

**HIV infection associated with the initiation
period of injecting drug
From a risk environment perspective**

A literature review on Kyrgyzstan

**Petra Kuipers
The Netherlands**

Master in International Health
March 7, 2005 – August 14, 2014

KIT (ROYAL TROPICAL INSTITUTE)
Vrije Universiteit Amsterdam
Amsterdam, the Netherlands
Word count: 11.979

HIV infection associated with the initiation period of injecting drug, from a risk environment perspective, a literature review on Kyrgyzstan

A thesis submitted in partial fulfilment of the requirement for the degree of
Master in International Health

by

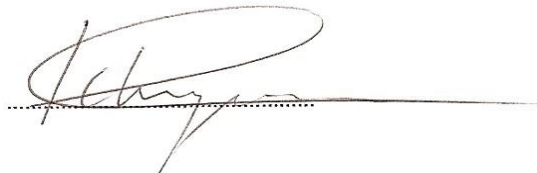
Petra Kuipers

The Netherlands

Declaration:

Where other people's work has been used (either from a printed source, internet or any other source) this has been carefully acknowledged and referenced in accordance with departmental requirements.

The thesis: *HIV infection associated with the initiation period of injecting drug, from a risk environment perspective, a literature review on Kyrgyzstan*, is my own work.



Signature:

Master in International Health (MIH)
March 2005 – August 2014
KIT (Royal Tropical Institute)/ Vrije Universiteit Amsterdam
Amsterdam, the Netherlands
August 2014

Organized by:
KIT (Royal Tropical Institute), Development Policy & Practice
Amsterdam, the Netherlands

In co-operation with:
Vrije Universiteit Amsterdam/ Free University of Amsterdam (VU) Amsterdam,
The Netherlands

Acknowledgements

Four special women from Kyrgyzstan have had a big influence on my life and are an important reason for me to love the country and the people. Their diversity in ethnicity, culture and religion represent the countries diversity. They independently have showed great hospitality and offered their love and friendship when I first arrived in Bishkek. They also dared to correct me when I made cultural mistakes and they have helped me to understand the culture and language. I have received in them; love, friendship and excellent teachers. Their presence truly has influenced my life until today and caused me to have continuous passion for the country, still after more than ten years. Mira, Muhabat, Olga and Salima thank you.

Besides these women, I also want to thank Joan Short and Beryl & David Fricke. We met in 2001 in Kyrgyzstan and after years of silence I got in contact again to ask for advice about this thesis. Thank you for the advice and support you have given.

A special thank you to the thesis advisor and the course coordinator; for their constructive feedback, pleasant communication and positive attitudes. The process of writing this thesis has been very useful and with your help, I have been able to learn and improve my knowledge and skills.

Thanks also to Janet Vlug for her company and support while both going through the same process. Janet, I am happy that we met in Geneva and your perseverance has been a good example for me. Also thanks for Chaitali Sinha for proof-reading the document.

Last but not least, I want to thank my family; my parents who have always supported me, in times of sickness and difficulties they were there.

The biggest thanks goes to my husband and children: Abbas, Richard and Liza, thank you for your love, support and patience, and for offering up your precious summer holidays.

Thank you all who made this journey with me together.

"If you want to go quickly, travel alone. If you want to go far, travel together."
An African proverb

Table of contents

List of tables and figures	v
Abbreviations and acronyms	vi
Glossary	vii
Abstract	viii
1. Introduction	- 1 -
1.1 Country description	- 1 -
1.2 Health system	- 2 -
2. Problem Description, Justification and Objectives	- 2 -
2.1 Problem Description	- 2 -
2.2 Justification	- 5 -
2.3 Objectives	- 6 -
3. Methodology	- 7 -
3.1 Literature review	- 7 -
3.2 Search Strategy	- 7 -
3.3 Limitations	- 7 -
3.4 Conceptual framework	- 8 -
3.5 Structure	- 9 -
4. Risk environment	- 10 -
4.1 Physical environment	- 10 -
4.1.1 Macro	- 10 -
4.1.2 Micro	- 11 -
4.2 Social environment	- 13 -
4.2.1 Macro	- 13 -
4.2.1 Micro	- 15 -
4.3 Economic environment	- 18 -
4.3.1 Macro	- 18 -
4.3.2 Micro	- 19 -
4.4 Political environment	- 21 -
4.4.1 Macro	- 21 -
4.4.2 Micro	- 22 -
5. Prevention interventions	- 25 -
6. Discussion	- 27 -
7. Conclusion and Recommendations	- 32 -
7.1 Conclusion	- 32 -
7.2 Recommendations	- 33 -
References	- 35 -
Annexes	- 40 -

List of tables and figures

- Figure 1 The transmission routes among populations of PWIDs*
Figure 2 HIV prevalence among people who inject drugs
Figure 3 Conceptual framework
Figure 4 Main drugs route and transportation corridors in Kyrgyzstan
Figure 5 Components of Police training in Kyrgyzstan
Figure 6 Comprehensive package
Figure 7 Break the Cycle Project Details
Figure 8 Simplified version of the adjusted framework
- Table 1 HIV and AIDS funds Kyrgyzstan in USD*
- Annex 1 A simple model of risk environment, Rhodes 2002*

Abbreviations and acronyms

AIDS	Acquired Immune Deficiency Syndrome
ART	Antiretroviral therapy
CSO	Civil Society Organizations
FSW	Female Sex Worker
GNI	Gross National Income
HIV	Human Immunodeficiency Virus
NSP	Needle and Syringe Programme
OST	Opioid Substitution Therapy
PLWH	People Living With HIV
PWID	Person who injects drugs
STI	Sexually Transmitted Infection
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNDP	United Nations Development Programme
UNICEF	United Nations International Children's Emergency Fund
UNODC	United Nations Office on Drugs and Crime
WHO	World Health Organization

Glossary

Central Asia: Kazakhstan, Kyrgyzstan, Tajikistan, Uzbekistan and Turkmenistan.

Concentrated epidemic: In a concentrated epidemic HIV has spread rapidly in one or more populations but is not well established in the general population. Typically, the prevalence is over 5% in subpopulations while remaining under 1% in the general population (UNAIDS, 2011).

Harm reduction: “The term ‘harm reduction’ refers to policies, programmes, and approaches that seek to reduce the harmful health, social, and economic consequences associated with the use of psychoactive substances. Harm reduction is a comprehensive package of evidence-informed programming for people who use drugs” (UNAIDS, 2011). The comprehensive packages includes the following nine components: Needle and syringe programmes (NSPs); Opioid substitution therapy (OST) and other drug dependence treatment; HIV testing and counselling; Antiretroviral therapy (ART); Prevention and treatment of sexually transmitted infections (STIs); Condom programmes for people who inject drugs (PWIDs) and their sexual partners; Targeted information, education and communication for PWIDs and their sexual partners; Vaccination, diagnosis and treatment of viral hepatitis; Prevention, diagnosis and treatment of tuberculosis (WHO et al, 2009).

Initiation period: The period of initiation to injection, from the first injection and including the first few years of injection (Roberts et al, 2010)

Migrant worker: A migrant worker is a person who migrates from one country or area to another in pursuit of job opportunities (UNAIDS, 2011).

Vulnerability: “Vulnerability refers to unequal opportunities, social exclusion, unemployment, or precarious employment and other social, cultural, political, and economic factors that make a person more susceptible to HIV infection and to developing Acquired Immune Deficiency Syndrome (AIDS).” (UNAIDS, 2011)

Abstract

Background: Kyrgyzstan is one of the Central Asian Republics. Since independence from the Soviet Union, the economy has shrunk significantly. The country has introduced several health reform programmes. HIV prevalence is still increasing, with a concentrated epidemic among Persons Who Inject Drugs (PWID). Specifically the initiation period of injecting is identified as a period of increased risk for HIV transmission.

Objective: This paper explores factors that facilitate the initiation of injecting drugs, HIV vulnerability once people started injecting and access to harm reduction services in Kyrgyzstan.

Methods: The results are based on a literature review, and the conceptual framework of risk environment from Rhodes was used for analysis.

Results: The location of the country, situated on a busy drug trafficking route from Afghanistan to the North, results in readily available drugs. The country is also accustomed to injecting as it is common to inject for medical reasons. Exposure to injecting and network dynamics are important factors for people to start injecting. Access to services is limited due to several reasons. Identified to be at a higher risk of initiation are young people, yet age disaggregated data is not available and there are no youth focused services in place. Prison settings are identified as an environment with increased risk for HIV transmission. Also migrant workers and sex workers play an influential role in the initiation period of injecting and the transmission of HIV.

Interventions focusing on the prevention of initiation are limited.

Internationally effective interventions are peer-based behaviour modification in combination with treatment based interventions.

Conclusions: A combination of the identified environmental factors and the complex interaction between these factors, in combination with the internal motivation and the character of the person, influences the risk for initiation and the vulnerability to HIV of the individual person.

Recommendations: Prioritize interventions that prevent initiation injecting drug use, improve access to harm reduction services and introduce a holistic approach towards children and youth at risk of initiation.

Key words: Harm reduction, HIV, Initiation, Kyrgyzstan, People Who Inject Drugs (PWID).

Word count: 11.979

1. Introduction

1.1 Country description

Kyrgyzstan is one of the five Central Asian Republics. It is a small and mountainous landlocked country with China bordering on the East, Kazakhstan on the North, Tajikistan on the South and Uzbekistan on the West. The capital city is Bishkek and the population is 5.6 million (World Bank, 2012). In 1876 Kyrgyzstan fell under Russian rule and became part of the Soviet Union after the Russian revolution in 1917. In August 1991 the country declared its independence from the Soviet Union. The main ethnic group is Kyrgyz, followed by Russian and Uzbek. Official languages are Russian and Kyrgyz. Islam is the dominant religion 75%, followed by Russian Orthodox 20%. School attendance in Kyrgyzstan is high and the adult literacy rate is 99%. (UNICEF, 2011)

The economic base of the country is limited. In 2012, an estimated 38% of the population lived below the poverty line and almost three-quarters of the poor lived in rural areas (World Bank, 2012). Until 1991 the economy relied mainly on exports to other parts of the Soviet Union. After the collapse of the Soviet Union, Kyrgyzstan's economy shrunk significantly, demonstrated by the loss in gross national income (GNI). In 2007 the GNI was less than 20% of the pre-independence level (Rechel 2013, Thorne et al, 2010, World Bank, no date). Unemployment is high and the number of well-paid jobs are limited. This has resulted in people looking for work outside the country, mostly in Russia and Kazakhstan (Mogilevsky and Omorova, 2011).

