The Russian Federation (Russia) has the largest HIV epidemic in Eastern Europe and Central Asia. Unlike most countries, Russia’s HIV epidemic is growing, with new infections rising by between 10 and 15% each year.1 2

By mid-2017, 1.16 million people had been diagnosed with HIV in Russia. However, this does not equate to the number of people currently living with HIV as it does not account for AIDS-related deaths or people who have HIV but are undiagnosed. Although Russia has collected extensive data on HIV since 1987, official estimates for these measures remain under reported and inconsistent.3 4
In 2016, Russia committed to **UNAIDS 90-90-90 Fast-Track** targets but a lack of data means measuring the country’s progress is difficult.5

In 2013, the Russian Federal AIDS Center estimated that only half (51%) of people living with HIV had been diagnosed. If valid, this would bring the estimated cumulative number of HIV infections in Russia to more than 2 million.6

A 2017 data analysis suggests the numbers of AIDS-related deaths are rising. From January to June 2017, 14,630 AIDS-related deaths were recorded, a 13.5% increase over the previous six-month period. HIV is one of the top 10 causes of premature death in Russia.7 The same analysis found HIV prevalence varies significantly across the country, ranging from a high of 229 new diagnoses out of every 100,000 people in the Kemerovo Oblast in South western Siberia to less than 5 out of every 100,000 people in the southern province of Kalmykia, and the Republic of Tyva. Among the 10 provinces with the highest number of new HIV diagnoses, six are in Siberia, which lies north of one of the principal overland heroin and opioid trafficking routes out of Afghanistan, the world’s largest producer of illicit opioids in 2016.8

Russia’s HIV epidemic is currently concentrated among certain population groups. In 2016, people who inject drugs accounted for the largest proportion of new diagnoses of any key population at 48.8%; followed by heterosexual sex transmission at 48.7%; homosexual sex, 1.5%; and 0.8% due to mother to child transmission.9

Some experts predict that heterosexual sex may soon overtake injecting drug use as the main means of HIV transmission.10 This means the HIV epidemic has the potential to shift from mainly affecting key populations to affecting the general population. If this happens, HIV prevalence could increase at a significantly faster rate.11

The continued shift away from progressive policies towards socially conservative legislation, backed by the increasingly powerful Russian Orthodox Church, is acting as a barrier to implementing effective
HIV prevention and treatment programmes.

Key affected populations in Russia

People who inject drugs (PWID)

Russia has the highest number of people who inject drugs in the region (1.8 million) - about 2.3% of the adult population. Between 18% and 31% of people who inject drugs are thought to be living with HIV.

The aggressive criminalisation and extreme marginalisation of people who inject drugs in Russia means many are denied access to information about HIV, and are highly unlikely to access testing, prevention or treatment services. One study among people who inject drugs who are living with HIV in St. Petersburg found only 10% were accessing treatment.

Women who inject drugs are marginalised and particularly vulnerable to violence. A study released in 2016 of a group of HIV-positive women who inject drugs based in St. Petersburg reported almost a quarter (24.1%) had been forced to have sex with a police officer. This significantly contributed to these women’s unwillingness to seek out harm reduction services.

The sexual partners of key affected populations

An estimated 48.7% of new infections are associated with heterosexual sex, with the partners of sex workers and injecting drug users at increased risk. Male-to-female sexual transmission of HIV is more efficient than female-to-male transmission, coupled with the fact that gender inequality, intimate partner violence and sexual violence are common within Russian society, means that the HIV epidemic is affecting increasing numbers of women.

The government reports that more than 38% of all new cases of HIV in 2015 were among women. Younger women (aged 15-24) are at particularly high risk and are twice as likely to be living with HIV than their male counterparts.

There are 80-100 cases of HIV infections among women a day. This is no joke - a day. They are mostly young women, aged from 25-35 years and they are the main new risk group.

- Vadim Pokrovsky, Head of the Russian Federal Aids Centre

Women living with HIV, especially young women, face multiple challenges and barriers to accessing HIV services such as stigma, discrimination, gender stereotypes, violence and barriers to sexual and reproductive health.

Prisoners

In 2015, around 656,600 people were in prison in Russia. This is equivalent to 446 out of every
100,000 people in the country, the second highest rate in the region after Turkmenistan (583 per 100,000), and far in excess of the global average of 146 prisoners per 100,000. Harsh drug criminalisation policies have resulted in large numbers of people who use drugs being incarcerated. Nearly all drug-related convictions are for drug use rather than drug trafficking.

