HIV and AIDS in Eastern Europe & Central Asia

Overview

KEY POINTS:

• Eastern Europe and Central Asia is the only region in the world where annual new HIV infections continues to rise rapidly at a concerning rate.

• The HIV epidemic in this region has, for the most part, hit people who inject drugs the hardest. The coverage of harm reduction services remains low and where they do exist the services offered are often are not comprehensive.

• Antiretroviral treatment coverage in the region remains well below the global average at a mere 27% in adults. New infections continue to outpace ART enrolment.

• Conservative legislation around same sex relationships, drug use and sex work continues to fuel stigma towards these groups, obstructing the HIV response in some countries within the region.

• Better surveillance of the HIV epidemic is also needed, often data is unavailable for populations or disputed.

Explore this page to find out more about the people most affected by HIV in Eastern Europe and Central Asia, HIV testing and counselling programmes, HIV prevention programmes, antiretroviral treatment availability, barriers to prevention and the way forward for Eastern Europe and Central Asia.

In 2016, there were an estimated 1.6 million people living with HIV in Eastern Europe and Central Asia. It is the only region in the world where the HIV epidemic continues to rise rapidly, with a 60% increase in annual new HIV infections between 2010 and 2015.
In 2016, there were roughly 190,000 new HIV infections - 80,000 more than in 2013. In the same year there were 40,000 AIDS-related deaths: a 22% increase from 2010.3

The vast majority (89%) of people living with HIV in the region live in Russia and Ukraine.4 Russia also accounts for eight out of ten new HIV infections5, and reported in excess of 85,200 new diagnoses in 2014 alone.6 7

The epidemic is concentrated predominantly among key affected populations - in particular, people who inject drugs (sometimes referred to as PWID) - yet there is low coverage of harm-reduction and other HIV prevention programmes in key countries within the region.8

Antiretroviral treatment (ART) coverage remains inadequate at 21%, which is significantly lower than the global average.9 Many people are tested late and do not receive the treatment they need, resulting in less than a quarter of people living with HIV being virally suppressed and therefore less likely to transmit the virus to others.10

Most countries in the region are only just beginning to implement the World Health Organization's (WHO) 2013 treatment guidelines, which recommended treatment for anyone with a CD4 count of 350 to 500, despite the most recent WHO guidelines of 2015 recommending treatment for all people living with HIV regardless of their CD4 count. Only Ukraine, Georgia, Montenegro and Belarus have adopted the 2015 WHO recommendation.11

Stigma and discrimination towards people living with HIV and key populations remain high. New conservative legislation is placing additional restrictions on same-sex relationships, sex work and drug use, which could further prevent key populations accessing HIV services. Prevention programmes are under threat as international support for HIV responses decreases and domestic funding for HIV prevention fails to keep pace.12
Central Asia

The epidemic in this region particularly affects people who inject drugs, who accounted for 51% of new HIV infections in 2014. However, unprotected sex is causing an increasing number of new HIV infections and in some countries is now the leading cause of transmission.13

The sexual partners of key affected populations, in particular sex workers and people who inject drugs, are at elevated risk of HIV infection and accounted for 33% of new infections across the region in 2014.14 Indeed, the number of new HIV infections acquired through heterosexual sex increased by 150% between 2002 and 2012.15

In Eastern Europe and Central Asia, men who have sex with men accounted for 6% of new infections in 2014.16 This is in direct contrast to Western Europe, where 49% of infections are among men who have sex with men (sometimes referred to as MSM).17

People who inject drugs (PWID)

There are roughly 2.9 million people who inject drugs in Eastern Europe and Central Asia. The region accounts for roughly one in four people who inject drugs worldwide.18 Russia has the highest number of injecting drug users in the region (1.8 million) - about 2.3% of the adult population. Moldova (1%), Belarus (1.1%) and Ukraine (0.8-1.2%) also have significant numbers of this population.19

Across this region, HIV prevalence is much higher among people who inject drugs than among the general population. For example, in Russia, between 18% and 31% of injecting drug users are thought to be living with HIV.20 A 2015 survey of people who inject drugs conducted in five Russian cities (Abakan, Barnaul, Volgograd, Naberezhnye Chelny, Perm) found that one in three people who inject drugs were living with HIV.21 In Belarus, HIV prevalence among people who inject drugs is also high, exceeding 20% in the cities of Svetlogorsk, Minsk and Pinsk. In Ukraine, it also exceeded 20% in 15 cities, but is under 10% in other countries in the region.22

