

Umed Ibragimov and Alisher Latypov

Needle and Syringe Types

Used by People Who Inject Drugs
in Eastern Europe and Central Asia:
Key Findings from a Rapid Situation Assessment



2012

Authors: Umed Ibragimov and Alisher Latypov

Reviewers: Jamie Bridge, Vitaly Zhumagaliev, Jean-Paul Grund and David Otiashvili

Design and layout: Donaldas Andziulis

Cover image: Courtesy of Jean-Paul Grund ©

Suggested citation: Ibragimov, U. & Latypov, A. (2012). *Needle and syringe types used by people who inject drugs in Eastern Europe and Central Asia: Key findings from a rapid situation assessment*. Vilnius: Eurasian Harm Reduction Network.

Acknowledgements: This report was commissioned and funded by the Global Fund to Fight AIDS, Tuberculosis and Malaria. The authors of this report are grateful to all respondents for their time and efforts in completing the questionnaire and for sharing their data.

This report is available electronically at <http://www.harm-reduction.org/ehrn-publications.html>

Eurasian Harm Reduction Network

The Eurasian Harm Reduction Network (EHRN) is a regional network with a mission to promote humane, evidence-based harm reduction approaches to drug use, with the aim of improving health and protecting human rights at the individual, community, and societal level.

EHRN was established in 1997 and currently unites over 350 institutional and individual members from 29 countries of Central and Eastern Europe and Central Asia. Activities of the Network are governed by its Steering Committee. The Network's Secretariat is based in Vilnius, Lithuania.



Address:

Svitrigailos 11B, Vilnius, LT-03228, Lithuania

Telephone: +370 5 269 1600

Fax: +370 5 269 1601

Email: info@harm-reduction.org

Website: www.harm-reduction.org

Table of Contents

Introduction	5
Background	6
Methodology	9
Key Findings	10
Table 1: Country data on syringe and needle types.....	10
Conclusions	20
Recommendations	22
Annexes	24
Annex 1. Questionnaire on needle and syringe types used by people who inject drugs in Eastern Europe and Central Asia	24
Annex 2. List of respondents, by country.....	27

Introduction

In October 2011, the Global Fund to Fight AIDS, Tuberculosis and Malaria (the Global Fund) approached the Eurasian Harm Reduction Network (EHRN) concerning different types of needle-syringes and their possible influence on HIV transmission among people who inject drugs (PWID). While emerging evidence suggests that a switch to low dead-space (LDS) syringes could have a major impact on HIV, both the Global Fund and EHRN recognized that such an intervention can only succeed if it is fully informed by — and with the full backing of — local drug users, taking into account their needs, preferences and the local drug markets, and where reliable supplies of new products can be ensured at similar costs to existing syringes.

According to the UN Reference Group on HIV and Injecting Drug Use, there are an estimated 3.7 million PWID in Eastern Europe and Central Asia, with Eastern Europe having the highest regional prevalence of injecting drug use worldwide. About one quarter of these PWID are thought to be living with HIV.¹ In view of the above, the Secretariats of the Global Fund and EHRN agreed to conduct a rapid situation assessment on the types of needles and syringes that are procured and supplied through needle and syringe programmes (NSP) and pharmacies in Eastern Europe and Central Asia. The overall objective was to examine opportunities for introducing LDS syringes, and informing future policy and advocacy efforts. The rapid situation assessment was conducted by EHRN in November and December 2011, and the results are summarized in this report.

1 Mathers, B., Degenhardt, L., Phillips, B., Wiessing, L., Hickman, M., Strathdee, S., Wodak, A., Panda, S., Tyndall, M., Toufik, A., Mattick, R., for the 2007 Reference Group to the UN on HIV and Injecting Drug Use. (2008). Global epidemiology of injecting drug use and HIV among people who inject drugs: A systematic review. *The Lancet*, 372(9651), 1733-1745.

Background

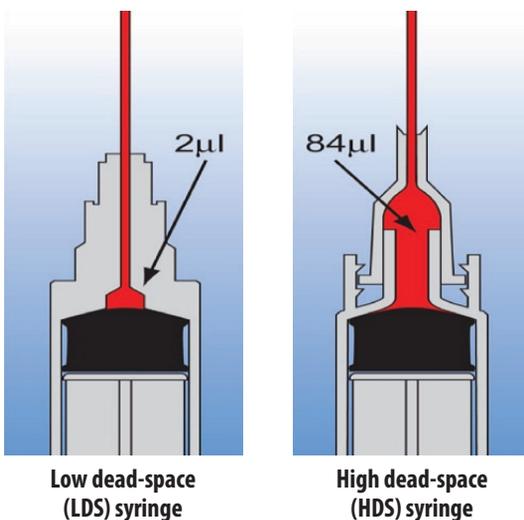


Evidence from laboratory studies, bio-behavioral surveys, mathematical models, and ecological studies demonstrates that HIV transmission due to syringe sharing can virtually be eliminated if injecting drug users (IDUs) switch from high dead-space syringes to low dead-space syringes.²

As Figure 1 shows, all syringes retain some fluid when the plunger is fully depressed, and this is called the “dead space.” High dead-space (HDS) syringes (predominantly those with detachable needles), retain fluid in the tip of the syringe, the hub of the needle and the needle itself. Low dead-space (LDS) syringes are predominantly those with needles that are permanently attached, and these needles extend through the tip of the syringe to the base of the barrel. When the plunger is fully-depressed, LDS syringes only retain fluid in the needle itself.

In laboratory experiments, LDS syringes retained an average of two micro-liters (μL) of fluid, while HDS syringes retained an average of 84 μL of fluid with the plunger fully-depressed (Figure 1).³

Figure 1. Fluid Retention in High and Low Dead-Space Syringes



2 Zule, W., Cross, H., Stover, J., & Pretorius, C. (2011). *Are major reductions in new HIV infections possible with injecting drug users? The case for low dead-space syringes in highly affected countries*. RTI International. Unpublished draft.