In Russia, 6.5% of prisoners are estimated to be living with HIV but just 5% of these are on antiretroviral treatment (ART). It is estimated that 84 out of every 100,000 prisoners have tuberculosis (TB) with high levels of multi-drug resistant TB (MDR-TB) also reported. A 2010 systematic review estimated that between 5 and 17% of Russia’s TB cases could be due to exposure within prison.

NSPs, which reduce the risk of HIV transmission and are legal in Russia, are not available in Russian prisons.

---

I was shipped to a specialty tuberculosis colony. It seemed like everyone with tuberculosis also had HIV. I survived the scariest place I had ever been. We were 36 men in a cell with only 12 beds. We stood, coughed on each other, while others slept in shifts. Most guys, including me, would stop or dispose of our tuberculosis medications so that we could get sick and move from our cell to the infirmary where we'd get our own bed. Many who went to the infirmary never left except in a pine box because their medications didn't work anymore.

- Sasha, an injecting drug user from Russia

**Men who have sex with men (MSM)**

In Russia, data relating to men who have sex with men (sometimes referred to as MSM) is extremely limited. Vadim Pokrovsky, Head of Russia’s Federal AIDS Centre, has estimated that around 10% of Russian-based men who have sex with men are living with HIV, with this population accounting for around 1.5% of annual new HIV infections.

The 2013 Russian ban on ‘propaganda of non-traditional sexual relations among minors’ has been used to block support for HIV information and support services for men who have sex with men and lesbian, gay, bisexual, transgender and intersex people (LGBTI). One survey from St. Petersburg, conducted between 2012 and 2015 by the Russian human rights NGO Phoenix Plus, found HIV prevalence among men who have sex with men had increased from 10% in the year before the law was enacted to 22% in 2015.

As a result of this repressive environment, HIV treatment coverage for men who have sex with men is low. A study involving around 1,300 Moscow-based men who have sex with men found HIV prevalence...
of 15.6%. Only 13% of those living with HIV knew their status, only 36% of whom were accessing treatment. Of those on treatment, 64% were virally suppressed.30

Sex workers

Data on sex workers is also limited. City-based data from 2012 suggests HIV prevalence among sex-workers is between 3.8% and 11.6%, depending on location. In 2015, it was estimated that around 15% of indoors sex workers and more than 60% of outdoor sex workers in St. Petersburg were living with HIV.31 Although it is not illegal to buy sex it is illegal to sell it and to organise commercial sex in any place. This criminalisation puts sex workers in a vulnerable position and they are often subject to violence, abuse, harassment and exploitation at the hands of clients, police officers, health workers and others in authority.32

In a study of almost 900 female sex workers conducted in St. Petersburg and Orenburg, rape during sex work was reported by 64% of respondents. Those who had experienced rape were more likely to inject drugs and binge on alcohol, both of which increases vulnerability to HIV.33

Sex workers with a history of injecting drug use and/or experiences of physical and sexual abuse are particularly likely to be living with HIV.34 Although data on this population is limited, a 2011 study estimates that almost a third of sex workers in Russia have injected drugs at some point in their lives.35

HIV testing and counselling (HTC) in Russia

Although data is limited, it is estimated that around 500,000 people in Russia are unaware they are HIV positive.36 HIV testing is available but coverage is low at 19.3% (around 30 million people).37 Crucially, HIV testing is carried out indiscriminately, rather than being targeted towards groups most affected by HIV. As a result, key populations accounted for less than 1% of the 24 million HIV tests carried out in Russia in 2011.38

Even where testing is available, people are often diagnosed with HIV at a late stage of infection. In 2014, 40.3% of people newly diagnosed with HIV in Russia had CD4 cell counts below 350.39

A 2015 evidence review of around 40 studies on HIV testing and treatment in Russia found the most common barriers to testing were the inconvenient location of testing centres, which are not widespread across cities or districts, and the view that results would not remain confidential.40

There is no formal policy on HIV self-testing in Russia. As of November 2016, self-testing kits were available online for private purchase and in some local pharmacies. As a result, HIV self-testing is not widespread in the country.41

HIV prevention programmes in Russia

It is estimated that around 200 people become infected with HIV every day.42 With new infections rising year-on-year, a targeted, combination prevention strategy is needed to curtail the epidemic.