The past decade has been politically unstable in Kyrgyzstan. In 2005 the Tulip Revolution took place in which President Askar Akaev was overthrown after 15 years of presidency. During the second revolution, in 2010, President Bakiev was forced to leave. This led to a power vacuum, specifically in the south of the country. Tensions in this area increased, resulting in ethnic clashes in June 2010. These clashes involved killings, injuries and considerable damage inflicted upon, amongst others, health services infrastructure (Collins, 2011)

1.2 Health system

In 1996, five years after independence, Kyrgyzstan started with the implementation of health reform programs. The reforms were undertaken in order to increase the effectiveness of the health care system and to sustain the nearly universal access to health care of the population, which they had in Soviet times. The system currently functions for a considerably lower cost and without a radical deterioration in the health situation of the country (Mogilevsky and Omorova, 2011). Through these reforms primary care was strengthened and family medicine was introduced. However the inheritance of the Soviet healthcare infrastructure, with its vertical way of delivering care, is still noticeable. Kyrgyzstan has vertical health programs for tuberculosis, Sexually Transmitted Infections (STI), drug addiction and Human Immunodeficiency Virus (HIV). These programs have weak interlinkages and the referral systems are sub-optimal. This hinders the provision of comprehensive care for people living with HIV (Ancker et al, 2013).

2. Problem Description, Justification and Objectives

2.1 Problem Description

In many countries of the world HIV prevalence is stabilizing or going down. Yet this is not the case in the former Soviet Union where the prevalence of HIV is increasing. In Central Asia HIV prevalence has been increasing since 2000. Kyrgyzstan has an estimated HIV prevalence of 0.3% among adults 15 – 49 years of age (UNAIDS, 2013), where men represent about two-thirds of the infected population (Bashmakova and Kuvatova, 2013). Kyrgyzstan is one of the few countries in the world with an increase of HIV incidence of more than 25% between 2001 and 2011 (UNAIDS, 2012). Although the HIV prevalence among the general population is still low, there is a concentrated epidemic among key populations. Populations at higher risk identified in Kyrgyzstan are: People Who Inject Drugs (PWIDs) 7 – 15% HIV prevalence (Thorne et al 2010, country progress report 2010, UNAIDS 2013), prisoners 15% HIV prevalence (UNODC, 2013) and sex workers 3.5% HIV prevalence (UNAIDS, 2013). Other populations, in particular Men who have Sex with Men and migrants, are known to be at higher risk; but surveillance data is missing (Thorne et al, 2010).

Despite the increase of efforts by global health and HIV initiatives, to scale up funding for AIDS services, antiretroviral therapy has still not been made available to more than 5 million of the estimated 9.5 million people who need it worldwide (Spicer et al, 2011a). In Eastern Europe and Central Asia regions this is often related to the barriers to treatment for the key populations at higher risk, including PWIDs.

Injecting drug use

Injecting drug use has been identified as a key source of morbidity and mortality, primarily from overdose and the transmission of blood-borne diseases such as HIV (Werb, 2013). The estimation is that there are approximately 12.7 million people who inject drugs worldwide, with an estimated 1.7 million living with HIV (UNODC, 2014). In Russia, Kazakhstan, and the Kyrgyz Republic, more than 70 % of cumulative HIV cases have occurred among PWIDs. (Golden et al, 2013; UNODC, 2008 p. 47; Thorne et al, 2010).

The transmission routes among populations of PWIDs.

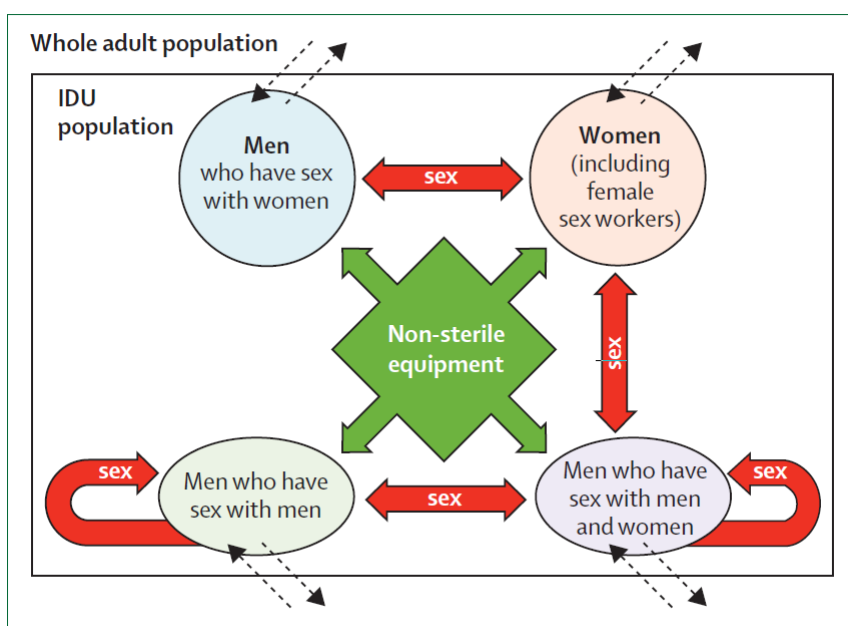


Figure 1: Source: Strathdee S, 2010.

Population subgroups and risk of HIV infection from shared use of injection equipment (green arrows) and sex (red arrows) are shown. Black arrows show entry and exit to the injecting drug user population (i.e., start or stop of drug injections).

The number of drug users in Kyrgyzstan is increasing, yet it is difficult to estimate exact numbers. PWIDs are stigmatised and harassed by police. As a result, they are not easy to reach. This does not only have a consequence on data collection but also has a negative impact on the provision of care. It is difficult to reach the people who need services when it is unknown who they are, where they are and how many there are.

The estimations are that there are approximately 26,000 people dependent on opiates in Kyrgyzstan, this is around 0.8% of the total adult population (UNODC, 2008). Approximately 96% of these opiates are administered by injection (UNODC, 2008). The total number of registered drug users in 2008 was 9,057, with 6,574 persons administering by injection (UNODC, country statistics, no date). Disaggregated data by sex and risk group are difficult to obtain. In 2006, 93% of the injecting drug users were male (UNODC, 2008). Most of them are located in the urban centres of the cities Bishkek and Osh.

Finding reliable data about the HIV prevalence among people who inject drugs is also challenging. Prevalence is measured among the PWIDs who are known, these are often the ones that already have access to services. Surveillance data from 2004 reports a prevalence of 6.2% (Nashkoev and Sergeyev, 2008), more recent data reports a 14.6% prevalence (country progress report 2010, UNAIDS 2013).

In Kyrgyzstan, 66% of women with HIV have reported contracting the infection through sexual intercourse (Thorne et al, 2010). It is likely that most women in the Central Asian region have contracted the infection by injecting drugs, either their own or that of their partner. HIV acquired from a partner who injects drugs is then reported as sexual acquisition. Injecting drug use is often underreported due to stigma and criminalization (Thorne et al, 2010).

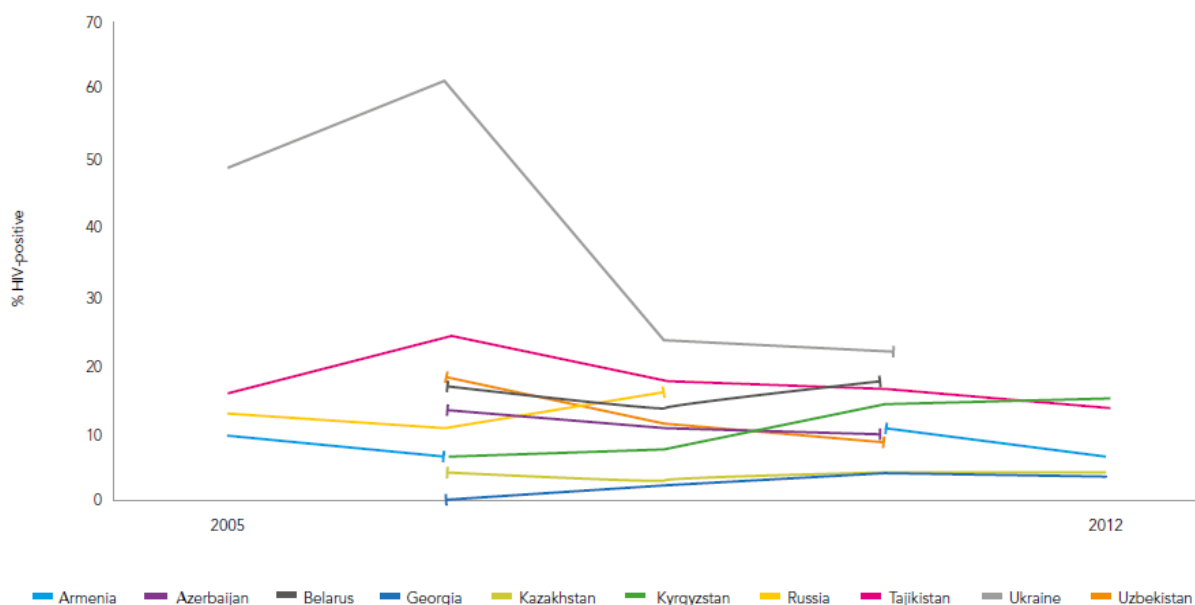


Figure 2: HIV prevalence among people who inject drugs, 2005–2012 source UNAIDS global report 2013 article 174

According to the UNAIDS global report 2013, HIV prevalence among PWIDs in Kyrgyzstan is still increasing, while in neighbouring countries from which data is known, it is decreasing, as figure 2 illustrates. This results in Kyrgyzstan being among the countries from the region from which data is available, with the highest HIV prevalence among PWID in 2012. While it used to be among the countries with the lowest HIV prevalence among PWID.