3 Zule, W., Ticknor-Stellato, K., Desmond, D., Vogtsberger, K. (1997). Evaluation of needle and syringe combinations. *Journal of Acquired Immune Deficiency Syndromes and Human Retrovirology*, 14(3), 294-295.

In further laboratory tests that simulated injection (including aspiration and rinsing, as commonly carried out by PWID), HDS syringes retained an average of 1.01 μL of blood, while LDS syringes retained an average of less than 0.001 μL of blood.⁴ This means that HDS syringes can retain up to 1,000 more HIV virus than LDS syringes after rinsing, indicating that PWID who share HDS syringes with HIV-positive injecting partners are many times more likely to become infected than if they shared LDS syringes.⁵ Laboratory tests suggested that LDS syringes may also contribute to the lower risk of HCV transmission due to significantly lower survival rate of HCV in LDS syringes as compared to the HDS ones.⁶ Indirect evidence supporting the potential of LDS syringes to reduce the prevalence of HIV and HCV was received from the population-level studies. For instance, a cross-sectional study in Lithuania and Hungary showed that sharing syringes with the detachable needles that retain larger volumes of residual fluid as compared to the syringes with permanently attached needles was one of the factors positively associated with the significantly higher HIV and HCV prevalence rates among PWID.⁷

The significance of the type of syringe in terms of residual blood was first raised as early as in 1991, when Grund and Stern suggested that “the size of the syringes and the diameter of the needles only partially explain the various volumes of blood transferred”, and emphasized that “the type of syringe used is also of vital importance.”⁸ However, switching PWID to certain types of syringes, whether on a national or a broader geographical level, has not been proposed as a prevention intervention until recently. In 2007, the importance of LDS syringes in reducing HIV transmission was recognized by the World Health Organization, UNAIDS and UNODC, with their guide for NSPs encouraging, if possible, the provision of “a single-unit needle and syringe such as the 1ml diabetic disposable syringe, as “attached” units provide less opportunity for HIV to survive in dried blood than do separate needles and syringes.”⁹

However, there are some key issues that need to be explored when considering opportunities for large-scale transitions from HDS to LDS syringes.¹⁰ These issues include the following:

- Learning more about where PWID obtain needles and syringes from (such as NSPs, pharmacies, peers or the black market);
- Establishing what types of drugs PWID are injecting in a given locality and the volumes of liquid that it normally takes to dissolve their drugs;

4 Zule et al., Evaluation of needle and syringe combinations, pp. 294-295.

5 Zule et al., *Are major reductions in new HIV infections possible with injecting drug users? The case for low dead-space syringes in highly affected countries*, unpublished draft.

6 Paintsil, E., He, H., Peters, C., Lindenbach, B., & Heimer, R. (2010). Survival of hepatitis C virus in syringes: Implication for transmission among injection drug users. *The Journal of Infectious Diseases*, 202(7), 984-990.

7 Gyarmathy, A.V., Neaigus, A., Li, N., Ujhelyi, E., Caplinskiene, I., Caplinskas, S., & Latkin, C. (2010). Liquid Drugs and high dead space syringes may keep HIV and HCV prevalence high – A comparison of Hungary and Lithuania. *European Addiction Research*, 16(4), 220-228.

8 Grund, JP., Stern L. (1991). Residual blood in syringes: size and type of syringe are important. *AIDS*, 5(12), 1532-1533.

9 WHO, UNAIDS, & UNODC. (2007). *Guide to starting and managing needle and syringe programmes*. Geneva: World Health Organization.

10 Zule et al., *Are major reductions in new HIV infections possible with injecting drug users? The case for low dead-space syringes in highly affected countries*, unpublished draft.

- Developing a better understanding of the needs and preferences of PWID in terms of specific needle and syringe combinations, as influenced by a range of factors;
- Sensitizing manufacturers of syringes and needles to the needs of PWIDs from various regions.¹¹

This is also in line with the recommendations of the UN agencies suggesting that “[t]he types of needles and syringes distributed should be those preferred by local drug users.”¹²

While looking at the availability of various types of needles and syringes in Eastern European and Central Asian countries, this study also aims to elucidate the above issues and to highlight their importance for on-going research, policy and advocacy efforts.

11 The increasing use of injection pens or other automatic devices by people who inject insulin could potentially result in decreases in the availability and increases in price of single unit LDS syringes, as well as in decreasing interest of manufacturers to invest in these products, warranting targeted advocacy efforts.

12 WHO, UNAIDS, & UNODC, *Guide to starting and managing needle and syringe programmes*, p. 9.

Methodology

This rapid assessment was conducted in the following 19 countries that comprise the Global Fund's Eastern European and Central Asian Region: Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Georgia, Kazakhstan, Kosovo, Kyrgyzstan, Macedonia (Former Yugoslav Republic), Moldova, Montenegro, Russian Federation, Serbia, Tajikistan, Ukraine and Uzbekistan.

Data were collected using semi-structured self-administered questionnaires with open-ended questions (developed in both English and Russian languages). Questions focused on the type of needles and syringes available within the specialist NSPs as well as in pharmacies; drug users' choices of specific needle and syringe combinations based on a range of various factors; availability and price of LDS products; needle and syringe procurement; policy or service planning level discussions of LDS products; numbers of needle-syringes distributed annually on a national level; and major funders of NSPs in the countries of the region (see Annex 1).

Questionnaires were sent via e-mail to key organizations — including recipients of Global Fund grants that are responsible for the management and/or delivery of NSPs, and other NSP providers for whom EHRN had contact information. All respondents were asked to fill in the questionnaire in either English or Russian and to send it back. The assessment team also made phone calls and sent follow up-emails, either reminding the participants to complete the questionnaire or asking for further clarifications.

