higher in IDUs recently released from prison or from drug-free treatment settings.¹²⁰ Risk is compounded by restricted access to medications to reverse opioid overdose. Naloxone, which is administered by intramuscular injection or intranasally to reverse such overdoses, is often unavailable or limited to clinical settings.¹²¹ Although data for overdose fatalities are scarce, the proportion of IDUs reporting non-fatal overdoses ranges from 30% to 80% in China, Vietnam, Thailand, and various countries of the former Soviet Union.^{122–125} In Russia, more than five times as many deaths were caused by drug overdoses than by AIDS in 2006; in 2008 in St Petersburg, where 75% of IDUs reported having overdosed, only two of 190 ambulances stocked naloxone, and police refuse to provide rescue breathing to IDUs in respiratory arrest.^{121,122}

Extreme drug penalties also affect physicians and patients who are not IDUs. In Ukraine, police have searched the homes of OST providers and threatened them with arrest if they did not provide patient lists.¹²⁶ In Russia, the ban on OST extends to discussion of the treatment; one physician's website providing evidence about methadone was closed after inquiries from the prosecutor general.¹²⁷ Availability of drugs for pain relief is sharply constrained by over-regulation. In a 1995 study, almost half of 50 countries surveyed cited health providers' fear of legal prosecution as a deterrent to opioid prescription for palliative care.¹²⁸ Russia and Ukraine both impose severe regulations on prescription of opioids for pain relief, limiting prescription privileges to particular specialties, requiring that physicians obtain a special permit to prescribe, setting arbitrary dose limits, and imposing restrictions on the sites where opioids can be dispensed or the number of days for which pain relief can be prescribed before renewal of the prescription.¹²⁹ Although China eased regulations for prescription of opioids for pain relief in 2005, prescribing physicians and patients both still have to secure special permits, with patients required to renew permits every 2 months.¹³⁰ The deterrent effects of such measures on availability of pain treatment are well documented.¹²⁹ Vietnam, by contrast, sharply eased regulations in 2008, obliging hospitals to stock opioids if no pharmacies in the district do, abolishing the maximum daily dose, and allowing prescriptions to be issued for 30 days rather than 7 days.¹³¹ The effects of these changes on availability of opioids for pain relief in the country remain undocumented.

Ways forward

Barriers to ART for IDUs in the countries that we have considered are emblematic, not exceptional. Treatment separated by specialty,⁴ discrimination by health-care providers,¹³² police harassment,^{116,133} and interruption of

Panel 2: Trying to survive

"When they brought me to the prison, I said that I had HIV and AIDS and that I had started taking ART [antiretroviral therapy] because my clinical condition called for it. When I got to prison, I explained my situation to all the doctors who saw me, I explained, that having the medicines was a matter of life and death for me, that I can't interrupt the treatment. They told me to calm down...And they didn't give me anything. They told me they didn't have those medicines, they didn't have connections with the AIDS Center...Basically, they were out of the loop and they didn't have anything. This is how it [treatment] looked: they opened the feeding bunk and threw in all the pills—here you are, take it...And that's it! The nurse gave the same pills to everyone—and each inmate had a different diagnosis. She would give us all the same pill and said, 'swallow it'. They didn't check at all if people were treated or not. If you come to the doctor's office, they give you pills and look in your mouth to make sure you swallow them. If you don't swallow and you take a pill with you from there, you get 15 days in a punishment cell. So [one] guy kept eating the pills...In the end he got ascite [fluid in the abdomen], drum belly. And he died.

When I got there [medical correctional facility], I told all the doctors that I had advanced AIDS, told them everything, showed my last medical records...But nothing, no effect. When I came there in 2007, many inmates with HIV had been transferred there and they didn't know what to do with them. They hadn't even registered us as HIV patients—we were listed as TB [tuberculosis] patients. So they put all the inmates with HIV in one barrack and didn't let us out at all. I got very sick in spring of 2007 or 2008. I had a fever of 40 [°C] for a whole week. The doctors couldn't do anything, they couldn't understand what was going on. At that time, all people with HIV had to be isolated. Even in the prison hospital, they put us in the isolation chamber in the basement. Can you imagine?! A punishment isolation chamber. The chamber I was put in was very small, about 2 meters long. There were two of us there. They didn't do anything. For two or three weeks I sat in the isolation chamber and then was just sent back. They didn't even list us people with HIV anywhere. Because an HIV patient in the prison means a certain diet, state subsidies, some additional money is supposed to be allocated for an inmate with HIV. And they didn't have it. We spent one year, even more, listed as TB patients, not HIV patients; there was no HIV."