Regionally, HIV prevalence among men and women who inject drugs is similar, at 9% and 10% respectively. However, there are variations between countries with HIV prevalence among women who inject drugs higher than their male counterparts in Kazakhstan, Uzbekistan, Kyrgyzstan,
Belarus, and Ukraine.23

Sex work has emerged as a major co-driver of HIV among females who inject drugs in the region.24 For example, an estimated 62% of women in Kyrgyzstan and 84% of women in Azerbaijan who inject drugs, also engage in sex work.25 In Central Asia, HIV prevalence is estimated to be 20 times higher among female sex workers who inject drugs than those who do not.26

Women who inject drugs also tend to be younger, to engage in more risky sexual behaviours, and to share injecting equipment more often than men who inject drugs. In Eastern Europe, only 0.003% of women who inject drugs have access to opioid substitution therapy (OST) and have poor access to sterile injecting equipment and condoms, as well as limited access to sexual and reproductive health services.27

Self-reported condom use among people who inject drugs ranges from 35.6% in Georgia to 59.5% in Belarus.28 However, condom use is inconsistent and levels of condom use vary between types of sexual encounter. For example, UNAIDS reports that, in 2015, 77% of people in the region who inject drugs used condoms with occasional sexual partners but only 35% used them with regular partners.29

Sex workers

Prevalence amongst sex workers throughout the region ranges from less than 1% to 10% and sex workers who inject drugs or who experience imprisonment are particularly likely to be living with HIV.30

According to a 2011 study conducted among female sex workers in Russia (Kazan, Krasnoyarsk, and Tomsk), 3.9% of women had HIV. Those with a history of injecting drug use and/or experiences of physical and sexual abuse were found to have significantly higher HIV prevalence.31

Significantly higher HIV prevalence has also been reported among female sex workers in Moldova (6.9% among women from Chisinau, and 24.7% in Balti), with those who inject drugs significantly more likely to have HIV.32

Despite limited data, it is thought that HIV prevalence is even higher among male sex workers than female sex workers.33

Self-reported condom use among sex workers in the region ranges from 51.7% in Uzbekistan to 95.4% in Kazakhstan.34 However, condom use is inconsistent and levels of use vary between types of sexual encounter. For example, in Kazakhstan 95.4% of sex workers use condoms with clients but only 35% did so with stable partners.3536

Women

Women [in Eastern Europe and Central Asia] are especially at risk of HIV due to multiple factors such as economic vulnerability, fearing or experiencing violence, and difficulties in negotiating for safe sex. In extreme cases women combine all vulnerabilities associated with drug use, sex work, social marginalisation and stigma and discrimination which prevent them from accessing HIV
services.

- Dr Jean-Elie Malkin, former UNAIDS Regional Director for Eastern Europe and Central Asia

Women make up a rising proportion of people living with HIV in Eastern Europe and Central Asia. In Russia, for example, the number of young women with HIV aged 15-24 is double that among men of the same age.

A 2013 review of people who inject drugs in the region found men who inject drugs are more likely to have women who do not inject drugs as their primary sexual partners. This, coupled with the fact that male-to-female sexual transmission of HIV is more efficient than female-to-male transmission, is resulting in more women being affected by HIV in the region.

Men who have sex with men (MSM)

In many countries, HIV data relating to men who have sex with men is grossly under-reported, inconclusive or not reported at all. For example, HIV prevalence among men who have sex with men in Kazakhstan has been reported as low as 0.2% and as high as 20%.

According to data cited by the East Europe and Central Asia Union of People Living With HIV (ECUO) in 2016, HIV prevalence among men who have sex with men is as high as 16.9% in Ukraine and 25% in Georgia.

In the same year, self-reported condom use ranges from 49% in the Moldova to 81.6% in Kyrgyzstan. An estimated 84% of men who have sex with men use condoms with occasional male partners but only 52% do so with regular male partners.

Prisoners

I was shocked to learn that drug injection in...prison was worse than on the streets of Gatchina, where I lived. The guards helped supply drugs and prison leaders made sure we remained addicted. Many of us paid with our lives. Some guys overdosed, others became HIV-infected like me and tuberculosis finished off the rest of us. Even though all of us were sick, seeing a doctor and getting care was nearly impossible.