In many cases, respondents were unsure whether needle-syringes were LDS or HDS products. In these cases, it was assumed that syringes with permanently attached needles were LDS products, and that those with separate/detachable needles were HDS products. This distinction serves as an adequate proxy to distinguish between LDS and HDS in the vast majority of cases.¹³

Due to the nature of rapid assessment exercise, this study has a number of limitations. Information gathered through our survey is neither comprehensive in scope nor can be generalised to all PWID and NSP providers in the focus countries. In particular, for most of the countries where LDS syringes were reportedly distributed via NSPs, no data on the quantity, geographic coverage or proportion of distributed LDS syringes are available. Importantly, information on the numbers of syringes distributed nationally per calendar year may not always cover all active suppliers and NSP service providers in a given country. In some instances, it can be based on respondents' own service provision records and result in underestimated data. Data on availability of LDS syringes in pharmacies, drug users' needs and preferences of needles and syringes, including LDS products, are based solely on information that we received from our respondents, and no systematic verification of those responses was performed.

¹³ Personal communication with William Zule (RTI International) and James Bridge (the Global Fund).

Key Findings

Requests to complete questionnaires were sent to 99 respondents in 19 countries. In total, 29 completed questionnaires were received from 17 countries — the exceptions being Bosnia and Herzegovina and Montenegro (for a complete list of respondents, see Annex 2). The overall response rate was 29% whereas the number of responding organizations per country varied from 1 to 3.

Eight out of 17 countries reported that LDS products (or syringes with permanently attached needles) were supplied through specialist NSPs at the time of the assessment (Table 1).

Table 1: Country data on syringe and needle types

Country	LDS syringes available in specialist NSP	Specifications and manufacturer of LDS syringes in specialist NSP	Price difference between LDS and HDS syringes and impact of price over supply of LDS syringes	LDS available in pharmacies	Drug users' needs and preferences in regards to needles and syringes	Drug users' opinions on LDS syringes	Total number of needles—syringes distributed nationally per year
Albania	Yes	1 ml syringe + 29G x 1/2" needle	No data	No	Those who have just started injecting or are poly-drug users (in combination with other drugs, such as diazepam) need 2.5 ml or 5ml syringes. Injecting drug users with damaged veins prefer 1ml syringes.	Drug users have little information on LDS products	Est. 42,000
Armenia	Yes	1 ml syringe, by SitekMed (China)	No data	No data	Mostly 5-20 ml syringes are in demand since desomorphine is the most popular drug.	No data	260,000 – 280,000
Azerbaijan	Yes	1 ml syringe + 13 mm 0,33 needle, by SET Medical (Turkey)	Price doesn't differ significantly	Yes, (price is slightly higher)	70% of PWID inject heroin, and 1 ml syringes are reportedly most popular; in places where the main drug of choice is raw opium, user prefer syringes with larger barrels of 2ml and 5ml.	No complaints on 1 ml LDS products were received from the clients.	1,800,000

Needle and Syringe Types Used by People Who Inject Drugs in Eastern Europe and Central Asia:
Key Findings from a Rapid Situation Assessment

Country	LDS syringes available in specialist NSP	Specifications and manufacturer of LDS syringes in specialist NSP	Price difference between LDS and HDS syringes and impact of price over supply of LDS syringes	LDS available in pharmacies	Drug users' needs and preferences in regards to needles and syringes	Drug users' opinions on LDS syringes	Total number of needles–syringes distributed nationally per year
Belarus	Yes	1 ml syringe + 29G x 1/2" needle, by KD Medical (Germany)	No data	No data	Syringes with 2, 5 and 10 ml barrel volume are the most popular since the use of home-made opioids prevails. In some provinces where methadone, amphetamines and heroin are available on the drug market, 1 and 2 ml syringes are used. Reportedly, 10 and 20 ml syringes are used for extracting the drug from the common container, where the drug is being 'cooked', and then 'loading' other syringes.	Clients prefer syringes with the removable needles since they may need needles of different length and gauge depending on the place of injection.	2,400,000
Bulgaria	No	N/A	No data	No data	Syringes with removable needles are popular. 2 ml syringes are preferable for heroin and amphetamine injecting, while 10 and 20 ml (and sometimes 5 ml) syringes are used for injecting methadone. Needles with 27 G and 22 G sizes are most highly demanded; 22 G needles are used for injecting into the femoral vein when other veins are damaged.	No data	No data
Croatia	Yes	1 ml syringe + 0,33x12,7 mm (29G) needle; 1 ml syringe + 0,30 x 8mm (30G) needle by Becton, Dickinson & Co. Ltd. (Spain)	LDS products are slightly more expensive than HDS ones, but this does not have a major impact on their demand/supply.	No data	People who inject heroin use LDS 1 ml syringe with 0,33x12,7 mm (29G) needle; those who inject methadone or buprenorphine mostly use syringes with 0,45x13 mm (26G) or 0,6x25 mm (23G) needles. The type of needle used depends on the of the body where the drug is injected.	No data	No data

Needle and Syringe Types Used by People Who Inject Drugs in Eastern Europe and Central Asia:
Key Findings from a Rapid Situation Assessment