Response: Harm reduction programme in Kyrgyzstan

With financial and technical support from several international organisations, Kyrgyzstan managed, as one of the first countries in the former Soviet Union, to set up a comprehensive response to the HIV epidemic and to adopt policies that reflect best international practices in HIV prevention and management. (Thorne et al, 2010; Ancker et al 2013; Wolfe, 2005) Not only on the legal and health policy areas, but also for setting up effective HIV prevention

programmes that are resisted by many governments of the former Soviet Union, such as needle-exchange programmes in prisons and opioid-substitution therapy (Thorne et al, 2010; Bashmakova et al, 2009; Ancker et al 2013). In 2001 Kyrgyzstan set up an HIV and AIDS (Acquired Immune Deficiency Syndrome) coordination committee under the supervision of the vice president (Spicer et al, 2010), which successfully applied for funding from the Global Fund to Fight AIDS, Tuberculosis and Malaria – often shortened to 'The Global Fund'. Still today political support remains, and is visible in the budget allocation. Domestic funding for HIV activities in 2012 has more than doubled compared to 2011, from 1.4 million USD in 2011 to 3.9 million USD in 2012 (UNAIDS, 2013). A new programme was launched in June 2014, between UNODC and the Kyrgyz government, reinforcing their cooperation in the areas of illicit drugs and organized crime (UNODC, 2014b)

Importance of initiation period of PWID's in relation to HIV

To date, most of the research regarding PWIDs and HIV has been focused on prevention of high-risk behaviour. This has focused on preventing transmission of blood borne diseases, including HIV. In the former Soviet Union little research was done focusing on the initiation period of injecting drugs. The initiation period being defined *as the period to injection, from the first injection and including the first few years of injection* (Roberts et al, 2010). This while experience suggests, and research confirms, that young and recently initiated PWIDs carry a higher risk of blood borne disease transmission and overdose compared with older or more established PWIDs (Thorne, 2010; Roberts, 2010; Werb, 2013). For example in Tajikistan, recent initiates were twice as likely to be HIV infected than those with longer injecting histories (Thorne, 2010). The initiation period is a time in which contaminated needles are most often used, the highest number of infections occur and overdose is most common (Werb, 2013), this in combination with limited knowledge and experience of the PWID who is young in age or a new user. Intervention at this time period or even before can prevent a lot of harm. Therefore this study addresses HIV vulnerability among PWIDs in Kyrgyzstan, with a focus on the initiation period.

2.2 Justification

Kyrgyzstan has an advanced harm reduction programme in place, compared to other countries in the area. Kyrgyzstan is often called a regional 'pioneer'. (Ancker et al, 2013). The reason for focusing this study on Kyrgyzstan is out of personal interest in the country and because an advanced programme allows one to zoom in on more specific issues within the programme, which in this case is the initiation period of injecting drug use. As mentioned in the problem statement, initiation is an important period and there is little known about it. Despite the fact that Kyrgyzstan addressed several aspects of HIV and AIDS at an early stage, the prevalence of HIV is still increasing (UNAIDS, 2013). Therefore looking into aspects of the programme that can be improved, specifically around the initiation period, is not only important for Kyrgyzstan

but gives also an opportunity for other countries to address HIV and AIDS more effectively. Possibly at a global scale, as the World Health Organization (WHO) does not have guidelines nor recommendations on how to prevent initiation of injecting drugs. It is expected that the results from this study will help to improve the harm reduction programme in Kyrgyzstan, specifically for health services focussing on the initiation period of injecting drug users. And that the outcome of this thesis will also be able to contribute to the improvement of programmes that aim to prevent initiation to injecting and to harm reduction programmes in the other Central Asian countries and beyond.

2.3 Objectives

General objective:

To explore factors that facilitate the initiation of injecting drug use in Kyrgyzstan, vulnerability to HIV once people have initiated injecting, and their access to comprehensive health care services. The results will be used to make recommendations toward strengthening the prevention interventions and harm reduction programme, around the initiation period.

Specific objectives:

1. Explore factors that are influencing the initiation of injecting drugs in Kyrgyzstan.
2. Explore the HIV vulnerability of people, once they have initiated injecting in Kyrgyzstan.
3. To analyse the access to harm reduction programmes in Kyrgyzstan for people who started injecting.
4. To review interventions that focus on preventing the initiation of injecting drugs in Kyrgyzstan and elsewhere.
5. To use the research findings to make recommendations to the Ministry of Health of the Kyrgyz republic in order to strengthen the programmes that aim to prevent initiation to injecting and improve the harm reduction programme.

3. Methodology

3.1 Literature review

The method used for this thesis is a literature review.

3.2 Search Strategy

The following search strategies were used:

- 1) Literature was found by using the search engine; Google Scholar and databases: PubMed and the VU library using the following search terms: 'injecting drug user, IDU, PWID, Kyrgyzstan, Central Asia, Kyrgyz Republic, HIV, initiation, harm reduction'. Eligibility criteria were: publications since 2010 in English.
- 2) Use of websites from UNAIDS, WHO, UNODC, the World Bank, Asia harm reduction network and Kyrgyz Ministry of Health.
- 3) Snowball method; relevant references in articles were checked and if relevant, included in the literature list. This also includes articles from before 2010 and one in Russian.
- 4) Missing information was specifically searched for by adding additional search terms with topics taken from the framework, in the databases.

3.3 Limitations

There are not many studies on initiation of injecting drugs found and only one in Kyrgyzstan, therefore literature is used from neighbouring countries or international studies, also relatively older studies are included. The study found from Kyrgyzstan is not peer-reviewed and therefore less reliable. More literature is available on PWIDs and HIV vulnerability in Kyrgyzstan and internationally, also peer-reviewed studies.

The inclusion of studies published in English only, might have left out some relevant information which is published in Russian. Russian is the regional language used by the government and often also in academic institutions and reports to United Nations or other donors, they are not always translated to or available in English. With my basic knowledge of the Russian language I am able to use data from national reports in Russian but am not able to read more complex articles.

The initiation period is not well defined in the researched literature. This makes the comparison between PWID in the initiation period and more established longer term injectors often difficult.

3.4 Conceptual framework

The conceptual framework of risk environment from Rhodes, 2002 and complemented by Strathdee in 2010, will be used for analysis of the information. The framework was developed in order to understand and reduce drug-related harm, especially HIV infection associated with drug injection (Rhodes, 2002). In this study the framework will be used for focusing on the initiation period of injecting in relation to HIV infection. The framework has a focus on the social situation and the processes and structures in which an individual participates. It looks to the environment and allows to analyse health risks from a multi-disciplinary perspective, including social and epidemiological viewpoints to analyse risk.

The framework looks to four different aspects in the environment influencing health risks; physical, social, economic and political. These four aspects are looked at from a macro and micro level. Macro risk environment addresses structural factors such as: law, government expenditures on health, macro-economic situation, and national policies. Micro risk environment addresses the personal decisions and community influence, as well as norms and practices. More detailed information can be found in Figure 3.

The framework is selected because it enables the analysis of environmental influence on the individual. This thesis outcome will therefore also focus on what interventions can be done at community and national levels by addressing the risks in the environment, and personal decisions made by individuals interacting with and living in a certain environment, rather than focussing on interventions targeting the individual alone.

In the context of this thesis it is not possible to analyse all factors mentioned in the framework. Based on the literature I will concentrate on the priority factors in Kyrgyzstan. Some factors are combined and the following factors are not included: deportation, location of recruitment, correction expenditure, police per capita, immigration policies and laws and access to low-threshold and social housing. Spatial inequalities will be described in the political environment so that all information that relates to coverage of services is in one section. Similarly will migration be dealt with in the micro economic section and is not included as part of the physical environment. The population mobility in this thesis is directly linked to the economy while the original model refers more to refugees and internally displaced people.

Figure 3.

Conceptual Framework: based on Rhodes (2002), complemented by Strathdee et al (2010)

	Micro environment	Macro environment
Physical	<ul style="list-style-type: none"> - Drug injecting locations - Homelessness - Prisons and incarceration - Exposure to violence or trauma - Spatial inequalities - Location of recruitment 	<ul style="list-style-type: none"> - Drug trafficking and distribution routes - Trade routes and population mobility - Geographical population shifts, neighbourhood and population mixing. - Deportation - Distance from HIV epicentre
Social	<ul style="list-style-type: none"> - Social and peer-group norms - Relationships and network dynamics - Sexuality and sexual orientation - Local policing practices and crackdowns - Access to community health and welfare services - Education 	<ul style="list-style-type: none"> - Gender inequalities and gendered risk - Stigmatisation and marginalisation of drug users - Weak civil society and community advocacy - Police per capita - Exposure to war, conflict, or disasters - Ethnic or racial inequities
Economic	<ul style="list-style-type: none"> - Scarcity of health service revenue or spending - Correction expenditures - Growth of informal economies - Uncertain economic transition 	<ul style="list-style-type: none"> - Cost of living and of health treatments - Cost of syringes - Cost of condoms - Scarcity of income generation and employment - Survival sex trade or work
Political	<ul style="list-style-type: none"> - Coverage of sterile needles and syringes - Coverage of drug treatment - Coverage of HIV testing and counselling - Coverage of highly active antiretroviral therapy - Programme policies governing distribution of injecting equipment - Access to low-threshold and social housing 	<ul style="list-style-type: none"> - Policy and laws governing syringe access and exchange, and enforcement status - Policy and laws governing drug treatment - Policy and laws governing free highly active antiretroviral therapy coverage - Public health policy governing sex work and enforcement status - Laws governing possession of drugs and drug paraphernalia, and enforcement status - Immigration policies and laws - Laws governing protection of human and health rights.

3.5 Structure

The core of this thesis includes four chapters. Chapter four and five covering the findings of the study, chapter six the discussion and chapter seven the conclusion and recommendations. The results are divided into two chapters: Chapter four describing factors influencing the initiation of injecting drugs, the HIV vulnerability of people once they have initiated injecting and the access to harm reduction programmes. The chapter follows the structure of the framework of Rhodes and analyses the environment. Chapter five gives an insight into the interventions that aim to prevent initiation of injecting. This chapter also includes information about interventions that internationally have been implemented and evaluated.