In 2016, the Russian Prime Minister approved Russia’s 2017-2020 HIV strategy, the first official HIV document to be drawn up since Russia’s 2002-2006 strategy. The strategy aims to reduce transmission rates by focusing on prevention programmes and decrease the number of AIDS-related
deaths. However, although the ‘rehabilitation, social adaptation and social support’ of key affected populations is discussed, no national programmes are outlined.43

Condom availability and use

Although condoms are widely available to buy, there are no government-backed free distribution schemes, and condom use is thought to be low. The practice of using condoms is also controversial. For instance, a 2015 national public health campaign about HIV prevention focused on faithfulness rather than condom use.44

Similarly, in 2016, experts at the Russian Institute for Strategic Research (RISR) released a report on the epidemic. This put forward the argument that the availability of condoms and their use was encouraging young people to have sex and was thereby increasing the risk of HIV infection. Instead, RISR urges prevention efforts to concentrate on ‘traditional Russian values’ as the route to stop the spread of HIV.45

HIV education and approach to sexuality education

Funding for sexuality education in schools is minimal. Socially conservative forces advocate for the teaching of ‘moral education’, which focuses on subjects such as chastity and faithfulness within heterosexual, marital relationships, as opposed to comprehensive sexuality education, which includes scientifically accurate information about human development, anatomy and reproductive health, as well as information about contraception, childbirth, STIs, gender relations, sexuality and gender identities.46

In addition, certain laws regulate the appropriateness and delivery of information to people under the age of 18, which effectively bans many comprehensive sexuality education materials for those younger than 18.

As a result, there are no nationally implemented, comprehensive sexuality or lifeskills programmes in school for children and adolescents.47

In Russia, the church and the state go together... They talk about how sexual education will only worsen the [HIV] problem. It’s a wave—you really feel it.

- Ivanova, HIV-positive activist in Russia.48

Despite this, support for introducing sexuality education in school curricula appears to be widespread in some sections of society. A 2013 survey of 10,000 women from across Russia found that 90% said they would like to see young people learn about reproductive health and sexuality in the classroom.49

There is now a national #STOPHIV/AIDS week in Russia every May, targeted at young people, involving students, health workers, celebrities, artists, athletes and religious leaders, who raise awareness about HIV and promote HIV testing.50
Prevention of mother-to-child transmission (PMTCT)

Preventing mother-to-child transmission (PMTCT) is one of Russia’s HIV success stories. In 2016, the government announced it had achieved a 98% success rate in stopping mother-to-child transmission.\(^{51}\)

This is largely down to the high coverage levels of antenatal care. A 2013 survey of 10,000 Russian women found 99% of pregnant women used antenatal services, and 90% of them visited a doctor during the first trimester of pregnancy.\(^{52}\)

Harm reduction

Russia does provide access to certain harm reduction services. However, coverage is extremely low, and where services do exist they are not comprehensive.\(^{53}\)

Needle and syringe programmes (NSPs)

The Global Fund to Fight AIDS, Malaria and Tuberculosis withdrew its grant to Russia in 2010, in large part because the country had achieved high-income country status. The Global Fund had previously financed the majority of NSP work; when it withdrew, the Russian government did not replace funding, and the number of needle exchanges in the country dropped from 80 to 10.\(^{54}\)

In 2016, the Andrey Rylkov Foundation, the only non-government organisation (NGO) offering NSPs in Moscow, was declared a ‘foreign agent’ by the Russian government. This labels the organisation a threat to national security and makes it hard for the Foundation to work with other Russian organisations and suppliers.\(^{55}\)

Opioid substitution therapy (OST)

The Russian government views OST as merely replacing one addiction with another. Its use is illegal, punishable with up to 20 years in prison.\(^{56}\) This is despite the fact that UNAIDS, the World Health Organization (WHO) and other international bodies recommend OST and other evidence-informed forms of drug dependence treatment as proven methods for curbing drug use, reducing vulnerability to infectious diseases including HIV and improving people’s uptake of health and social services.\(^{57}\)