Country	LDS syringes available in specialist NSP	Specifications and manufacturer of LDS syringes in specialist NSP	Price difference between LDS and HDS syringes and impact of price over supply of LDS syringes	LDS available in pharmacies	Drug users' needs and preferences in regards to needles and syringes	Drug users' opinions on LDS syringes	Total number of needles—syringes distributed nationally per year
Georgia	Yes	1 ml syringe +0.3 mm x 12 mm (30 G) needles by Braun (Germany)	1 ml LDS products are at least twice as expensive as larger volume HDS products.	Yes	PWID mostly inject home-made drugs such as "Vint", "Jeff", desomorphine, so they use 20ml and 10 ml syringes with removable needles, which can be connected to each other by screwing. 1 ml (needle permanently connected to syringe), 3 ml and 5 ml syringes are also used depending on the drug type. If drug preparation involves filtering, removable needles are more preferred, since this allows for placing the filter in between the needle and syringe.	Majority of PWID prefer large volume syringes with removable needles.	Approx. 838,000
Kazakhstan	No	N/A	N/A	Yes	Majority of PWID prefer 2 and 5 ml syringes with different types of needles. Injecting drug users with damaged veins use thin needles from insulin-type syringes in combination with larger size syringes.	No data	Approx. 21,015,000
Kosovo	No	N/A	N/A	No data	Most popular syringes among PWID are those with 1 and 2.5 ml barrel size.	No data	12,000
Kyrgyzstan	No	N/A	N/A	No data	Most demanded syringes are 2.5 ml and 5 ml syringes for dissolving the drug mixture.	No data	7,570,000

Needle and Syringe Types Used by People Who Inject Drugs in Eastern Europe and Central Asia:
Key Findings from a Rapid Situation Assessment

Country	LDS syringes available in specialist NSP	Specifications and manufacturer of LDS syringes in specialist NSP	Price difference between LDS and HDS syringes and impact of price over supply of LDS syringes	LDS available in pharmacies	Drug users' needs and preferences in regards to needles and syringes	Drug users' opinions on LDS syringes	Total number of needles–syringes distributed nationally per year
Macedonia	No	N/A	N/A	No	Heroin users usually inject into the distal veins with 2.5ml syringe with 0.45x12mm or 0.5x16mm needles, while for injections into the femoral vein 2.5ml syringe in combination with 0.6x25mm; 0.7x40mm; 0.8x40mm; 0.9x40mm needles is used. Methadone users inject with 10 or 20ml syringes; when injection is made into the distal vein, 0.45x12mm needle is used, whereas for injection into the groin 0.6x25mm, 0.7x40mm, 0.8x40mm, and/or 0.9x40mm needles are used.	LDS syringes were previously supplied (only 1ml syringe with permanently attached needles). However, due to the small syringe volume and impossibility to replace the needles, they were not popular among drug users.	Approx. 253 000
Moldova	Yes	1ml syringes + 0,33x12,7mm (29G) needles by Becton-Dickinson & Co. Ltd. (Spain)	1 ml LDS syringe with permanently attached needle costs USD 0,0888, while 1ml syringe with the removable needle costs USD 0.0679. No data on impact of price on supply.	No data	PWID prefer 2 and 5 ml syringes, since the poppy straw concoction is the most prevailing drug. However, increasing availability of heroin on the local drug market makes 1 ml syringes popular as well. Majority of NSP clients have long history of injecting (5-10 years) and prefer to use thinner needles from the insulin type syringes due to their damaged veins.	No data	1,700,000

Needle and Syringe Types Used by People Who Inject Drugs in Eastern Europe and Central Asia:
Key Findings from a Rapid Situation Assessment

Country	LDS syringes available in specialist NSP	Specifications and manufacturer of LDS syringes in specialist NSP	Price difference between LDS and HDS syringes and impact of price over supply of LDS syringes	LDS available in pharmacies	Drug users' needs and preferences in regards to needles and syringes	Drug users' opinions on LDS syringes	Total number of needles—syringes distributed nationally per year
Russia	Yes	1ml syringe + 0,3x13 mm needle by SFM (Germany)	No data	No data	PWID prefer various types of syringes and needles; the key criterion is the leak-proof plunger to avoid waste of the drug solution. According to a recent survey (29 respondents from 22 cities), 69% of respondents suggested that heroin became less available in 2010, while significantly cheaper desomorphine ("krokodil") became more available. Overall, desomorphine users need larger size syringes to inject the drug. In some cities desomorphine is sold in preloaded syringes. Unlike heroin users, desomorphine users need to inject drug more frequently, reportedly up to 7-10 times a day.	No data	Approx. 5,923,000
Serbia	No	N/A	N/A	Yes	The choice of syringes is very limited, with most PWID using 2.5 ml syringes. The majority of PWID prefer thin needles (26G and 27G).	LDS products are not popular since it is impossible to replace the needle if it becomes clogged with blood (which can often happen, particularly for PWID with damaged veins).	No data

Needle and Syringe Types Used by People Who Inject Drugs in Eastern Europe and Central Asia:
Key Findings from a Rapid Situation Assessment

Country	LDS syringes available in specialist NSP	Specifications and manufacturer of LDS syringes in specialist NSP	Price difference between LDS and HDS syringes and impact of price over supply of LDS syringes	LDS available in pharmacies	Drug users' needs and preferences in regards to needles and syringes	Drug users' opinions on LDS syringes	Total number of needles–syringes distributed nationally per year
Tajikistan	No	N/A	N/A	Yes	The most available drug is heroin, so PWID prefer 2 and 5 ml syringes. Syringes that have an extended tip (a nipple) on the plunger are also popular since they minimize the volume of fluid retained after injection (and thus the waste of drug solution). 1 ml syringes are used for injecting into the small veins. However, drug users often use the needle from 1 ml set only, and throw away the syringe. During the winter season, thinner needles are reportedly in higher demand as veins may tend to collapse in cold weather.	Syringes with permanently attached needles may be less popular due to the small barrel size and impossibility to replace the needle.	2,500,000
Ukraine	No	N/A	LDS products' price is 60-75% higher compared to HDS products, which was one of the reasons to decide against the procurement of LDS products.	Yes	Majority of PWID prefer 2 and 5 ml syringes for injecting opium extract. Almost half of PWID reported injecting home-made amphetamine-type stimulants that requires 10 and 20 ml syringes. People with damaged veins prefer thin needles.	Since PWID prefer syringes with larger barrel size (2, 5, 10, 20 ml), existing 1ml LDS products are not popular.	Between 14,000,000 and 16,000,000
Uzbekistan	No	N/A	No data	No data	Heroin and other opiates dominate the Uzbek drug market. 1 ml syringes are decreasing in popularity, and many recipients now tend to refuse 1ml syringe supplies. The most popular products are 2 ml syringes and thin needles.	Many PWID prefer to receive syringes and needles in separate sets to make their own combinations based on their needs.	1,500,000 – 1,800,000

Some of the respondent countries had not heard of LDS products before, whereas some respondents were not aware that syringes with permanently attached needles were often LDS products.