4. Risk environment

In this chapter the environmental factors will be described that facilitate the initiation of injecting drugs, the vulnerability to HIV and the access to comprehensive health care of PWIDs in Kyrgyzstan. The environmental factors are divided into four categories, physical- social- economic- and political environment - all four will be looked at from a macro and a micro perspective following the framework of risk environments of Rhodes, as explained under methodology.

4.1 Physical environment

The following section will describe the physical environment. First on a macro level, looking to drug trafficking and distribution routes, then at the micro level looking at community and personal level.

4.1.1 Macro

Drug trafficking and distribution routes

Central Asia is linking Afghanistan with the important drugs markets of Russia, Europe and increasingly Western China. This is called the Northern route for drug trafficking from Afghanistan. Afghanistan is the largest producer and cultivator of opium globally. Even with poor yields in 2012 they still counted for 74 percent of global illicit opium production (UNODC, 2013).

The main locations of PWID's and People Living With HIV (PLWH) in Kyrgyzstan are; the southern city of Osh, which is a main connection centre on the drugs trafficking road. All connections from Tajikistan in the South come together in Osh before continuation to the North. The second main location of PWID's is in Bishkek, the capital city, also strategically located on the drugs trafficking route to Kazakhstan and further on to Russia (UNODC, 2012). The big supply of drugs into the country keeps the price low and makes it therefore affordable and accessible for Kyrgyz inhabitants. The geographic location of Kyrgyzstan on this major drug trafficking route is therefore an important factor that facilitates easy access for those wanting to initiate (Gray, 2008). Drug trafficking routes are illustrated in Figure 4.

Main drugs route and transportation corridors in Kyrgyzstan

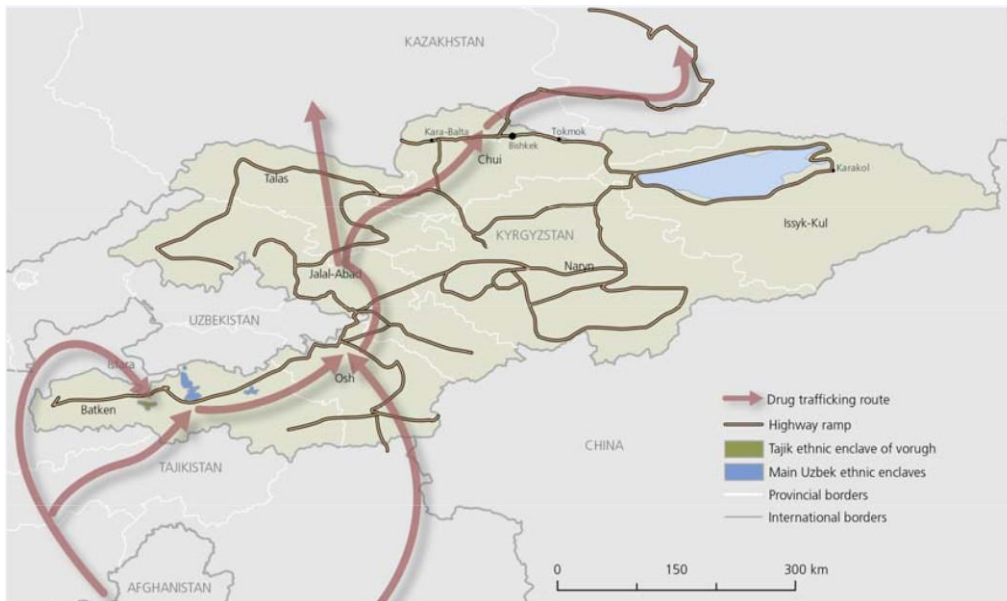


Figure 4. UNODC 2012. Note: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

4.1.2 Micro

Living environment

Research from Central Asia shows that youth living in cramped housing conditions are at a higher risk of initiating injecting drugs (Gray, 2008). The cramped living conditions in Central Asia facilitate the exposure to PWIDs. This exposure makes youth feel more comfortable with and less distanced from PWIDs and therefore are they more likely to try out injecting drugs.

International research consistently shows that youth, in particular street youth, are at the highest risk of initiating injection drug use (Barrett et al 2013, Niccolai 2010, Werb Oct 2013, p.20). Having been homeless in the last six months is associated with the largest increase in risk of initiating injection, also sexual abuse increases the risk of initiation. (Werb, Oct 2013). A 2007 study from St Petersburg shows not only high rates of injecting among street-involved youth (15-19) but also "extraordinarily high" HIV seroprevalence of 80% among them (Kissin et al, 2007).

It is likely that street youth is also an important risk group in Kyrgyzstan. Yet, disaggregated data on age is not available in most countries in the world, including Kyrgyzstan (Barrett et al 2013). It is unknown how big the group is between 14–18 years of age. Individuals under 14 are not included in the statistics.

Prisons and incarceration

Prisons and incarceration are identified as an environmental physical risk factor for HIV transmission (Strathee, 2010). In Kyrgyzstan there are approximately 17,000 prisoners, and HIV-prevalence rates in prison population doubled from 3.3% in 2007 to 7% in 2009 (Ancker et al, 2013). The estimations are that 19% of prisoners use drugs and 70-80% share drug injection equipment (Ancker et al, 2013; Thorne et al, 2010). There are also high rates of sexually transmitted infections in prisons, registered cases of 17% in 2008 (Ancker et al, 2013). This indicates a high sexual risky behaviour among prisoners. This behaviour increases the transmission of blood borne diseases, including HIV. Additional risk factors are the cramped living conditions and the limited access to health services. Prison settings cause other health risks associated with HIV. Imprisonment is often associated with interruption of ART and Opioid Substitution Therapy (OST) (Wolfe, 2005). Inmates also have an increased risk of tuberculosis, even more for those who are infected with HIV (Beyrer et al, 2010). Prisons are often overcrowded, with lack of ventilation, inadequate nutrition and limited access to health services. In Russia, China and India, major epidemics of multi-drug resistant tuberculosis in prisons associated with people who use drugs have been reported (Beyrer et al, 2010). No information could be found that specifically deals with the initiation of injecting in prisons in Kyrgyzstan. However the environmental factors that increase the risk for initiation outside a prison setting are to a greater extent present inside prisons. It is therefore likely that there is an increased risk of initiation of injecting drugs for inmates.

Kyrgyzstan has recognized the problem in prisons in relation to HIV transmission and PWIDs. The authorities have introduced harm reduction services in a large number of prisons (Jürgens et al, 2009). Interventions such as needle exchange, opioid- substitution therapy, drug counselling and condom distribution are carried out (Ancker et al, 2013). Opening of a prison NSP programme did require a change in law and regulations (Jürgens et al, 2009). Kyrgyzstan did so and in 2011, 19 needle-exchange points were functioning in 12 prisons (Ancker et al, 2013; Zurhold and Stöver, 2013). According to 2008 sentinel surveillance data collected among 750 prisoners in Kyrgyzstan, 66% of prisoners had access to condoms and 79% to clean syringes (Ancker et al, 2013). Kyrgyzstan is the only country in Central Asia that runs a prison based OST programme. In 2011 this was implemented in three prisons for about 150 clients (Ancker et al, 2013; Latypov, 2009).

Despite the positive effort carried out within the country, there are still important aspects not in place. Among others, these include the basic treatment of co-infections and access to antiretroviral treatment in prisons is still inadequate (Ancker et al, 2013). Needle exchange and opioid-substitution therapy sites are unevenly distributed among prisons. And although methadone programs were planned for women's prisons, these are still not available due to funding cuts; OST is available only in men's prisons (Pinkham et al, 2012)

4.2 Social environment

Not only the physical but also the social environment influences the risk of injecting drug use, HIV vulnerability and access to services. This section describes the social environment. Again first on a macro level, looking to aspects of stigma, gender, culture and ethnicity in relation to PWID and PLWH and to the role of the civil society in regards to advocacy. Then on a micro level looking at social interaction, influence of peers and networks of the individual, access to community health services and local police practices.

4.2.1 Macro

Stigma and gender

The attitude of the general population towards PWIDs and towards PLWH is negative in Kyrgyzstan (DesJarlais et al 2013; Spicer et al, 2011a). The elder generation's attitude is more negative than younger people (Spicer et al, 2011a). This might indicate a change over time with younger people becoming more tolerant.

This negative attitude results in feelings of shame for PWIDs and PLWH and hiding their HIV status. Stigmatization is also an important barrier to accessing services, and increases risk behaviour. PWIDs and PLWH do not access services due to stigma and therefore lack information, support, treatment and clean equipment (Spicer et al, 2011a). Clients of services report being afraid of the reaction of their family and the community. Some travel long distances to health service points in order to protect their anonymity. This is similar for PWIDs not taking up services from outreach workers. They worry that health professionals would reveal their drug dependence. This is not only a matter of stigma but also limited trust in the professional attitude of the health workers, in keeping the clients information confidential (Spicer et al, 2011a)

There are studies available about the HIV vulnerability of female injecting drugs users compared to male. Yet limited information is available about gender in relation to initiation of injecting. An estimated 10% of PWIDs in Kyrgyzstan are women (Pinkham et al, 2012). International research found that female PWID's face even greater stigma than their male counterparts, leaving them relatively more isolated and marginalised (Roberts et al, 2010). Also in Kyrgyzstan women who inject drugs are more stigmatised compared to men, since there are more patriarchal attitudes in the family (Youth Rise, no date). Female PWIDs are more likely to be engaged in sex-work and face risks of violence and transmission of blood-borne diseases in that way. Reasons for starting initiation of injecting differ between men and women.