- Sasha, an injecting drug user from Russia

Prisoners are another group at particular risk of HIV infection in Eastern Europe and Central Asia. Harsh criminalisation of drug use has resulted in extraordinarily high levels of incarceration. It is estimated that people who inject drugs represent more than a third of prisoners across the region, but the level could be as high as 50-80% in some countries.

A 2016 study published in The Lancet found high levels of incarceration in Eastern Europe and Central Asia facilitates HIV transmission among people who inject drugs. It estimates that between
28% and 55% of all new HIV infections over the next 15 years in the region will be attributable to heightened HIV transmission risk among currently or previously incarcerated people who inject drugs.48

OST is only available in prisons in five countries (Kyrgyzstan, Moldova, Armenia, Latvia, and Estonia) and needle and syringe programmes (NSP) in prisons are only available in three (Kyrgyzstan, Moldova, and Armenia). Similarly, the provision of antiretroviral treatment (ART) in prisons, especially among people who inject drugs, is markedly underscaled.49

Even where it is available, harm reduction interventions are limited to a small proportion of prisoners. For example, it is estimated that a third of all prisoners in Kyrgyzstan, Moldova, and Armenia are people who use drugs (approximately 6,900), mostly opioids. However, only 12% are prescribed OST.50

HIV prevalence in prisons exceeds 10% in Latvia (20.4%), Ukraine (19.4%), Estonia (14.1%), and Kyrgyzstan (11.3%)51 and remains markedly higher than in the general population in Uzbekistan (4.7%), Lithuania (3.4%), Kazakhstan (3.9%), Azerbaijan (3.7%), Armenia (2.4%), Tajikistan (2.4%), Moldova (2.6%), and Georgia (0.9%).

A number of prison surveillance studies have found HIV prevalence to be 22 times, 19 times, and 34 times higher in prisons than in surrounding communities in Ukraine, Azerbaijan and Kyrgyzstan, respectively.52

In 2010, the most recent data available, 55,000 of Russia’s 846,000 inmates were thought to be living with HIV.53

**Young people**

Between 2001 and 2011, HIV prevalence doubled among young people (aged 15–24) in Eastern Europe and Central Asia.54

Exposure to alcohol and drugs, peer pressure, gender-based violence and inequality, intensive labour migration and displacement, human trafficking, marginalisation and involvement in sexual exploitation all conspire to increase the vulnerability of young people in the region, especially girls, to HIV.55

The average age people in the region begin injecting drugs is low and in some countries the age of first use is decreasing further. For example, in Moldova around 55% of people who inject drugs aged 15–24 first started using drugs when they were under 18 and 5% began to inject before they turned 15.56

Many young people across the region become sexually active at an early age. According to country progress reports in eight countries, from 2.0% (in Tajikistan) to 11% (in Kyrgyzstan) of surveyed young people (aged 15–24) had sex before the age of 15.57

In most countries, basic information about human reproduction is provided in secondary school within subjects such as biology. In three countries (Russia, Belarus and Kazakhstan), HIV is briefly discussed together with other infectious diseases and health threats within a mandatory subject known as the Basics of Life Safety.58

Age-appropriate HIV prevention services are needed for young people. Additional research is also required to understand the extent of the epidemic among this group.59
HIV testing and counselling (HTC) in Eastern Europe and Central Asia

Despite significant progress in the scale up of HIV testing and counselling (HTC) in some countries, the number of people belonging to key affected populations who have been tested remains well below WHO’s recommended coverage of over 90%.60

Testing coverage is generally higher among men who have sex with men and lower among people who inject drugs although it is still below advised levels across all key affected populations. For example, in Ukraine in 2015, less than 60% of men who have sex with men reported taking an HIV test and receiving the results within the previous 12 months.61 Kazakhstan reported the highest rate of HIV testing among people who inject drugs in 2015, at 58%.62

HIV status awareness among sex workers ranges from 12.2% in Azerbaijan through to 57.5% in Kyrgyzstan and 80.5% in Kazakhstan.63 Among female sex workers in Ukraine and Kyrgyzstan, 59% had an HIV test and received the results in 2015.64

Even where testing is available, people are often diagnosed at a late stage of infection. For example, 66.8% of people newly diagnosed with HIV in Albania in 2015 had advanced HIV infection (a CD4 count under 200).65

Across the region, HIV testing services need to be scaled dramatically and referral onto treatment strengthened, in order to halt the rise in new infections and meet coverage targets. Innovative testing strategies that focus on key populations are starting to emerge in some countries.