Due to a lack of OST, many people with HIV who have tuberculosis (TB) fail to get treatment as this requires a lengthy stay in hospital. Without access to opioids or OST in hospitals, people who inject drugs are highly likely to discharge themselves or get discharged for disciplinary reasons before their TB treatment has become effective.\(^{58}\)

Pre-exposure prophylaxis (PrEP)

Pre-exposure prophylaxis (PrEP), a course of HIV drugs taken by HIV-negative people to reduce their risk of infection, is not currently available in Russia. However, in 2018 the Moscow Regional Center for HIV Care and Russia’s AIDS Center Foundation announced they would be conducting a PrEP trial with 100 men who have sex with men and transgender women in order to ‘create the Russian protocol’ on PrEP for future years.\(^{59}\)
Antiretroviral treatment availability (ART) in Russia

In 2016, Russia expressed its aim to implement the 2015 WHO treatment guidelines to provide ART to all people living with HIV, regardless of their CD4 count.60

Data from Russia’s Federal AIDS Center estimates about 180,000 people are receiving antiretroviral treatment (ART).61 With estimates of the number of people living with HIV ranging from 800,000 to 2 million, treatment coverage needs to rapidly expand if the epidemic is to be brought under control. However, as of 2018, new HIV infections continue to outpace enrolment onto ART, and key affected populations are most likely to miss out on treatment.62

For instance, a 2013 study estimates that 80% people living with HIV in Russia have a history of injecting drug use, yet fewer than 20% of those receiving ART are from this population group.63 According to the Andrey Rylkov Foundation, doctors often refuse to treat people living with HIV who inject drugs on the grounds that they won’t be able to follow their treatment regime.64

For those on treatment, viral suppression is one of Russia’s relative success stories. Around 85% of people who are on ART have a suppressed viral load, meaning they are in good health and unable to transmit HIV on to others. This is the highest proportion of people to be virally suppressed in any country across the region. However, as the vast majority of people living with HIV are not on treatment, the effect this will have on the rate of new HIV infections will be minimal.65

Russia is one of a growing number of countries in the world where drug-resistant HIV is becoming a serious health concern. In 2017, WHO estimated that more than 10% of patients starting ART in Russia had a type of HIV that was resistant to the most commonly used antiretrovirals.66

Civil society’s role and HIV in Russia

Civil society has played a major role in addressing the HIV epidemic, particularly among key populations. However, a number of laws have been passed in recent years that have interrupted the work of many civil society organisations, including many that provide HIV information and services, and advocate for the rights of people most affected by HIV.67

One of the most significant changes came in 2012, when Russia passed the Foreign Agents Law. This requires all civil society organisations (CSOs) who receive foreign funding and conduct ‘political activity’ to register their organisation and publicly identify themselves as a ‘foreign agent’ – a term that is widely interpreted to mean spy or traitor.68 In 2014, the law was amended to enable Russian authorities to make decisions as to who to add to the ‘patriotic stop list’. Fines can be issued to anyone involved in organising activities or receiving funds from any undesirable foreign organisation, and prison terms can be imposed for repeated violations.69

As well as the list of foreign agents, the Russian government created a list of ‘undesirable organisations’, which are foreign or international organisations whose activities threaten the ‘fundamentals of the constitutional system, defence, or security’ of Russia. This means organisations that have previously provided HIV-related funding to Russian CSOs may be under pressure to stop doing so.

In addition, 2013 legislation prohibiting dissemination of ‘propaganda of non-traditional sexual relations among minors’ has resulted in the arrest and harassment of CSOs led by, and working with,
men who have sex with men and LGBTI people, with significant consequences for the provision of HIV information and services for these groups. Influenced by Russia, a wave of similar repressive laws have been passed or are being debated in former Soviet Union states.

**HIV and tuberculosis (TB) in Russia**

Although the number of new TB infections and TB-related deaths are falling in Russia, HIV/TB co-infection remains a serious concern. In 2016, 94,000 people had TB, 19% of whom were also living with HIV. The Siberian region has the highest rates of TB, with new infections 1.6 times higher than the national rate.

Multi-drug resistant TB (MDR-TB) is increasing across the country, which is further complicated by increasing rates of HIV infection. In 2016, 27% of people newly diagnosed with TB had MDR-TB, twice as many as in previous years. However, this rise is mainly due to Russia bringing in more accurate surveillance and reporting systems.