Women more often report starting initiation of injecting for social reasons, mostly influenced by their sexual partner who is already injecting. They are more likely to be injected by someone else the first time, which increases the risk of infection. With assisted injecting, needles are more often shared and the person is more likely to be the last in line of receiving the injection. When compared to new male injectors, new female injectors with the same duration of injection have higher HIV incidence, faster progression from first use to dependence, and have higher mortality rates (Roberts et al, 2010, p. 21). Unlike men, women can also transmit HIV to their children. Despite the small number of female PWIDs and the scarce information in Kyrgyzstan, they are still an important group to consider when designing a harm reduction strategy. Not only because of their possible position of transmission to their children but also because of their own health needs and human rights to a standard of living adequate for the health and well-being (article 25, from the Universal Declaration of Human Rights).

Civil society and community advocacy

There have been several advocacy efforts in the area of harm reduction, specifically in relation to criminalization of drugs use in Kyrgyzstan. Yet, most of these advocacy efforts have been unsuccessful (Spicer et al, 2011b). Despite the apparent existence of political will to address HIV and implement harm reduction programmes, the policy context is still challenging. New policies, often influenced by international donor support, are often not translated fully into changes in attitude and implementation. Policy development procedures and governance are not transparent. There is a lot of political change which makes it difficult for civil society organizations (CSO) to build lasting relationships with policy makers. Besides that, there is an environment of fear: fear for personal and organizational position of CSO staff, fear of losing funding, but also fear of government staff bringing new, controversial ideas (Spicer et al, 2011b). Another matter is the separation of responsibilities of the different ministries. The Ministry of Health is responsible for the harm reduction program and the Ministry of Interior for the criminalization of drug use (Spicer et al, 2011b). The government mainly looks to CSOs as service providers and not much as valuable contributors in the process of policy development. Also donors finance mainly service provision and even CSOs themselves tend to under value the advocacy role they have (Spicer et al, 2011b). However, it is not only the political environment in which CSOs operate that makes advocacy difficult. Also the capacity of CSOs is confined, they have limited resources; evidence; knowledge; skills and leadership (Spicer et al, 2011b). Furthermore, cooperation among CSOs is often hindered as tensions arise when competing for donor funds. This makes it difficult to form effective consortia or networks that could advocate on behalf of many.

Culture and ethnicity

In Kyrgyzstan, injecting at home for medical reasons is common (Gray, 2008). This leads to comfort with injecting among the general population, and makes the step to initiate injecting for non-medical reasons less significant.

Another important cultural aspect is the diversity of ethnic and language groups in some areas of the country. Ethnic clashes in 2010 in the Southern city Osh illustrate the fallout that can arise from this ethnic diversity. A recent study in the Eurasia region shows that risk for initiation of injecting is increased for adolescents and young adults from ethnic minority groups (Barett et al, 2013). An older study in neighbouring country, Tajikistan, shows that the risk to HIV infection for PWIDs differs between ethnic groups (Stachowiak et al, 2004). There is reported difference in years of injecting, accessing harm reduction services, injecting behaviour, accessing drug treatment, condom use and arrest history (Stachowiak et al, 2004). Although Kyrgyzstan has a slightly different political context compared to Tajikistan, it is likely that ethnic differences also play a role. With respect to access to health services, clients from harm reduction services in Kyrgyzstan from diverse ethnic and language groups do report difficulties in developing effective relationships with health staff. This has an impact on the quality of the services. Problems in this regard are specifically reported from government services (Spicer et al, 2011a).

4.2.1 Micro

Networks and social relationships

Networks and social relationships are important factors facilitating initiation of injecting drug use. In particular women worldwide report almost universally social influence or peer pressure as their primary motivation for transitioning to injecting, often encouraged by their male sexual partner (Roberts et al, 2010). For children and youth, low-education or being outside the educational system and street involvement, are environmental factors that increase the risk for initiation of injecting (Fletcher and Krug, 2012; Barrett et al, 2013). Exposure to PWIDs is an important factor leading to initiation of injecting drug use in general. In Kyrgyzstan, the majority of the PWIDs receive help when they inject for the first time (Gray, 2008). A baseline survey done in 2006 in Kyrgyzstan and Uzbekistan shows that 53% of PWID is helped with their first injection by siblings or cousins and another 33% is helped by friends, while only 2% is helped by a dealer (Gray, 2008). This shows that the family and friends network is of great importance when it comes to the initiation of injecting. In most cases curious youth pressures the PWIDs to help them initiate (Gray, 2008). In an old study from 2004, curiosity is even mentioned as the biggest driver of young Kyrgyz and Uzbek people initiating (Gray, 2008)

Not only non-injectors are influenced by their peers. Also former PWIDs working as outreach workers form a risk group for re-injecting. Using former PWIDs as service providers is a commonly used strategy implemented by Non-Governmental Organizations (NGOs) in Kyrgyzstan (Spicer et al, 2011a). NGOs use former PWIDs as outreach workers in order to reach the people who do not yet access services. This has been an effective approach in bringing down barriers for PWIDs to access services and decreasing discrimination from health professionals towards vulnerable groups. However there is also a risk for the former PWIDs of falling back into injecting, because of their frequent contacts with PWIDs and operating in their networks. This is important for the individual but also an issue in the context of retention of health workers in harm reduction programmes, and effects the implementation of the harm reduction services (Spicer et al, 2011a).

International research found that unsafe sexual practices are common in PWID partnerships (Roberts et al, 2010). Risks from outside the relation come usually from both partners, with women being more likely to be engaged in sex work and men more likely to be engaged in casual sexual encounters (Roberts et al, 2010)

Social network structure is not only important for the initiation of injecting but also does have an influence on the disease epidemiology (Rolls et al, 2013). Therefore it is important to have data about the social contact networks and injecting relationships of PWID. A study in Kyrgyzstan shows that most people, more than 80%, start initiating with the help of family or friends (Gray, 2008), yet it does not give more specific information about the sharing networks and injecting habits and culture of PWID in Kyrgyzstan.

Community health services

Police harassment at harm reduction service points is common in Kyrgyzstan, in particular at the services delivered by NGOs to PWID clients (Spicer et al, 2011a). Police behaviour makes access to services difficult for people who need it most. Clients are arrested at the health service points, bribes are demanded, and outreach workers are hindered in their work (Spicer et al, 2011a) Another barrier for accessing services in relation to police practices is the requirement for clients on OST, to carry a legal certificate that states that their methadone is supplied legally. If clients do not carry such a certificate they are often arrested by the police or required to pay bribes (Spicer et al, 2011a).

Bribes are not only demanded by the police; they are reported from health staff as well (Spicer et al, 2011a). Especially government services are mentioned as being discriminatory towards vulnerable groups such as PWIDs and PLWH. Incidents of unpleasant attitudes of staff and withholding of necessary services have been reported. For example, one report mentions that hospitalization for a client was refused because of his HIV positive status (Spicer et al, 2011a). Another barrier for accessing services is the lack of trust.

Confidentiality cannot be assured, specifically not at local government services (Spicer et al, 2011a). For this reason people are hesitant to access the services. There is also limited knowledge among the general population about HIV, in particular in rural areas. Potential clients know little about the available services, the eligibility criteria to access these services and the health risks they are exposed to because of injecting (Spicer et al, 2011a)

These barriers are both for PWID in their initiation period and longer term injectors. Literature does not distinguish between the two when describing access to community health services. Yet it is likely that these barriers effect short term users even more because of their inexperience and limited awareness of these problems. They have not yet been able to find a way around the barriers.

Police education

The Kyrgyz HIV response includes interventions that aim to harmonize police practices with public health programmes. In 2005, AIDS Foundation East West arranged a range of police trainings that were conducted across the country. For details on the content of the training see Figure 5. A survey that was carried out after the implementation shows that there is a significant association between training on the one side and serving in an urban setting, better HIV transmission knowledge, and support for the role of police to educate high risk groups on the other side. Police who had undergone the training show better knowledge of law and policies. Moreover, they were more likely to report interaction and familiarity with public health organizations, and more likely to agree that high-risk groups should be referred to harm reduction services and were more likely to indicate not to intent to confiscate injection equipment without legal cause. The intention to refer to health and social services for high at risk groups is much higher among police who are trained, yet data shows that in reality this referral is still happening in rare cases. There is no incentive for the police officer to do refer (Beletsky et al, 2013). Work place safety and job related stress in combination with information about at risk groups, shows to be the best combination and in that way police is interested to learn. Because it is also about the protection of their own health (Beletsky et al, 2013).

Components of Police training in Kyrgyzstan

- Basic public health information on HIV and STIs
- Law and institutional policy related to sex work and drug use
- Occupational safety precautions
- Contact information for local harm reduction programmes.

Figure 5. *Source: Beletsky et al 2013*

4.3 Economic environment

In this section the economic environment will be described, both on macro and micro level. This looks into the international and domestic funding for the HIV and AIDS programme and on micro level, looking into income generation activities and affordability of opiates.

4.3.1 Macro

Health and HIV funding

Kyrgyzstan is classified as transitional economy by the World Bank (Throne, 2010), with a gross national income of USD1200 per capita in 2013 (World Bank, no date). The economy was hit hard by the break-up of the Soviet Union and the infrastructure and social services have suffered from low investment (World Bank, no date). Since its independence Kyrgyzstan has been struggling with a shortage of funds for the health sector in general, and the HIV and AIDS programme in particular. The biggest concern has been the dependency on outside sources and lack of adequate domestic funding. Kyrgyzstan heavily depends on foreign assistance for its HIV programme, with the biggest donor being The Global Fund (Ancker et al, 2013). The challenges with international funding are the different donor requirements, harmonization of aid is not ideal, and funds are not stable nor predictable, as can be seen in Table 1 below. To build a consistent HIV and AIDS programme and to keep successes from the past are therefore challenging.

HIV/AIDS funds Kyrgyzstan in USD

Year	International funds			Total International	Domestic	Total funds
	Bilateral	UN agencies	Global Fund			
2010	319,578	1,753,560	5,836,715	7,909,853	1,407,901	9,317,754
2011	319,578	905,000	2,152,922	3,377,500	1,441,565	4,819,065
2012	0	1,371,130	6,759,253	8,130,383	3,886,526	12,016,909

Table 1 Source: UNAIDS report on global AIDS epidemic 2013

Fluctuations of funds are due to change in the principal recipient of Global Fund in 2011.