Of all 17 countries, only respondents from Azerbaijan reported the popularity of LDS products among the majority (70%) of PWID. In some other countries (e.g. Bulgaria), LDS products were distributed within specialist NSPs, but were reportedly not very popular. In sharp contrast to reports from Azerbaijan, responses from most of the countries where LDS syringes were available at some point in the past indicated that PWID usually avoided using them for the following reasons:

- It was impossible to replace the needle if it was permanently attached to the syringe — yet PWID may often need to replace the needle with another one more suitable for their needs (e.g. a longer or thinner needle), or if the needle is clogged with blood or becomes blunt after initial use (which reportedly happens very often with needles that are currently available throughout the region).
- Permanently attached needles do not permit installing the so called “wheel filters” in between the syringe and the needle, so using LDS products with permanently attached needles may result in vein damage and other health consequences in settings where impure drug solutions are consumed.
- LDS products are usually supplied in small sizes (almost exclusively 1ml syringes), therefore they are not suitable for PWID who need syringes with larger barrels.



...many years ago we had 'low dead-space' products (only 1ml syringe/needle permanently attached) but they were not well accepted by the drug users...the reasons were [i] small volume, and [ii] impossibility to replace the needle...Since that time, the supply [of] 'low dead-space' products is not foreseen at [NSP] service level.

NGO Healthy Options Project Skopje, Macedonia



...Somehow IDUs always prefer to use big syringes...that have needles connected to the syringe through screwing for fixing filters...between syringe and needle.

Georgian Harm Reduction Network, Georgia

Local drug scenes also greatly influence the needs of PWID in terms of needles and syringes. Respondents from Azerbaijan explained the popularity of their 1ml LDS syringes by the fact that heroin was prevalent on the drug market. At the same time, according to the overwhelming majority of our respondents, PWID from most other countries ask for syringes with barrel sizes larger than 1ml. For example, people who inject amphetamine, methadone or poor quality heroin normally prefer 2ml and 2.5ml syringes, while 5ml and 10ml syringes may be used for injecting methadone, desomorphine and other home-made opioids, ephedrine-based preparations, as well as other poly-drug solutions. Large volume syringes (10ml and 20 ml) were reported to be used for mixing and filtering the drug solution while preparing home-made drugs such as desomorphine and “Vint”. Respondents from several countries (e.g. Albania and Russia) also noted that the local purity of drugs, in particular heroin, also influenced the choice of a syringe (since less pure heroin mixtures may require a syringe of a large size).



...I would love to inject with a small syringe (1ml) where less blood remains there, but how can I do this in the case of “bad heroin”? I must mix it with diazepam and therefore the solution goes from 1ml to 3-4ml.

NSP client, Albania

According to the collected data, both the length and the gauge of needles which are popular among PWID also depend on the place of injection. People who have damaged veins or prefer to inject into smaller veins (e.g. hands and feet) usually use thin and short needles (which are often used in the LDS needle-syringe products). People who have damaged veins and who inject methadone, desomorphine, opium, medications containing codeine or phenobarbital often need larger volume syringes, so they may use just the thin needle from 1ml syringe in combination with the barrel from the large-volume HDS syringe. Persons injecting intramuscularly or into femoral veins were reported to prefer thicker and longer needles (for which LDS products are not often available).



A survey among IDUs living in Actobe-city [Kazakhstan] demonstrated:

- 30% of respondents reported that they used needles from [1 ml syringes with detachable needles]; primarily, thin needles were popular among respondents with a long history of injecting drug use and who had damaged veins. At the same time, the syringes that come in a set with thin needles were thrown away.*
- 40% of respondents need 2 ml syringes and needles that come in a set. These are mostly heroin injectors. Yet, since nowadays heroin is less readily available on the local market, fewer people inject it, whereas people who inject drugs other than heroin do not have a great need for such syringes.*

- Majority (80%) of respondents need 5 ml syringes, however the [detachable] needle that comes in a set with such a syringe can be used only if veins are in good condition. These syringes are used for injecting desomorphine, other preparations containing codeine, phenobarbital (since the volume of a drug solution is higher) and are not suitable for heroin injectors.
 - 30% need 10 ml syringes (those who produce and use desomorphine) – the syringe is used for filtering the solution. The needle that comes in a set with such a syringe is not used for intravenous injecting.
 - 40% need 20 ml syringes (those who produce and use desomorphine) – the syringe is used for filtering the solution. The needle that comes in a set with such a syringe is not used for intravenous injecting.
- It should also be taken into account that the range of IDUs' needs can swiftly change and they may need different types of needles and syringes at the same time based on their [vein] condition and types of drugs used."*

NGO "Onyx", Kazakhstan

It is important to note that respondents from Tajikistan reported the procurement of 1ml syringes with removable needles where the plunger has an extended tip (a nipple) that effectively decreases the dead space and the amount of residual blood. These products are popular among PWID as they minimize the amounts of drugs that are wasted while injecting. Respondents from Russia also mentioned that the main criteria for PWID in terms of their choice of syringes is how good the syringe is in minimizing the waste of the drug solution: "the drug should not leak behind the plunger during the injection."