For example, in Moldova NGOs are conducting saliva-based HIV testing for key populations and sero-discordant couples (when one person is HIV positive and the other is not) alongside harm-reduction and other HIV prevention services. Since May 2016, HIV self-testing kits have been available in Moldovan pharmacies for US$25.66

HIV prevention programmes in Eastern Europe and Central Asia

Harm reduction

Most countries in Eastern Europe and Central Asia now provide access to harm reduction services. However, coverage remains low and where they do exist, services are not comprehensive.67

This is particularly true in Russia, which is home to the region’s largest HIV epidemic and largest population of people who inject drugs (1.8 million). For example, 30 projects serving some 27,000 people who inject drugs were left without financial support after a grant from the Global Fund to Fight AIDS, Malaria and Tuberculosis ended in 2014. Although projects in 16 cities continue still exist, their scale is insufficient.68

Needle and syringe programmes (NSPs)

Between 2011 and 2013, there was a 30% increase in the number of syringes distributed across the region and an increase in the number of syringes distributed per person who injects drugs.69 For example, Tajikistan has expanded its coverage from 88 to 199 syringes per person.70

However, the regional average is only 106 syringes per injecting drug user – around half the recommended target for effective harm reduction programmes.71
**Opioid substitution therapy (OST)**

Armenia, Belarus, Georgia, Kyrgyzstan and Ukraine have all significantly scaled up access to OST. By comparison, in Azerbaijan, Kazakhstan, Moldova and Tajikistan, access to OST is limited. In Russia and Turkmenistan, OST remains illegal, and in 2009, Uzbekistan stopped its OST programmes.72

Despite this, the capacity to provide OST to effective levels remains low. Coverage was 4.7% in Belarus, 4.8% in Kyrgyzstan, 3.2% in Ukraine and 0.5% in Kazakhstan in 2016.73 However, some effective harm reduction programmes are being implemented. For example, in Ukraine in 2013, community outreach workers increased the uptake of methadone maintenance therapy and ART among people who inject drugs by 36% in just 10 months.74

**Prevention programming for other key affected populations**

Despite evidence showing how specialist HIV prevention services targeting sex workers can reduce HIV transmission among this group, access to these types of services is very low. Moreover, data on the provision of prevention services is limited for Eastern Europe and Central Asia. In Russia, only 0.2 in every 1000 female sex workers are thought to be accessing the services they need.75

By contrast, between 2009 and 2012, HIV prevention programme coverage for men who have sex with men rose from 43% to 64% in the region. However, the provision of these services remains inadequate in many places as national governments often do not highlight the need for them.76

For example, while Ukraine's National Target Program calls for tolerance and less discrimination towards people living with HIV, it does not specifically mention stigma against men who have sex with men or transgender people. As a result, these groups have very limited access to specialised programmes, even in comparison with other key populations such as people who inject drugs and sex workers.77 In addition, many programmes are typically focussed on medical interventions and do not take into account human rights issues.78

**Antiretroviral treatment (ART) in Eastern Europe and Central Asia**

An estimated 63% of people living with HIV in Eastern Europe and Central Asia in 2016 knew their HIV status, and about 45% were on antiretroviral treatment (ART). Of the people receiving treatment, 77% were virally suppressed.79 The two biggest treatment stumbling blocks facing the region, according to HIV testing and treatment data submitted to UNAIDS in 2015, are the number of people living with HIV who remain undiagnosed, and the number of people living with HIV who know their HIV status but have not started treatment.80

Although access to ART has expanded significantly in many countries (Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Lithuania, Moldova, Russia, Tajikistan, Ukraine and Uzbekistan), new HIV infections continue to outpace enrolment onto ART.81 As a result, coverage of ART remains significantly lower than the global average with key populations most likely to miss out.82

In 2015, Kazakhstan, Kyrgyzstan and Tajikistan reported less than 20% of sex workers living with HIV receiving ART. Coverage among men who have sex with men was even lower.83 Kazakhstan and Ukraine reported 27% and 26% ART coverage, respectively, among people who inject drugs, while coverage in Kyrgyzstan and Tajikistan was below 20%.84

On average, 77% of people who are on ART across the region have a suppressed viral load,
meaning they are far less likely to pass HIV on to someone else. The highest viral suppression rate is in Russia (85% of people on ART), followed by Ukraine (78% of people on ART); the lowest rate is in Tajikistan (32%).