4.3.2 Micro

Income generation and employment

Scarcity of income and employment are defined as economic environmental factors influencing the individual and increasing the risks to HIV infection. In Kyrgyzstan this is particularly true when it comes to health risks in relation to migrant workers. Unemployment is high and many people search for jobs outside the country, mainly in Kazakhstan and Russia (Mogilevsky and Omorova, 2011; Asian Development Bank, 2008). Living standards, wages, employment, and market opportunities are higher in oil-rich Kazakhstan and Russia than in Kyrgyzstan (Asian Development Bank, 2008). But Russia is also the country with one of the world's fastest growing HIV epidemics driven by injecting drug users (Niccolai et al, 2010). A country in which the opposition to harm reduction programmes is high, in which the government refuses to allow methadone substitution to be offered to people who inject drug (Lancet, 2009) and in which key specialist in psychiatry and addiction deny the evidence of the positive effects of harm reduction interventions (Elovich and Drucker, 2008) The exact number of migrants is not known as many people work illegal and are not registered. Estimations differ from 250,000 to 500,000 (Asian Development Bank 2008; Renton et al, 2006; Atamanov and Berg van den, 2012; Thorne et al, 2010). NGOs estimate that this figure could even reach up to one million (Urmat et al, 2010). Seasonal and permanent migration are about equally important in the country, meaning that a significant number of people often travel back and forward to and from their home community (Atamanov and Berg van den, 2012). Kyrgyzstan also receives labour migrants from other countries, mainly from Tajikistan and Uzbekistan (Asian Development Bank, 2008).

Migration leading to an increase in risky behaviour and HIV transmission is a well-recognized phenomenon (Renton et al, 2006). Migrants are usually poor and they are separated from family and partners. These circumstances can lead to loneliness and stress. The majority of Kyrgyz migrants are extra-legal, and have poorer access to services. Coverage of HIV testing is likely to be very low for this group (Thorne et al, 2010). These factors makes the position of the Kyrgyz migrant worker vulnerable (Renton et al, 2006). Migration can also lead to new HIV epidemics, as HIV positive people migrate and can transmit the virus either from the receiving community to their home community or vice versa.

One can imagine that the environmental factors to which a migrant worker is exposed does not only increase the risk to HIV infection but also increases the chance that one starts injecting drugs. Yet, no study could be found that confirms this.

In the economic context related to income generation, there is a second group at risk; the female sex workers (FSW). International literature has shown that engagement in sex work increases the risk of initiation to injecting drug use. Specifically trading sex for food, shelter and other necessities was found to be an independent predictor of initiation to injecting drug use (Roberts et al, 2010). Vice versa; female PWIDs often engage in sex work to provide for themselves and their family. Although these studies are not specific for Kyrgyzstan, there are no reasons to argue that the situation of FSW in Kyrgyzstan does not cause increased risks to initiation and HIV infection.

A third group at risk, due to socio-economic circumstances, include children and youth from poor families in difficult circumstances. The risk is not only increased because of economic reasons but often a combination of factors (Barett et al, 2013). In the Eurasia region the mean age of initiation into injecting is the mid-teens and one-quarter of all people who inject drugs are under the age of 20 (Barett et al, 2013). One small scale study carried out in Bishkek and Osh in Kyrgyzstan reported that the age at which young people began to use drugs is between 8 – 14 years (Youth Rise, 2013) while a study in neighbouring Kazakhstan records age of initiation as low as five years old (Barett et al, 2013). Young people can start using drugs as a response to stress, but also children in poverty use drugs to overcome hunger (Barett et al, 2013)

Costs of opiates

The increase in the volume of drug production in Afghanistan has led to a fall in prices of opiates in Central Asia including Kyrgyzstan – making drugs more affordable for the general population (Beyrer et al, 2010; Ancker et al, 2013). Opiates are readily available and inexpensive in Kyrgyzstan. Heroin is about USD 2 – 6 per gram. Compared to USD 20 per gram in Kazakhstan, USD 40 per gram in Russia and USD 100 per gram in Armenia (Redmond and Spooner, 2007). The prices for Kyrgyzstan show that even in a country with a low Gross National Income per capita of USD 1200 in 2013 (World Bank, 2014) this is affordable to buy and try. Although there is no study that confirms this, one could imagine that even these low prices become expensive for people who depend on injecting drugs and need to buy it on a regular basis. This will cause financial problems and increases poverty. This can lead to risky behaviour such as engagement in commercial sex or criminal activities.

4.4 Political environment

This last section will describe the political environment on a macro level, describing the policy and laws in relation to drugs use and harm reduction and at micro level, looking into coverage of services and programme policies.

4.4.1 Macro

Policies and laws

Since independence, political will and leadership in the country has existed to adopt international best practices to address and halt the increase of HIV transmission. The extent to which this has been influenced by donor funding or comes from internal motivation is unclear. Kyrgyzstan has adopted policies and legal frameworks that are closer to international standards than those of the other Central Asia Republics. Kyrgyzstan is often seen as the best practice in the area (Ancker et al, 2013). The government has signed a number of international agreements on HIV/AIDS: *“the 2000 Millennium Development Goals, the 2001 United National General Assembly Special Session (UNGASS) Declaration of Commitment on HIV/AIDS and the 2005 Dublin Declaration on Partnership to fight HIV/AIDS in Europe and Central Asia; it has also committed to fulfil its obligations with regard to universal access to HIV treatment, prevention, care and support.”* (Ancker et al 2013; Bashmakova et al 2009) and has declared a commitment to evidence-based HIV prevention and drug control measures (Boltaeva et al, 2013).

Besides adjusting the policies to international standards, Kyrgyzstan also made some important changes to laws and regulations. Kyrgyzstan reversed the laws prohibiting homosexuality in 1997 and voluntary adult prostitution in 1998 (Ancker et al 2013). In 2007 the legislation on prosecuting drug possession and use was revoked and amendments in the law were made to allow Needle and Syringe Programmes (NSP) in prisons (Jürgens et al, 2009). The adjustments related to drugs possession are restricted to first time drug-offenders only. This was done to enable HIV-prevention activities among key populations at higher risk to be implemented freely. (UNODC 2009; Ancker et al, 2013). Whether this partial decriminalization leads to improved access to harm reduction services is questionable. People who possess more than one gram or are captured three times within one year are considered to have committed a criminal offence in Kyrgyzstan (Ancker et al, 2013). Drug users are dependent on narcotics and after the first offence they are often seized by the police repeatedly. After the amendments in the law, still 68% of all prosecuted drug-related crimes in Kyrgyzstan relate to acquisition or storage of narcotic drugs without the purpose of sale (UNODC, 2009; Boltaeva et al, 2013; Ancker et al, 2013). The Ministry of Interior, responsible for the police, does not recognize the problem of harassment and arresting of PWIDs (Spicer et al, 2011a), which makes it difficult to change the situation.

Furthermore, these laws and policies are not always implemented correctly – and there are no mechanisms in place to enforce the implementation at the local level (Ancker et al, 2013). These laws and daily practices result in the violation of civic and human rights of drug-dependent persons, including those in treatment. Human rights to '*non-discrimination and bodily integrity, the right to be free from violence, and the right to the highest attainable standard of health*' (Mollmann, 2004). Deprivation of human rights of PWIDs increases HIV risk and hamper utilization of harm reduction services (Boltaeva et al, 2013).

Street youth with low levels of formal education represent an important risk group for initiation of injecting and high risk behaviour. Kyrgyzstan has no legal age restriction for accessing OST or NSP programmes (Fletcher and Krug, 2012), but parental consent or consent of their official representatives is required for all medical procedures for minors (Youth Rise, no date). It is also required to register with the National Centre on Addictions before starting a methadone substitution therapy. Young people report that this registration will have a negative impact on future employment and can also be a reason for termination of parental rights (Youth Rise, no date). The points mentioned are important additional barriers for young people in accessing services and result in a potential gap between time of initiation and the age at which services are available (Fletcher and Krug, 2012). Despite the fact that youth represents a group with increased risks, there is no focus on youth-friendly harm reduction services in Kyrgyzstan, and no services exist for youth who use drugs but do not yet inject (Youth Rise, 2013).

4.4.2 Micro

Harm reduction is a drug strategy priority in Kyrgyzstan and implementation started in 2000 (EMCDDA, no date). It serves as an integral part of the national HIV and AIDS policy.

Harm reduction programmes refers to *policies, programmes and approaches that seek to reduce the harmful health, social and economic consequences associated with the use of psychoactive substances* (UNAIDS, 2011). It is a comprehensive package of evidence-informed programming for people who use drugs. Harm reduction by definition does include the prevention to injecting for people who use drugs but do not inject, but it does not include the prevention of initiation injecting drugs for those who do not use drugs. Therefore, harm reduction programmes partly address the prevention of initiation to injecting. Harm reduction programmes include the following components (UNAIDS, 2011): See Figure 6.

Comprehensive package includes:

1. Needle and syringe programmes (NSPs)
2. Opioid substitution therapy (OST) and other drug dependence treatment
3. HIV testing and counselling (T&C)
4. Antiretroviral therapy (ART)
5. Prevention and treatment of sexually transmitted infections (STIs)
6. Condom programmes for IDUs and their sexual partners
7. Targeted information, education and communication (IEC) for IDUs and their sexual partners
8. Vaccination, diagnosis and treatment of viral hepatitis
9. Prevention, diagnosis and treatment of tuberculosis (TB).

Figure 6: *World Health Organization 2009*

Needle – syringe programmes aim at increasing the availability of sterile injecting equipment in order to reduce transmission of blood-borne infections (UNAIDS, 2011). NSP have been operating in the two largest cities, Bishkek and Osh since 1999. NSP programs also operate in two other cities, Tokmok and Jalalabad. These programs started with the financial support of international donors (Wolfe, 2005). Shortly after that, in 2000, NSP programmes in prisons were established. In 2002, Kyrgyzstan took the lead as the first Central Asian country to implement OST. There are twenty OST sites supporting approximately 1,000 opioid dependent persons (Boltaeva et al, 2013). In 2003, drug- free rehabilitation centres for drug users have opened in Jalalabad, Osh, and Bishkek. These centres are connected with harm reduction services for the clients who relapse into drug use.