Several countries reported that prices of LDS syringes were usually higher than for HDS products. However, with the exception of Ukraine, this price difference was not reported to impact upon their supply. In Ukraine, the higher price of LDS products along with their small barrel size (which did not correspond to the needs of local PWID) and the lack of official state registration of LDS products in the country led to their discontinuation within NSP. The supply of LDS syringes was also discontinued in Macedonia due to their unsuitable syringe sizes and the fact that the needles could not be changed. In Georgia, LDS products are reportedly twice as expensive as HDS syringes. In Moldova, LDS syringes were by 30-70% more expensive than HDS syringes, depending on the manufacturer, whereas in Ukraine they were by 60-75% more expensive. Tajikistan was the only country in which respondents reported that LDS syringes were slightly cheaper than HDS products.

Needles and syringes in the assessment countries are procured mostly via national-level tenders, which are usually held by the Principal Recipients of Global Fund grants. Almost all countries except for Bulgaria import the needles and syringes that are distributed via specialist NSPs. Countries buy needles and syringes from a wide range of manufacturers, although manufacturers from China, Spain

and Germany prevail. In almost all countries except for Kazakhstan the Global Fund is the main funder for the procurement of sterile needles and syringes for distribution among PWID.

Data on the number of syringes supplied within specialist needle and syringe programmes were reported for 13 countries. Based on responses that we received, around 45.2-48.7 million syringes are procured through Global Fund-supported programmes each year. In addition, the Government of Kazakhstan allocated funds from the state budget to purchase 14 million needle-syringes. Thus, the total needle-syringe supply for distribution through NSPs in these 13 countries is around 60 million needles-syringes per year, which is approximately equivalent to US\$ 4-4.5 million annually.

Very few countries reported ever having policy-level discussions on LDS products. Both Macedonia and Ukraine decided to discontinue the procurement of LDS products as they did not meet the needs of PWID and, in the case of Ukraine, were more expensive. Some countries (e.g. Azerbaijan and Georgia) indicated that the issue of LDS products was discussed at the service planning level, when feedback from PWID on the type of injecting equipment to be supplied within the Global Fund-supported projects was collected and analysed.



...The issue of low dead space syringes was raised earlier. Market research and preliminary negotiations were conducted. The main problems were related to the unavailability of LDS syringes of the required sizes (2, 5, 10, 20 ml), the absence of [LDS products'] registration in Ukraine and the higher price [of LDS syringes].

International HIV/AIDS Alliance, Ukraine

Conclusions

Although in view of the nature of this study, our findings cannot be generalized to the entire PWID population and all NSPs in the region, overall, this rapid situation assessment on the needle and syringe types used by people who inject drugs in Eastern Europe and Central Asia leads to the following main conclusions:

1. PWID demands for various combinations of syringes and needles greatly depends on constantly and sometimes rapidly changing dynamics of local drug markets as well as the patterns of drug use. One of the key recent developments on Eastern European drug markets is the dramatically decreased availability of heroin coupled with the emergence of new drug use patterns trends, such as intravenous use of desomorphine. In Central Asian republics, where according to recent reports heroin is the most widely available type of drug, the use of desomorphine is not entirely unknown either.¹⁴ Moreover, as reported by respondents from Tajikistan, the demand for various types of needles may also be influenced by seasonal changes, with veins ‘disappearing’ during cold months and necessitating the use of thinner needles. **All these findings speak in support of the need for a greater variety of injection equipment.**
2. **A rapid transition from HDS to LDS syringes in Eastern European and Central Asian countries will be possible only if LDS syringes have adequate barrel capacities that meet the drug users’ needs of PWID.** Currently, all countries where LDS syringes are available report that the only available barrel size is 1ml. Against the backdrop of such an extremely limited offer of LDS syringe types, the majority of PWID from the region may need syringes with larger barrel capacities, ranging from 2ml to 10 ml.
3. According to our respondents, thin needles get clogged very often. Because most LDS syringes come with permanently attached thin needles which cannot be replaced, this can serve to discourage PWID from using these products. Nevertheless, there seems to be a substantial demand among PWID for thin needles. **Therefore, in order to be widely accepted, LDS products ideally need to come not only in various barrel sizes, but also with detachable needles.** A possible example of such product could be the type of syringe which is currently supplied in Tajikistan and which have the plunger with an extended tip (a nipple) that decreases the dead space.

14 Latypov, A. (2011). *Drug dealers, drug lords and drug warriors-cum-traffickers: Drug crime and the narcotics market in Tajikistan* (translated and summarized by T. Dempsey). Vilnius: Eurasian Harm Reduction Network. Available at: <http://www.harm-reduction.org/ehrn-publications.html>

4. Communicating the benefits of switching from HDS to LDS syringes to the target population may encourage a greater acceptance of, and a more rapid transition to, LDS syringe use. Our findings strongly suggest that one of the criteria for PWID in terms of their choice of syringes is minimal waste of the drug solution. Because of their special design, LDS syringes reduce drug wastage — an argument that is often used for the scale-up of LDS syringes in national vaccine programmes and other medical interventions. **Articulating this message to PWID, along with the potential to reduce HIV transmission, may be an important strategy to promote the use and acceptance of suitable LDS products.**
5. **The Global Fund is currently the major funder of needles and syringes distributed in Eastern European and Central Asian countries through NSPs.** This may put the Global Fund in a position where it can influence the needle-syringe market in the region, liaising with major manufacturers to potentially allow for the procurement of LDS syringes at a lower cost.
6. The Global Fund and its technical partners — such as the World Health Organization, UNODC and UNAIDS — are also well placed to initiate policy discussions with national governments.