An excerpt from Anya Sarang's interview with KP, who had recently been released from a Russian prison, 2009.

HIV treatment in drug detention centres or prison¹³⁴ have been documented in many other low-income and middle-income countries with HIV epidemics or subepidemics concentrated in IDUs. OST programmes in most countries with low and middle incomes remain in perpetual pilot status. In Kyrgyzstan, Moldova, and Azerbaijan, failure to ensure adequate supply of OST

has resulted in sudden cessation of treatment or clinically inappropriate reduction of doses.¹⁰⁰ Across southeast Asia, fewer than 12 000 of an estimated 800 000 IDUs had access to methadone or buprenorphine in 2009.⁶

Systematic collection of data for IDU access to HIV treatment and care is a first step toward appraisal and transcendence of barriers to ART for IDUs. Although the US President's Emergency Plan for AIDS Relief has been required since 2009 to obtain information about number of IDUs reached by US-funded services, these data remain unavailable.¹³⁵ The Global Fund to Fight AIDS, Tuberculosis and Malaria, which between 2001 and 2008 has awarded about \$180 million for HIV prevention in IDUs,¹³⁶ does not ask grantees to detail IDU-related spending, even in countries where most of the HIV-infected population are IDUs. As the American historian Patricia Cohen has noted, "that which is not counted does not count".¹³⁷ Data collection should also include an equity ratio comparing share of HIV infections in IDUs to share of IDUs on ART.

Resource requirements associated with scale-up of treatment to IDUs are substantial. Assessment of costs and benefits of such investment, however, have been infrequent, and need to measure not only life-years gained and reductions in HIV transmission, but also broad benefits of OST such as reduction in crime, imprisonment and law enforcement, improved family relationships, return to gainful employment, and reduction in demand for illicit drugs. In China, for example, a review by the national methadone working group estimated that treatment of 200 000 heroin users with methadone would remove as much as \$483 million from the illegal drug market.¹³⁸ Cost reductions can also be obtained through changes in treatment delivery systems. Most low-income and middle-income countries, for example, do not allow take-home doses of OST, sharply constraining treatment scale-up and increasing costs of service delivery. Use of generic rather than brand-name drugs, or increased application of cost-reduction mechanisms such as compulsory licensing, could also reduce costs.¹³⁹

Although analysts have increasingly discussed the importance of risk-environment analysis to assess effects on treatment,^{45,140} metrics to undertake such analysis are needed. Rather than focusing on active drug use, comorbidities, or assessments of individual patient stability to establish treatment readiness, a systemic approach might measure physician attitudes towards IDUs, regulatory restrictions on provision of ART or OST, and reported levels of police harassment as determinants of adherence.

In view of the effectiveness of OST for improvement of adherence to and outcomes of ART, reconceptualisation of combination treatment to include methadone or buprenorphine is essential. Surveys of ART in countries with injection-driven HIV epidemics should include data for OST accessibility, availability, and price, and initiatives to increase treatment access should emphasise OST as

well as ART availability. High prevalence of co-infection with tuberculosis in HIV-positive IDUs draws attention to the need for similar integration of ART, OST, and tuberculosis treatment; half the 26 countries that WHO designates as high burden for multidrug-resistant tuberculosis have injection-driven HIV epidemics.¹⁴¹ Treatment of hepatitis C, which is endemic in IDU networks in low-income and middle-income countries, also demands attention and integration with ART. The price of hepatitis C drugs is another structural obstacle impeding an effective response.

One approach to extending treatment coverage and reducing the deterrent effect of stigma experienced by IDUs in health clinics might be the use of peer support. In resource-poor settings with HIV epidemics that are not driven by IDUs, task-shifting through use of treatment companions (accompagnateurs) and weekly home delivery of ART by lay field officers has improved ART adherence and allowed for scale-up of treatment.¹⁴² Although IDUs are often described as having antisocial personalities, most drug users function in social networks to obtain and to administer drugs; conversely, treatment systems that often isolate IDUs from all external social supports display antisocial behaviour.⁴ A new framework would establish directly observed therapy as an intervention that could effectively take place not only in settings overseen by clinicians, but also in the social settings of IDUs themselves.