These initiatives have not achieved national coverage. In the year 2011 there was a change in the principal recipient of the Global Fund grant, resulting in problems with the continuity of funding. Supply of medical products and other necessities to health service points were interrupted. Some services report prescribing methadone doses below WHO recommendations due to limited funding (Stoicescu et al, 2012). The challenges in funding have affected the quality and coverage of harm reduction services negatively. In the beginning of 2011 the harm reduction programmes reached 10,908 clients, while at the end of the year this number had dropped to 7,749 (EMCDDA, no date). The number of PWIDs covered by preventive activities in 2011 was 10,908 people with men representing the majority of clients (82.2%) (EMCDDA, no date)

Coverage of PWIDs with low threshold services has reached 61%. This is done with outreach services and trust points (Thorne, 2010). The awareness of HIV services among PWIDs is 70%, higher than in the other countries in the region (Thorne, 2010). Yet challenges remain, there is a chronic shortage of equipment and inadequate supplies at the service points (Thorne, 2010). Implementation of the programmes continues to be vertical with weak interlinks and limited referrals (Thorne, 2010). Mandatory testing continues, specifically among sex workers and prisoners, violating their human rights to

non-discrimination and bodily integrity and the right to be free from violence. Besides that, data from November 2012 show the OST programme reaches only 950 people who use drugs, only a small percentage of the total number of people who use drugs. Adherence is a point of attention as 70% leaves the OST programme, due to regular police raids on distribution sites, poor medical infrastructure and lack of qualified health staff (AIDS foundation East West, 2013).

Other challenges related to the coverage of services are the restricted enrolment criteria for OST (Boltaeva et al, 2013) and spatial inequalities. The uneven distribution of both government and NGO-run HIV/AIDS services leave people uncovered. There are limited services outside larger towns/cities, but also an uneven distribution within the larger cities (Spicer et al, 2011a). Poor public transport makes it often easier and cheaper to buy syringes from local retailers than to travel to a service point where syringes are delivered for free (Spicer et al, 2011a). NGOs run outreach programmes to address this problem, but this only partly solves the underlying issue.

With respect to HIV counselling and testing (HCT) and antiretroviral therapy (ART) services the situation is similar. ART is available in Kyrgyzstan without formal restrictions to access for PWIDs. Yet it is estimated that a small fraction of HIV-positive PWIDs receive ART (Boltaeva et al, 2013). Even in instances where PWIDs receive both OST and ART, these therapies are poorly integrated (Boltaeva et al, 2013).

PWID participate, to a certain extent, in programme management, such as decision making and implementation (Spicer et al, 2011a). Data about youth, is very limited but what is available indicates that only older, well established PWID participate and that young people who use drugs tend to be excluded (Youth Rise, no date).

When it comes to programme policies, NGOs are being seen as more accessible than governmental services. NGOs have an absence of bureaucracy while government HIV services have substantial organizational and bureaucratic barriers for users (Spicer et al, 2011a). Information provision for clients on procedures for using services varies between different providers, making services unpredictable. Also referrals, which are essential for a good delivery of care specifically in a vertical organized health system, are not formalized and inconsistently applied (Spicer et al, 2011a). This results in clients not receiving the health care services they need.

5. Prevention interventions

The following chapter will describe interventions that aim to prevent initiation of injecting drugs. It describes the internationally effective strategies in preventing initiation and it includes an innovative programme implemented in Kyrgyzstan.

There are several studies published that describe the motives to initiate into injecting, the life circumstances contributing to the initiation, the type of drugs most commonly used and the way it is administered. Yet there are internationally very limited studies that evaluate the effect, sustainability and impact of strategies, policies and interventions that aim to prevent the initiation to injecting.

Life skills programme

Prevention education for youth mainly focusses on the change in behaviour of the individual, and to a less extent to change factors in the environment that influence the young people. In Kyrgyzstan the responsibility for the development and implementation of the life skills programme falls under the responsibility of the Ministry of Education and Science, the Ministry of Health and the Ministry of Youth. In recent years a diverse pallet of activities focusing on developing life skills was implemented in high schools and secondary education institutes. To name some of the activities: the Ministry of Education implemented a curriculum for students aged 12-14, specifically focusing on the prevention of drug use, called *Your Choice*. Your Choice is a programme based on the development of life skills and social impacts. In 2011, mass events were organized to raise awareness among youth about the negative consequences of drugs use. Training for teachers was organized on maintaining a healthy life style for adolescents and young adults and also in 2011 a month-long programme of events was arranged around the International Day against Drug Abuse and Illegal Trafficking (EMCDDDA, 2014)

Despite of the diverse range of activities, Kyrgyzstan does not provide data on their life-skills based HIV education programme nor on the coverage (UNGASS Reporting, 2010; Clarke and Aggleton, 2012). In the Global Fund programmes from before 2009 indicators on lifestyle and education programmes in schools are included but the more recent programmes do not have any indicator relating to young people receiving life skills education. Data that exist are at the output level; measuring the percentage of schools with educational courses on "healthy lifestyle", 98% in 2009 (Global Fund, 2011a) or number of young people receiving HIV education in schools. It does not measure the effect or impact of the education on the behaviour of the youth. Because of the lack of data it is not possible to say whether the interventions are effective and whether or not they have a measureable impact on society.

A more innovative response that is implemented in Kyrgyzstan and does target the environment is the programme *Break the cycle* which tries to prevent initiation of injecting.

Break the cycle

Break the cycle is a programme originated from the UK and now being implemented in Kyrgyzstan and Uzbekistan. It is a programme supported by USAID and implemented by a global health organization called Population Services International. The programme is based on peer based modification and aims to “*address social problems among vulnerable populations involved in or at risk of involvement in drug use in Central Asia.*” (Alexandrov, 2007). The model is designed to help prevent injecting drug users from initiating young people into injecting drug use. It works with active injecting drug users to discourage them from initiating others into injecting. More details about the project can be found in figure 7. The results that are measured by the M&E system of the programme are promising. From 2006 (N=440) to 2008 (N=856), the percentage of PWIDs assisting with first injection dropped 14% in Uzbekistan and 9% in Kyrgyzstan. The estimated number of new PWIDs for both countries dropped by 55% (Gray, 2008).

Break the Cycle Project Details

- Educate youth about risk of initiating injecting drug use
- Involves current IDUs in program design and trainings
- Supports IDUs to reduce behaviours that lead to non-IDUs start injecting
- Utilizes existing harm reduction infrastructure
- Delivers interventions through rehabs and needle syringe programs
- Involves existing outreach workers (mostly drug users) in project implementation
- Integrates program into other harm reduction topics covered by peer educators
- Provides other health services to drug users (overdose prevention, drug treatment, and voluntary counselling and testing).

Figure 7. Source: Alexandrov T. 2007

The limited available international scientific literature describe four different types of interventions that prevent initiation, namely: Peer based behaviour modification, treatment based interventions on the prevention of injecting initiation, drug law enforcement and social marketing. From these four; peer based behaviour modification and treatment are identified as being the most effective interventions (Werb et al, March 2013). The *Break the Cycle* programme is an example of peer based behaviour modification. Treatment based interventions also show to be effective. Access to treatment for drug users who are not yet injecting. Researchers found that there is an association

with access to treatment and initiation of injecting. Access to treatment for non-injectors will increase the length of time that people will avoid injecting (Werb et al, March 2013). There is not sufficient information available about the effect of social marketing on prevention of initiation injecting drugs. Drug law enforcement as an intervention to prevent initiation of injecting does not show any effect in any of the researches that are included. However, there is a significant association reported with increase of HIV prevalence among PWIDs and drug law enforcement – suggesting that the vulnerability of PWIDs increases when legal repressive measures are implemented (Werb et al, March 2013).

6. Discussion

The findings of this study have given rise to useful insights related to environmental risk factors for potential PWIDs or PWIDs in Kyrgyzstan. The study has identified several environmental risk factors at micro and macro level that facilitate initiation of injecting, and factors that affect the vulnerability to HIV of PWID. Probably none of these factors, on their own, will lead to initiation of injecting nor to infection with HIV; however a sum of these factors and the complex interaction between them, in combination with the internal motivation and the character of the person, will increase the risk for the individual person.

Initiation of drug use

There is an interdependency of environmental factors, illustrating that these elements of the framework do not stand on their own. Rather, it is a complex set of different factors, both from the environment as well as from the individual that do lead to the initiation of injecting drugs use. In Kyrgyzstan, the availability and affordability of opiates in combination with the exposure to and acceptability of injecting leads to an environment with increased risk of initiation. Reasons for initiation of injecting differ between men and women. Women more often report starting for social reasons, mostly influenced by their sexual partner who is already injecting (Roberts et al, 2010). In general increased risk of initiation is in particular present for FSW. Being involved in commercial sex has been identified as an independent risk factor for initiation of injecting drug use (Roberts et al, 2010). Conversely, injecting drugs can increase the risk of getting involved in commercial sex. Risk for initiation is also increased for children and youth who are often street involved, poor and outside the formal educational system. Young people who live in poverty and difficult circumstances are exposed to environmental factors such as sexual abuse, poverty and street life which increase stress. Drugs can be used as a response to the stresses from the environment and to suppress hunger (Barett et al, 2013). Added to that is that the ability to respond to the situation is often much more limited for young people and their dependency on

others is higher. This increases their vulnerability to a more serious level than that of the long term injectors. This is an important risk group, yet there is only limited data available. Children under 14 are not included in the surveillance data and the data about 14-65 does not have age disaggregated information. Besides the lack of data, there are also no youth focussed harm reduction services and access is only possible with parental consent.

The environmental factors that increase the risk of initiation are to a greater extent present in prisons. The exposure to PWID is significantly higher than among the general population, people live with many together on a small surface and 19% of prisoners uses drugs, which is mostly administered by injection (Ancker et al, 2013; Thorne et al, 2010). Prisoners are without family and are at a place against their choice and without freedom, these factors increases stress which can be a cause for drugs use. Yet, there is no research done in Kyrgyzstan on the risks of initiation of injecting drugs in prisons and no information available about interventions in prisons that aim to prevent initiation of injection. Harm reduction programmes are introduced in prisons but services are unevenly distributed.