Viral suppression is arguably one of the region’s success stories. However, as only 45% of people living with HIV are on treatment, the effect this will have on the rate of new HIV infections will be minimal. Overall, the proportion of people living with HIV in the region who are virally suppressed is just 22%.

Barriers to HIV prevention in Eastern Europe and Central Asia

Economic barriers

A lack of funding remains a significant barrier to the scale-up of HIV prevention programmes to tackle the epidemic effectively in this region. The Global Fund has been the region’s largest donor for HIV prevention among key populations since 2004.

However, as of July 2013, the World Bank reclassified Russia as a high-income country and seven of the other 14 countries as lower-middle-income, including Ukraine. As a result, international support for HIV programmes in the region is decreasing, yet domestic funding for HIV prevention is not meeting the funding gap.

In 2014 and 2015, Ukraine received $51 million from the Global Fund. However, with the country reaching a higher income status, in 2017 Ukraine is expected to see its Global Fund financing halved, raising fears about country’s ability to tackle the epidemic effectively in the future.

The Global Fund withdrew funding from Romania in 2010. Following this, the government was unable to continue supporting NSPs and HIV prevalence among people who inject drugs increased dramatically: from 3% in 2010, to 21.4% in 2015. However, in recent years new funding from the Global Fund, in the form of a 2015-2017 grant, plus funding from Norway has resulted in a slight increase in the availability of NSPs. This, coupled with around 70 million Euros in domestic funding for HIV prevention and treatment, saw new infections fall by 8% in 2015.

The portion of funds committed and/or invested in responding to HIV and TB that come from domestic sources is steadily growing. However, this money is often spent on programming for the general population rather than key populations.

A regional analysis cited by the ECUO found international donors supply 93% of funding for programmes for sex workers, 96% for programmes for men who have sex with men and 78% for programmes for people who inject drugs.

Significant gains could be made through more efficient use of existing resources. A 2015 analysis by the World Bank of the allocation of existing resource in nine countries in the region found that focusing on the most effective HIV services among key affected populations and within specific locations could reduce new HIV infections by between 6% and 36%.

Some countries in the region are already addressing this issue. In Belarus, one of the region’s upper-middle-income countries, HIV prevalence among an estimated 66,500 people who inject drugs is 25.1%.

The government has pledged to increase national funding for HIV services from 35% in 2016 to 62% in 2018, and to 100% following the cessation of Global Fund funding. Targets include needle–syringe distribution to 45,000 people who inject drugs and OST to 4,900 people by the end
Stigma and discrimination, particularly where key affected populations are concerned, play a large role in preventing people living with HIV from accessing the services they need.

Surveys conducted in 2015 across eight countries in the region by the People Living with HIV Stigma Index found more than half of men and women aged 15–49 years would not buy fresh vegetables from a shopkeeper living with HIV. People living with HIV reported experiencing stigma and discrimination in many aspects of their lives, including denial of health or dental services in the previous 12 months (17.6% in Kazakhstan, 8.0% in Kyrgyzstan, 17.0% in Tajikistan) and refusal of employment (5.8% in Kazakhstan, 9.3% in Kyrgyzstan, 14.8% in Tajikistan).96

Many women who are marginalised because they inject drugs, also experience gender-based violence, both domestically and from the police and find it especially difficult to access HIV prevention services. In Georgia, less than 1% of women who inject drugs have accessed OST.97

Legal barriers

Although many countries in Eastern Europe and Central Asia have repealed laws prohibiting same-sex relationships, Uzbekistan and Turkmenistan continue to enforce them.98

Tajikistan, Uzbekistan, Ukraine, and Armenia have laws that criminalise sex acts between consenting adults of the same gender, sodomy, and cross-dressing or ‘gender impersonation’. Other similar legislation is being considered in Belarus and Kazakhstan. On several occasions in 2014 and 2015 the Parliament of Kyrgyzstan tried to pass a homophobic bill that would make creating a positive attitude to non-traditional sexual relations a criminal offence.99

In Russia, legislation prohibiting dissemination of “propaganda of non-traditional sexual relations among minors” has resulted in the arrest of those working on HIV prevention for men who have sex with men.100