Community-based programmes are likely to be especially important for the growing numbers of stimulant injectors in countries with injection-driven HIV epidemics^{59,143} and for opioid injectors who also use amphetamine-type stimulants, for which no pharmacological substitution treatment exists. Programmes in Brazil delivering ART to cocaine injectors have increased patient retention and satisfaction through outpatient counselling services and clinics offering food, adherence support, laundry services, and waiting-room debates.³¹ Methods such as peer-driven interventions and contingency management have increased engagement of stimulant users with HIV prevention or drug-dependence services.^{144,145}

These systemic improvements, however, are unlikely to succeed without action to resolve the fundamental structural tension between public health approaches that treat IDUs as patients and law enforcement approaches that seek to arrest them. Police registries, arbitrary detention, and imprisonment of people who have committed no crime apart from the possession of drugs for personal use are barriers to treatment and care that cannot be overcome by counselling, electronic reminders, or peer support. The Secretary General of the UN and the head of the Joint UN Programme on HIV/AIDS have both publicly acknowledged the importance of decriminalisation of IDUs to increase HIV prevention and treatment access,^{146,147} and the Executive Director of the Global Fund has urged decriminalisation of petty drug possession on public health grounds.¹⁴⁸ Human

rights experts, including the special rapporteurs on torture and health and the UN High Commissioner on Human Rights, have emphasised that drug users do not forfeit their rights as a result of illegal behaviours and that existing drug control approaches subject IDUs to serious abuses.^{105,149} The health effects of human-rights protections for IDUs need to be better assessed, since legal empowerment strategies, access to an attorney, legal reform, or change in pretrial detention practices might be as crucial to containment of HIV as are sterile syringes or ART.

Laws mirror political processes. Although health professionals need to increase their focus on structural obstacles to ART provision, a basic challenge remains in the reversal of social forces, including popular opinion, that portray IDUs as already dead or less than human, and so deserving of less-than-human rights. Resurrection of IDUs from this status is beyond the healing power of ART alone, although reformation of HIV treatment systems can help to emphasise that IDUs, including those actively injecting, are capable of making positive choices to protect their health and that of their communities. Treatment advocates and policy makers would be aided by returning to the original universal access document, the 1948 Universal Declaration of Human Rights, to guide the formation of an approach that will help IDUs and others vulnerable to HIV to receive equitable treatment and care.

Contributors

DW guided overall research and parameters of the paper, wrote the introduction and sections on coverage, barriers, and ways forward, and coordinated revisions by and communications between other authors. MPC contributed to review, analysis, and summary of studies on ART adherence and virological outcomes and OST effects on ART, and to review and reorganisation of the overall report structure. DS contributed to literature review, data analysis, and data interpretation related to costs and cost-effectiveness of ART, OST, and other interventions for people who inject drugs.

Steering committee

This article is part of *The Lancet* Series on HIV in people who use drugs, which was developed and coordinated by Chris Beyrer (Center for Public Health and Human Rights, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, USA); Steffanie Strathdee (University of California, San Diego, CA, USA); Adeeba Kamarulzaman (University of Malaya, Kuala Lumpur, Malaysia); and Kasia Malinowska-Semppruch (Open Society Institute, Drug Policy Program, Warsaw, Poland).

Conflicts of interest

We declare that we have no conflicts of interest.

Acknowledgments

The authors thank Damian Walker for research on cost and access to medicines in all countries considered. In addition DW is supported by the Open Society Institute, USA. MPC is supported by the French National Agency of AIDS and Hepatitis Research. DS is supported by Brandeis University, USA, and a grant from the Civilian Research and Defense Foundation to Brandeis University. We thank Azizbek Boltaev, Johna Hoey, Robin Lee, Oleksandr Pokaneych, Roxanne Saucier, and Anna Shubashvili for assistance with research; Anya Sarang, Adeeba Kamarulzaman, Volodymir Kurpita, Olena Kucheruk, and Konstantin Lezhentsev for information about ART in their countries; and Sarang for permission to excerpt her interview. Chris Beyrer, Adeeba Kamarulzaman, Kasia Malinowska Semppruch and Eyan Wood offered valuable comments and insights on earlier drafts, as did anonymous peer reviewers. The Open Medical Institute at the American-

Austrian Foundation provided a forum for several authors to confer and finalise the paper.