Recommendations

For manufacturers of needles and syringes:

1. The unmet needs that emerge from this rapid assessment, combined with the evidence of the potential impact of LDS injection equipment on HIV transmission among people who inject drugs, call for further research into developing LDS syringes that have detachable needles. This will allow for a wider range of barrel sizes to be used, and will increase the acceptance and uptake of these products.

For the Global Fund, the World Health Organization and other technical agencies:

1. Initiate negotiations with major manufacturers of needles and syringes to expand the range, and reduce the price, of LDS products so that they meet the needs of people who inject drugs. This particularly concerns the supply of LDS syringes with various barrel sizes and detachable needles of different length and gauge.
2. Encourage national governments in Eastern Europe and Central Asia to initiate policy-level discussions on the possibility of scaling-up LDS products within specialist needle and syringe programmes. These discussions should be informed by data on the needs and preferences of local drug users, as well as the specifics of local drug markets, and can be implemented through reprogramming existing Global Fund grants where appropriate.
3. Advise the Principal Recipients of Global Fund grants that are responsible for procuring needles and syringes to consider “dead space” as one of the key product characteristics for the purposes of selecting and procuring needles and syringes.

For organizations implementing needle and syringe programmes at national and sub-national levels:

1. Promote LDS syringes among PWID by stressing their potential to reduce the risk of HIV transmission and to minimize the wastage of drug solution.
2. Collect data on the use of LDS syringes by PWID and ensure that this information is presented to policy-makers and service planners to inform their decisions on the purchase of LDS syringes.

For the Eurasian Harm Reduction Network:

1. Include LDS syringes on the agenda of future regional consultations.
2. Increase awareness of civil society and community-based organizations on LDS syringes, their advantages and potential impacts on HIV epidemics. Provide guidance and support in terms of advocating for LDS syringes that meet the needs of PWID.
3. Facilitate further exchange of data, experiences and lessons learned between service providers and planners, researchers and policy makers on various matters related to LDS syringes in the countries of the Eastern Europe and Central Asia region.

Annexes

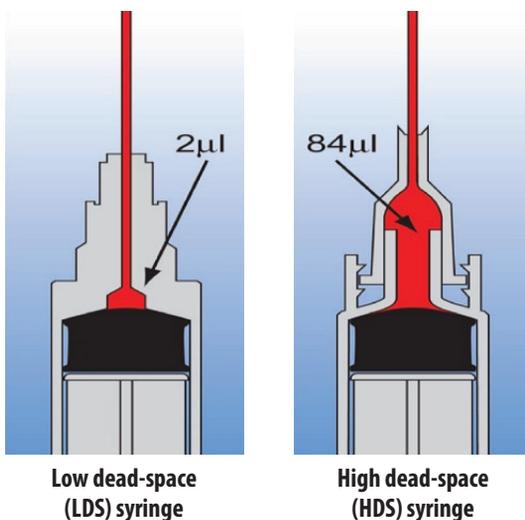
Annex 1. Questionnaire on needle and syringe types used by people who inject drugs in Eastern Europe and Central Asia

Dear Sir/Madam,

Please be informed that the Global Fund to Fight AIDS, Tuberculosis and Malaria has commissioned a rapid scoping exercise regarding the types of needles and syringes that are procured and supplied within needle and syringe programmes in Eastern Europe and Central Asia.

The goal of the study is to assess the opportunities for introducing certain types of syringes that might have a great potential in preventing HIV transmission among people who inject drugs. Owing to their specific design (see Figure 1), these so-called 'low dead-space' syringes retain a much smaller volume of liquid (around two micro litres) after the plunger is fully depressed, as compared to 'high dead-space' syringes which can contain around 84 micro litres of liquid. As the result, low dead space syringes (which typically take the form of single-unit needle and syringe products such as the 1ml insulin needles) can contain fewer viral particles after being used by a person living with HIV or other blood-borne viruses. Laboratory tests found that after typical syringe use (involving the aspiration of blood from the vein into the syringe, and then rinsing the syringe with water after the injection), the remaining fluid in the low dead space syringes contained around 1,000 times fewer HIV particles than in the high dead-space syringes (Zule et al., 2011).

Figure 1. Blood Retention in High and Low Dead-Space Syringes



Source: Zule, W.A., Cross, H.E., Stover, J., & Pretorius, C. (2011). *Are major reductions in new HIV infections possible with injecting drug users? The case for low dead-space syringes in highly affected countries* (draft). RTI International, Futures Institute.

To help further explore this issue and assess the potential for changes in practice in the region, we kindly ask you to fill in the following short questionnaire about needle and syringe programmes at the national level. The study findings will help to identify next steps for research and advocacy efforts from a range of partners, including the Global Fund and the Eurasian Harm Reduction Network. Your detailed responses, backed up by the national-level data, would therefore be highly appreciated.

Should you need further details or clarification, do not hesitate to contact:

Umed Ibragimov at mail.umed@yahoo.com, ph. + 992 918 67 17 96 or

Alisher Latypov at alisher@harm-reduction.org, ph. + 370 5 2691 600.

Please return the filled questionnaire to alisher@harm-reduction.org and mail.umed@yahoo.com before December 15, 2011.

Thank you very much for your time and cooperation!

Questionnaire on needles and syringes used for needle and syringe programmes in EECA countries

Country _____

Organisation _____

Name and title of the person who filled in the questionnaire _____

E-mail _____ Telephone _____

Respondents will be acknowledged in the final report, but please tick this box if you would NOT like to be listed:

Is your organization a recipient through an existing Global Fund grant? Yes No

1. What types of needles and syringes have been supplied through specialist needle and syringe programmes and/or pharmacies in 2011? Please fill in the following table using separate rows for each type of syringes and needles.