Punitive drug laws also inhibit access to HIV testing and treatment for people who inject drugs. Criminalisation of drug use and discriminatory practices restrict access to NSPs. In some countries, police arrest people who inject drugs who access harm reduction services and confiscate drugs and syringes or extract bribes for the possession of syringes or needles.101 102

In a 2014 study from St Petersburg, Russia, 60.5% of people who inject drugs had been arrested for needle possession or had drugs planted on them by the police and were subsequently arrested.103

In 2015, Belarus introduced fines for non-medical drug use. Those offending for a second-time within a year face up to two years in prison.104

Administrative barriers relating to harm reduction also exist. In many countries in the region, people must be over 18 years to access harm reduction services.105 In Russia, Uzbekistan, Ukraine, Belarus, Moldova, Lithuania, and Latvia, official name-based registration of people who inject drugs is required to receive treatment including OST. However, registration often results in restrictions in employment, loss of privileges (eg, driver’s licence) and targeting by police.106

In Russian, a ‘law on foreign agents’ has interrupted the work of community-based organisations that receive international funding to provide HIV prevention services to key populations in the absence of domestic funding for these purposes.107
Other barriers

Poor surveillance of the HIV epidemic in these countries also hampers prevention efforts. For example, official reports in Kazakhstan estimate an HIV prevalence of 1.2% among men who have sex with men. By comparison, NGO studies indicate a prevalence of between 7% and 20% among this group but the Kazakh government disputes the statistics.108

As a result, the epidemic among men who have sex with men and other key affected populations remains largely hidden and the need for HIV services is not recognised. Indeed, coverage of ART, NSPs, OST and other HIV prevention programmes remain very low or non-existent.109

Even where they do exist, a number of organisational barriers to accessing HIV prevention services have been identified including inconvenient opening hours, distant locations, and transportation costs. Despite the scaling up of HIV services, most are located in urban areas limiting access for those in suburban and rural areas.110

In Georgia, study participants cited unemployment and the cost of healthcare as barriers to accessing voluntary counselling and testing (VCT) services.111

The future of HIV and AIDS in Eastern Europe and Central Asia

In Eastern Europe and Central Asia, the number of new HIV infections continues to rise. As a result, the scaling up of ART and other HIV prevention programmes, particularly for key affected populations, is of urgent priority. However, a number of barriers need to be overcome in order for people living with and affected by HIV to be able to access the services they need.

Increasing the number of people living with HIV who are aware they have the virus will require innovative strategies that focus on key populations who may feel uncomfortable or scared to access services at public health clinics. Programmes such as the saliva-based HIV testing work being carried out in Moldova are examples of what can be achieved with the right programming and resources.112

Better HIV surveillance in many countries would help identify those at risk and to what extent HIV prevention services need to be scaled up in order to tackle the epidemic in this region effectively.

The scale of prevention programmes for key populations is currently insufficient to curb the region’s surging epidemics. Expanding comprehensive harm reduction interventions are needed but greater focus must also be given to the sexual transmission of HIV, particularly among the partners of key affected populations.

Drastically scaling up the number of people living with HIV on ART to suppress viral load, in combination with expanding condom use programmes that meet the diverse needs of key affected populations, will be key to reducing the growing number of sexually transmitted HIV infections in the region.

The funding gap created by a reduction in international donor funding remains a concern. Even if longer term funding is secured, many people face a number of legal and social barriers to accessing HIV services, which also need to be addressed.

Tools and resources:
www.about-hiv.info: This website features a series of factsheets about key HIV topics, currently available in Armenian, English, Georgian, Kazakh, Russian and Ukrainian. The site also provides details of local support organisations.

17. UNAIDS (2016), Special Analysis for ‘Global AIDS Update’ [pdf]
34. UNAIDS (2017) Data Book [pdf]
35. UNAIDS (2016) 'Prevention Gap Report'[pdf]
44. UNAIDS (2017) Data Book [pdf]
45. UNAIDS (2016) 'Prevention Gap Report'[pdf]
perpetuating transmission of HIV, hepatitis C virus, and tuberculosis in Eastern Europe and Central Asia’ The Lancet, Sep 17; 388(10050): 1228-1248


104. JUNAIDS (2016) 'Prevention Gap Report'[pdf]


110. USAID (2011) 'Mapping of key HIV services, assessment of their quality, and analysis of gaps and needs of most-at-risk populations in Chui oblast and Bishkek city, Kyrgyzstan'


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