References

- Carrieri MP, Moatti JP, Vlahov D, Obadia Y, Reynaud-Maurupt C, Chesney M. Access to antiretroviral treatment among French HIV infected injection drug users: the influence of continued drug use. MANIF 2000 Study Group. *J Epidemiol Community Health* 1999; **53**: 4–8.
- Wood E, Montaner JS, Yip B, et al. Adherence to antiretroviral therapy and CD4 T-cell count responses among HIV-infected injection drug users. *Antivir Ther* 2004; **9**: 229–35.
- WHO. HIV/AIDS treatment and care: clinical protocol for the WHO European Region. Copenhagen, Denmark: World Health Organization, 2006.
- Wolfe D. Paradoxes in antiretroviral treatment for injecting drug users: access, adherence and structural barriers in Asia and the former Soviet Union. *Int J Drug Policy* 2007; **18**: 246–54.
- Donoghoe MC, Bollerup AR, Lazarus JV, Nielsen S, Matic S. Access to highly active antiretroviral therapy (HAART) for injecting drug users in the WHO European Region 2002–2004. *Int J Drug Policy* 2007; **18**: 271–80.
- Sharma M, Oppenheimer E, Saidel T, Loo V, Garg R. A situation update on HIV epidemics among people who inject drugs and national responses in south-east Asia region. *AIDS* 2009; **23**: 1405–13.
- Malta M, Bastos FI, Silva CM, et al. Differential survival benefit of universal HAART access in Brazil: a nation-wide comparison of injecting drug users versus men who have sex with men. *J Acquir Immune Defic Syndr* 2009; **52**: 629–35.
- Grigoryan A, Hall HI, Durant T, Wei X. Late HIV diagnosis and determinants of progression to AIDS or death after HIV diagnosis among injection drug users, 33 US States, 1996–2004. *PLoS One* 2009; **4**: e4445.
- UN. Political declaration on HIV/AIDS (General Assembly resolution 60/262). United Nations General Assembly Special Session on HIV/AIDS, New York, USA, 2006.
- Aceijas C, Oppenheimer E, Stimson GV, Ashcroft RE, Matic S, Hickman M. Antiretroviral treatment for injecting drug users in developing and transitional countries 1 year before the end of the 'Treating 3 million by 2005. Making it happen. The WHO strategy' ('3by5'). *Addiction* 2006; **101**: 1246–53.
- Wood E, Kerr T, Tyndall MW, Montaner JS. A review of barriers and facilitators of HIV treatment among injection drug users. *AIDS* 2008; **22**: 1247–56.
- Mathers BM, Degenhardt L, Ali H, et al, for the 2009 Reference Group to the UN on HIV and Injecting Drug Use. HIV prevention, treatment, and care services for people who inject drugs: a systematic review of global, regional, and national coverage. *Lancet* 2010; **375**: 1014–28.
- WHO. Georgia summary country profile for HIV/AIDS treatment scale-up. Geneva, Switzerland; World Health Organization, 2005.
- Zhang F, Dou Z, Ma Y, et al. Five-year outcomes of the China National Free Antiretroviral Treatment Program. *Ann Intern Med* 2009; **151**: 241–51, W52.
- Carrieri MP, Chesney MA, Spire B, et al. Failure to maintain adherence to HAART in a cohort of French HIV-positive injecting drug users. *Int J Behav Med* 2003; **10**: 1–14.
- Lucas GM, Griswold M, Gebo KA, Keruly J, Chaisson RE, Moore RD. Illicit drug use and HIV-1 disease progression: a longitudinal study in the era of highly active antiretroviral therapy. *Am J Epidemiol* 2006; **163**: 412–20.
- Wood E, Hogg RS, Kerr T, et al. Rates of inappropriate antiretroviral prescription among injection drug users. *Harm Reduct J* 2007; **4**: 2.
- Altice FL, Kamarulzaman A, Soriano VV, Schechter M, Friedland GH. Treatment of medical, psychiatric, and substance-use comorbidities in people infected with HIV who use drugs. *Lancet* 2010; published online July 20. DOI:10.1016/S0140-6736(10)60829-X.
- Malta M, Magnanini MM, Strathdee SA, Bastos FI. Adherence to antiretroviral therapy among HIV-infected drug users: a meta-analysis. *AIDS Behav* 2008; published online Nov 20. DOI:10.1007/s10461-008-9489-7.