	Size (ml for syringes, length and gauge for needles)	Specifics (needles permanently attached, single shot syringes etc.)	Manufacturer	Supplied through specialist needle and syringe programmes? (please tick)	Supplied through pharmacies? (please tick)
Syringes					
Needles					

2. Where a choice is being provided, which products are proving to be the most popular among people who inject drugs? If possible, please provide information about why this might be the case (i.e. the specifics of the local drug scene, drug injecting patterns, ease of use, etc).
3. How are these products procured (i.e. by individual services, through national contracts, or by government, or other)?
4. Who are the suppliers for these products (commercial companies, Government structures, individuals), and are the products imported?
5. Are 'low dead-space' products available in the country? If so, how does the price compare to other products, and does the price influence their supply?
6. Has the issue of 'low dead-space' products been raised before at a policy or service planning level? If so, what action was taken or what were the perceived/identified barriers?
7. Approximately how many needles and syringes are distributed nationally each year via needle and syringe programmes (if data are available)?
8. Who currently funds the needle and syringe programmes (including the procurement of needles and syringes themselves)?

Annex 2. List of respondents, by country

Country	Organisation	Name	Title	E-mail
Albania	Stop AIDS	Arian Boci	Executive Director	arianboci@yahoo.com
Armenia	APEC (AIDS Prevention, Education and Care)	Vage Babakhanyan	Manager of the Harm Reduction Project	apec@apec.am
	Mission East Armenia	Sona Orbelyan	Deputy Team Leader	sona@missioneast.am
		Vahan Abgaryan	Procurement and Logistics Officer	vahan@missioneast.am
	Armenian Red Cross Society	Tigran Boshyan	Programme Coordinator	tboshyan@gmail.com
Azerbaijan	Public Association to Counteract AIDS	Ehtiram Pashaev	Director	pashayev70@mail.ru
	Open Society Institute – Assistance Foundation/ Azerbaijan	Leyla Imanova	Public Health Programme Director	limanova@osi-az.org
Belarus	United Nations Development Programme	Tatiana Makarevich	Head of Procurement and Logistics Department, GFATM Grant Implementation Unit	Tatiana.makarevich@undp.by
		Olga Mikhovich	M&E Specialist, GFATM Grant Implementation Unit	volha.mikhovitch@undp.by
	Public Association “Positivnoe Dvizhenie”	Liudmila Trukhan	Thematic Coordinator on PWID	liudmila.trukhan@gmail.com
Bulgaria	Association “Adaptation”	Maruyana Stankova	President	adaptation_bld@yahoo.com
	Association “Dose of love”	Nela Ivanova	Executive Director	doseoflove@bitex.com
	Initiative for Health Foundation	Anna Lyubenova	Secretary	sofianep@online.bg
Croatia	Croatian Red Cross	Sinisa Zovko	Coordinator of Harm Reduction Programmes	sinisa.zovko@hck.hr
Georgia	Georgian Harm Reduction Network	Maka Gogia	Program Director of HIV/AIDS prevention project among IDUs	m.gogia@hrn.ge
Kazakhstan	Public Association “Onyx”	Anna Kaspirova	Deputy Chairperson	anna_kaspirova@mail.ru
	National AIDS Centre	Tatiana Davletgalieva	Programme Manager, GFATM Grant Implementation Unit	gf.davlat@rcaids.kz
	CDC Central Asia Office	Bibigul Aubakirova	MARPs Prevention Advisor	baubakirova@kz.cdc.gov

Needle and Syringe Types Used by People Who Inject Drugs in Eastern Europe and Central Asia:
Key Findings from a Rapid Situation Assessment

Country	Organisation	Name	Title	E-mail
Kosovo	NGO Labyrinth	Eroll Shporta	Office Manager	erollsh@gmail.com
Kyrgyzstan	National Narcology Centre	Olga Lyachina	NSP Field Coordinator	olga.l58@mail.ru
	NGO "Sotsium"	Aida Karipova		sotsium2009@mail.ru
Macedonia	HOPS - Healthy Options Project Skopje	Vlatko Dekov, Silvana Naumova, Tomislav Ruzin		vlatkod@hops.org.mk
Moldova	Soros Foundation Moldova	Liliana Gherman	Public Health Programme Director	lgberman@soros.md
	Union of NGOs working in the field of HIV prevention and Harm Reduction	Ala Iatco	Chairperson	protineret@yahoo.com
Russia	NGO "ESVERO"	Evgeniy Petunin	Programme Director	petunine@esvero.ru
Serbia	Youth of JAZAS Kragujevac	Maja Veselinovic	Project Coordinator	mjveselinovic@yahoo.com
	NGO Veza	Miodrag Atanasijevic	Executive director	dirvezango@gmail.com
Tajikistan	UNDP	Firdavs SHERALIEV	HIV Prevention officer	firdavs.sheraliev@undp.org
	Apeiron	Parvina Giyasova	Director	apiron@mail.ru
	Volonter	Komil Sadillobekov	Project Coordinator	volunteer70@mail.ru
Ukraine	International HIV/AIDS Alliance in Ukraine	Olesya Lupalo	Procurement and Supply Management Specialist	Lupalo@aidsalliance.org.ua
		Natalia Dvinskykh	Technical Assistance Manager	Dvinskykh@aidsalliance.org.ua
	NGO "Svet Nadezhdy"	Oleg Dymaretskiy	Head of Social Services of OST and harm reduction programmes	olegdumar@gmail.com
	Ukrainian Harm Reduction Association (UHRA)	Alexander Ostapov	Board Chairperson	uhra@ukrpost.ua
Uzbekistan	National AIDS Centre	D. Karabaeva	M&E Specialist	orgotdeluz@list.ru



www.harm-reduction.org