All patients registered with HIV/TB co-infection are entitled to ART and TB chemotherapy. However, in 2011 only 68% of all people registered as having HIV/TB underwent such treatment due to a lack of integration between services. In the same year, fewer than 40% of people with TB who had advanced HIV were treated.

TB-related deaths in Russia are still relatively high. The country has the second highest rate in the region at 8.2 deaths out of every 100,000 people, just below Ukraine which has 9.5 deaths per 100,000 people. In addition, HCV prevalence among people living with HIV in Russia is extremely high, estimated at above 90%.

**Barriers to the HIV response in Russia**

**Legal, cultural and socio-economic barriers**

A shift towards more conservative legislation is placing significant restrictions on same-sex relationships, gender rights, sex work and drug use, which could further prevent key populations from accessing HIV information, prevention, testing and treatment services.

Although Russia decriminalised same-sex relationships in 1993 and transgender Russians have been allowed to change their legal gender on identity documents since 1997, the environment towards men who have sex with men and other LGBTI people has grown increasingly hostile in recent years with men who have sex with men and LGBTI people facing violence, abuse, stigma and harassment. ILGA-Europe, the European section of the International LGBTI Association, rated Russia 45th out of 49 European countries for LGBTI equality in 2017.

Punitive drug laws also inhibit access to HIV testing and treatment. It has been reported that police will arrest people as they enter or leave NSPs, confiscating drugs and syringes and extracting bribes for possessing them. In a 2014 study from St. Petersburg, 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.

Administrative barriers relating to harm reduction also exist. In Russia, as in many other countries in the region, official name-based registration of people who inject drugs is required to receive
treatment. However, registration often results in restrictions in employment, loss of privileges (e.g., driving license) and targeting by police.\textsuperscript{84}

In January 2017, Russia launched a national registry of people living with HIV. Registration is not compulsory, however health ministry spokesperson, Oleg Salagai, told Russian news agency TASS: ‘Any individual diagnosed with HIV should be interested in being included in this register since he or she will receive medicine on this basis.’ There are concerns that the registry could be used to further intimidate and police key affected populations, in particular men who have sex with men and people who inject drugs.\textsuperscript{85, 86}

Despite progressive gender policies existing in Soviet-era Russia, the country’s shift towards conservatism has resulted in a shrinking of these rights. For instance, in February 2018, Russia passed a controversial church-backed bill decriminalising some forms of domestic violence.\textsuperscript{87}

Stigma and discrimination

Stigma and discrimination towards people living with HIV and key populations remain high. This acts as a barrier to people most affected by HIV from accessing the HIV prevention and treatment services they need.

A 2015 survey by the Russian LGBT Network found levels of violence experienced by respondents to have grown for the first time in four years; 60% had suffered psychological violence, 17% suffered physical violence and 7% suffered sexual violence. Of the 8% of survey respondents who had experienced discrimination when accessing health or medical services, 41% were transgender people.\textsuperscript{88}

In October 2015, the Yuri Levada Analytical Center released the results of an opinion poll in which 37% of Russians surveyed said they wanted LGBT people to live separately from the rest of Russian society and 21% said they wanted LGBT people to be ‘liquidated’.\textsuperscript{89}

A 2010 survey by the People Living with HIV Stigma Index in Russia found 72% of respondents had been subjected to gossip due to their HIV status. Around half (49%) had encountered insults, victimisation or verbal threats and just under half (46%) had been subjected to physical violence.\textsuperscript{90}

Data issues

There is limited availability of data on HIV in Russia that is presented and published outside of the country, and little international collaboration on HIV research exists under the current administration.

When official data exists it is often contradictory. In addition, key populations are frequently not included, meaning official statistics are likely to underestimate the epidemic.\textsuperscript{91}

For instance, the proportion of infections due to ‘undetermined diagnoses’ in the data reported by Russia’s Federal Scientific for the Prevention and Combat of AIDS is high and has been increasing for the past 10 years. In 2014, 55% of new infections were reported as ‘no data’ with regard to the source of infection.\textsuperscript{92}

Structural issues

The Russian health system can be difficult to navigate, with long waits to see specialists and short
supplies of medicines for many conditions. When the stigma of HIV or belonging to a key population is added to this mix, accessing medical services can be particularly hard.93