Reading list

1. WHO (2014), Consolidated guidelines on HIV prevention, diagnosis, treatment and care for key populations. Available at: www.who.int/hiv/pub/guidelines/keypopulations/en/
2. WHO (2014), Good practices in Europe: HIV prevention for people who inject drugs implemented by the International HIV/AIDS Alliance in Ukraine. Available at: www.euro.who.int/_data/assets/pdf_file/0003/254352/FINAL-Ukraine-Good-Practice-July-2014-with-covers.pdf
3. WHO (2014), Metrics for monitoring the cascade of HIV testing, care and treatment services in Asia and the Pacific. Available at: www.searo.who.int/entity/hiv/hiv_metrics.pdf
4. UNAIDS (2015), TREATMENT 2015. Available at: www.unaids.org/sites/default/files/media_asset/JC2484_treatment-2015_en_1.pdf
5. Health Communication Capacity Collaborative (NA), Role of community-level factors across the treatment cascade: a critical review. Available at: www.healthcommcapacity.org/wp-content/uploads/2014/07/CarolUnderwoodCFAR.pdf
6. WHO (2014), Values and preferences of people who inject drugs, and views of experts, activists and service providers: HIV prevention, harm reduction and related issues. Author: Mary Henderson. Available at: extranet.who.int/iris/restricted/handle/10665/128118
7. WHO, UNODC, UNAIDS (2013), WHO, UNODC, UNAIDS technical guide for countries to set targets for universal access to HIV prevention, treatment and care for injecting drug users – 2012 revision. Available at: www.who.int/hiv/pub/idu/targets_universal_access/en/
8. UNODC (2014), Guidance for community-based treatment and care services for people affected by drug use and dependence in Southeast Asia. Available at: www.unodc.org/documents/southeastasiaandpacific/cbt/cbt_guidance_EN.pdf
9. Daniel Wolfe, M Patrizia Carrieri, Donald Shepard (2010), Treatment and care for injecting drug users with HIV infection: a review of barriers and ways forward. *Lancet*. Volume 376, No. 9738, p355–366, 31 July 2010. Available at: www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736%2810%2960832-X.pdf
10. Asia Pacific Network of People living with HIV/AIDS (NA), Treatment access for injecting drug users (IDUs) living with HIV in Asia. Available at: [www.apnplus.org/main/share/publication/Treatment%20Access%20for%20Injecting%20Drug%20Users%20\(IDUs\)%20Living%20with%20HIV%20in%20Asia.pdf](http://www.apnplus.org/main/share/publication/Treatment%20Access%20for%20Injecting%20Drug%20Users%20(IDUs)%20Living%20with%20HIV%20in%20Asia.pdf)
11. International HIV/AIDS Alliance (2013), Strengthening HIV-TB integration. Case study. A case study from Alliance Ukraine. Available at: www.aidsalliance.org/assets/000/000/734/90656-Strengthening-HIV-TB-integration-A-case-study-from-Alliance-Ukraine_original.pdf?1406298368
12. International HIV/AIDS Alliance and PATH (2013), Community-based TB and HIV integration. Good practice guide. Available at: www.aidsalliance.org/assets/000/000/719/90636-Good-practice-guide-Community-based-TB-and-HIV-integration_original.pdf?1406297871
13. Sabin LL, Desilva MB, Hamer DH, et al. (2008), 'Barriers to adherence to antiretroviral medications among patients living with HIV in southern China: a qualitative study.' *AIDS Care* 2008; **20**: 1242–1250. Available at: www.ncbi.nlm.nih.gov/pmc/articles/PMC3888993/

14. Altice F, Metzger J, Hodges J, et al. (2004), 'Developing a directly administered antiretroviral therapy intervention for HIV-infected drug users: implications for program replication.' *Clin Infect Dis* 2004; **1** (38 suppl 5): S376-S387. [PubMed](#). Available at: cid.oxfordjournals.org/content/38/Supplement_5/S376.full
15. WHO (2014), Guidelines for the screening, care and treatment of persons with hepatitis C infection. Available at: apps.who.int/iris/bitstream/10665/1111747/1/9789241548755_eng.pdf
16. Bonita Mangura, Nisha Ahamed, Nina Roman, Olena Kheylo, Konstantin Lezhentsev (2014), TB/HIV co-infection services gap analysis. Analytical report. Ukraine. Available at: www.stbcu.com.ua/wp-content/uploads/2014/12/FINAL_STbCU-TB-HIV-Gap-Analysis_ENG.pdf