Russia also faces high costs for antiretroviral drugs, in part because they are imported rather than manufactured domestically.94 Government efforts to cut the cost of antiretroviral drugs, by concentrating procurement more on a federal level, have led to discounts from pharmaceutical companies.95

Funding for HIV in Russia

A lack of funding remains a significant barrier to the scale-up of HIV prevention and treatment programmes to tackle the epidemic effectively. As of July 2013, the World Bank reclassified Russia as a high-income country. As a result, international support for HIV programmes decreased and domestic funding for HIV prevention has not meeting the funding gap.96 For example, 30 projects serving some 27,000 people who inject drugs were left without financial support after a grant from the Global Fund ended in 2014. Although projects in 16 cities still exist, their scale is insufficient.97

The Head of Russia's Federal AIDS Centre, Vadim Pokrovsky, said that the government's 2016 budget of RUB 21 billion (US $325 million) was about a fifth of what was needed to address the problem.98 In March 2016, Veronika Skvortsova, the Russian health minister, promised an extra US $315 million in funding for HIV treatment and prevention in 2017.99 Whether this funding promise will be implemented remains unclear.100 However, in January 2017, the Ministry of Health’s request to allocate US $1.2 billion over four years to implement the 2017-2020 National AIDS Strategy was rejected.101 As of 2018, figures relating to current spending on HIV have not been released internationally.

The future of HIV in Russia

The rate of new HIV infections continues to rise. The Head of the Federal AIDS Center has warned that 2 million people will be diagnosed with HIV by 2020 if effective programming fails to be implemented.102 Yet, without addressing the needs of key affected populations, the surging HIV epidemic is only likely to worsen.

A fundamental shift in policy is needed to promote effective evidence-based prevention programming aimed at key affected populations.103 Policies that reduce social marginalisation, stigma and discrimination rather than exacerbate them are essential if Russia is to tackle this growing epidemic.

The scale of prevention programmes for key populations is grossly insufficient. Expansion of comprehensive harm reduction interventions is desperately needed as are other prevention programmes that meet the needs of key affected populations, in particular the sexual partners of people who inject drugs, young women, sex workers and men who have sex with men.

Drastically scaling up HIV testing and counselling and the number of people living with HIV on ART to suppress viral load, in combination with expanding condom use programmes for both the general population and key affected populations, will be key to reducing the growing number of sexually transmitted HIV infections in Russia.

Despite possible increases in domestic spending, the funding gap created by a reduction in funding from international donors remains a concern for prevention and treatment programmes, especially
given the importance of increasing services for those most affected by HIV.

Transparent national data collection and dissemination, particularly on key affected populations, must also be prioritised.

**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.

2. In 2017, 100,000 people in Russia became infected with HIV, 26,000 more than in 2010, a 35% rise.UNAIDS (2018) UNAIDS 'Data Book' [pdf]
8. ibid
10. The New York Times (28 December 2016) ‘HIV Cases Surpass a Million in Russia, but Little is Done’ (Accessed 23/08/2018)
22. ibid
23. ibid
31. ibid


36. AIDS Health Foundation ‘Russia’ (Accessed 17/07/2018)


38. Russia Beyond The Headlines (22 August, 2013) ‘Russia failing to test vulnerable groups for HIV (opinion piece by Ivan Varentsov, the Andrey Rylkov Foundation)’ (Accessed 23/08/2018)


41. HIVst.org ‘Russia’ (Accessed 17/07/2018)

42. AIDS Health Foundation ‘Russia’ (Accessed 17/07/2018)


49. UNFPA (7 June, 2013) ‘Women in Russia strongly favour sexuality education in schools, UNFPA-supported survey finds’


52. UNFPA (7 June, 2013) ‘Women in Russia strongly favour sexuality education in schools, UNFPA-supported survey finds’


54. Foreign Policy Magazine (22 November, 2016) ‘Russia’s Silent HIV Epidemic’ (Accessed


60. Foreign Policy Magazine (22 November, 2016) ‘Russia’s Silent HIV Epidemic’ (Accessed 23/08/2018)

61. AIDS Health Foundation ‘Russia’ (Accessed 17/07/2018)


74. ibid


76. ibid

Genotype Distribution in North-Eastern Poland’ Hepatitis Monthly, 15(7): e27740, DOI: 10.5812/hepatmon.27740v2


92. ibid


Last full review: 07 August 2018
Next full review: 07 August 2021