Another, relatively small, group at higher risk in Kyrgyzstan are former PWIDs who work in outreach programmes. Again the environmental factor is the network in which people live and the contacts people have.

Curiosity is a driver to start initiation that does not come from the environment but from the internal person. Yet it is an important factor, as already identified by Strathee (Strathee, 2010) people have different personalities and will take different decisions in similar environments.

At a political level there is limited attention for prevention of initiation, only legal repression and a policy of fear is being used. Yet these interventions have never proven to be effective on reduction of the initiation of injecting drugs. Contrary these laws and policies are harmful when it comes to access to services and increase the risk of risky behaviour, and therefore the risk of transmission of blood-borne diseases such as HIV.

Vulnerability to HIV

The vulnerability of PWIDs to HIV is higher than for people who do not inject drugs. During the initiation period the risk for HIV infection is the highest. This is due to the limited awareness of available health services, such as needle and exchange programmes; limited awareness of high risks involved when injecting, resulting in high risk behaviour and because people who initiate injecting are often young; inexperienced, dependent and being helped by others when injecting for the first time. This increases the risk of infections as needles are often not changed or sterilized, and drugs are drawn from common containers. The new initiated drug user is often the last in line to receive an injection.

Shame and stigma are also reasons for people not to go and access health services. Trying to hide the injecting behaviour can lead to injecting in unsafe places with suboptimal injecting equipment. A difference in vulnerability of PWID to HIV has been identified between different age groups, ethnic groups and between men and women, - with young people, ethnic minority groups and women being more vulnerable to HIV infection. The vulnerability to HIV is also higher during the initiation period but there are no programmes focussing on HIV prevention for people who recently started injecting.

Access to harm reduction services

In many settings, PWIDs are often treated as a homogeneous group in the design and implementation of HIV prevention programs and messages. Yet, in reality they are not a homogenous group. There is a difference in the needs of male and female PWID, between short term and long term injectors. There are ethnic, cultural and language difference and possibly more specific needs that are not included in this study.

There is a diverse set of harm reduction services available in Kyrgyzstan. When looking to the comprehensive package, Kyrgyzstan has all required services available somewhere in the country. Despite this, most of the people in need still do not access these services. Coverage is insufficient and worsened after changing the principal recipient of Global Fund. However the latter is most likely a temporarily challenge. Reasons for low utilization can be that potential clients are not aware of the services, the awareness of HIV services among PWIDs is 70% (Throne, 2010). Although this is higher than in the surrounding countries, it still means that 30% of the PWID are not aware of the existence of these services, added to that the people who do not yet inject but are at risk of initiation. There are serious barriers for accessing services identified in all four aspects of the environment that are analysed. The quality of the services is an important issue; health staff do not protect the confidentiality of information, resulting in lack of trust among clients. In addition, discrimination and bribing by health staff has been reported. Moreover, the referral system is insufficiently in place and information given by different health service points are inconsistent. Finally, the bureaucracy and restricted and complicated enrolment criteria for OST discourage service utilization. Shame and stigma, ethnicity and language differences have also been identified as barriers in accessing services as well as police harassment and bribing of clients at service points. Further, the services are unevenly distributed. Specifically for people who live in rural areas it is difficult and expensive to access the services due to travel costs. Educating police on policy and legal aspects of drugs and harm reduction in order to increase the harmonization between legal en health institutes, is an innovative and effective approach that has been implemented in Kyrgyzstan to address the problem of police harassment. Results show a positive outcome with respect to increased knowledge and changed attitude of police but referral to health and social services is still happening only in rare cases. Training in itself shows not to be enough to change police behaviour. Other incentives are needed.

For prison settings the situation is different. There is limited or no treatment for co-infections available in prisons, ART is insufficiently available and NSP and OST are unevenly distributed among the prisons, with OST being available only in male prisons.

Possible reasons for the challenges with the implementation of the policies are the shortage of funds and the division of responsibilities. The Ministry of Health is responsible for the harm reduction programme and the Ministry of Interior for drugs criminalization. Three ministries are currently responsible for the life skills programme - in combination with international organizations.

Prevention interventions

There is very limited information available about prevention interventions that aim to prevent initiation of injecting drugs. In Kyrgyzstan the harm reduction programme is for all drugs users, therefore also for those who recently started injecting. The programme does play a role in the prevention of injecting for those who use drugs but do not inject. Yet the main purpose of the programme is to reduce the harm associated with drugs use, and not to prevent initiation of injecting drugs. The life skills programme, aiming to prevent young people from initiation into injecting and to support a healthy lifestyle, is another intervention that aims to prevent initiation and encourages a healthy life style for youth. Yet, there is no reporting data available on the effect of the programme. Besides that, most of the life skills training is focussed on youth in schools, while the most at risk group is out of school youth.

The harm reduction programme in prisons is aiming to reduce the harm of injecting. There is no data available about difference between short term and long term injectors, nor about any activities aiming to prevent initiation in prisons.

In Kyrgyzstan there are some initiatives by non-governmental organisations that specifically aim to prevent initiation. An example of an intervention that is based on strategies that are internationally proven to be effective is the project *Break the Cycle*, which uses peer based behaviour modification. Peer-based behaviour modification in combination with treatment for drugs users who do not yet inject, has internationally proven to be the most effective strategy in preventing initiation.

Feedback on the framework

The framework used in this study from Rhodes, and complemented by Strathdee, was useful for the analysis of the environment. It was specifically useful for the assessment of the influence of the environment on the individual to start initiating injecting drugs and the vulnerability to HIV. Strathdee has adjusted the framework of Rhodes. In the adjusted version, the relation between the environmental factors and the endogenous factors inside the individual is visualized. Yet the framework does not describe nor visualize the inter-linkages of the different environmental factors. The existing framework works as if the four environmental areas for analysis; physical, political, social and economic, stand on its own. Yet they are clearly linked. If one factor changes it is likely that a domino of changes will happen. For example, if the labour market in Kyrgyzstan improves, salaries increase, and unemployment decreases. These are all economic factors. This will have an effect on the migration of people, the area where people live and work, which is a physical factor. Similarly for changes at the political level, changes in drug laws and criminalization will carry longer-term effects on the way people look to PWIDs and could, together with other measures, reduce stigma. It will also change the situation in prisons, with less people being arrested for drugs use, leading to less PWIDs in prisons. Changes in laws and the implementation of these laws – such as stricter border control - will have an effect on the drugs trafficking (physical). Moreover, this type of stronger control will have an effect on the price of drugs (economic). This shows that none of these factors that were analysed stand on their own. All four areas more or less affect and or overlap with one another.

Limitations

Most of the literature on PWID in Kyrgyzstan does not distinguish between men and women, short term and long term injectors, and not between children, youth and adults when discussing prevalence, needs, risks and outcomes of injection. Some literature states that youth have higher risks of initiation and that female PWIDs have higher risks to HIV infection and other infections (Roberts et al, 2010), and have different needs when it comes to treatment. Research about the initiation of injecting in prisons is also missing.

There are no studies available that evaluate the effect and impact of the interventions implemented in Kyrgyzstan that aim to reduce initiation of injecting. The only information available is from the M&E systems of the NGO's that implement these programmes. Also data on the effect of the life skills programme is missing. Internationally the information is also limited with one systematic review from 2013 analysing eight studies on initiation of injecting drugs, including a study from 2008 in Central Asia. The data is useful but is mostly not context specific for Kyrgyzstan, and not sufficient to build national policies and strategies on.

7. Conclusion and Recommendations

7.1 Conclusion

A combination of the identified environmental factors and the complex interaction between these in combination with the internal motivation and the character of the person will increase the risk for the individual person. Environmental factors identified influencing the initiation are, the availability and affordability of opiates in combination with exposure to and acceptability of injecting. Particular at risk for initiation and high risk behaviour in Kyrgyzstan are children and youth; specifically those who are outside the educational system, are street involved, live in poverty and are exposed to PWID. Their dependency on others increases their vulnerability to HIV. Vulnerability to HIV is also increased for those who work as migrant workers, CSW and for inmates. At political level there is limited attention for - and there are hardly any interventions focussing on prevention of initiation. Two innovative interventions implemented in Kyrgyzstan which show positive results are one that aims to prevent initiation, while the second aims to harmonize police and health workers in order to increase access to health services. International interventions to prevent initiation can be categorized into four strategies; criminalization, peer-based behaviour modification, social marketing and treatment. Criminalization has not proven to be effective. Drugs treatment, in combination with peer based behaviour modification strategies are most effective.

Despite of the diverse set of harm reduction services available in Kyrgyzstan, there are several barriers identified hindering the access to services. One is the uneven geographical distribution of services. Another is the poor quality of the services caused by, among others; the vertical health system with an ineffective referral system, the overload of bureaucracy, the lack of skills and discriminative attitude of health workers. Moreover, legal measures and police harassment to potential clients make it difficult to access. Coordination of the different aspects of the harm reduction programme in Kyrgyzstan is in the hand of several ministries which makes coordination difficult. From policy level, PWIDs are often treated as a homogeneous group, while they are not.

7.2 Recommendations

For the Ministry of Health in collaboration with the Ministry of Youth, the Ministry of Education and Science and the Ministry of Interior.

Around initiation

- Introduce a holistic approach towards children and youth at risk of initiation. Not only focussing on the harms associated with injecting but taking into account the complete socio-economic environment. This includes but is not limited to: targeted prevention services for youth outside the educational system and for those who are street involved and the introduction of youth-focussed harm reduction services.
- Scale up existing programmes which are effective and introduce new programmes that aim to prevent initiation. For these programmes use strategies that internationally have proven to be effective, peer-based behaviour modification in combination with treatment.

Around access to harm reduction services

- Increase coverage and reduce spatial inequalities by expanding services to unmet areas and introduce services for specific population groups based on ethnicity, sex and age.
- Improve the quality of the harm reduction services by: i) introducing capacity building for health staff; ii) improving the referral system; and iii) reducing the bureaucracy. In order to be able to implement this effectively one might consider to put the harm reduction programme and prevention programmes fully under the responsibility of one ministry, the Ministry of Health rather than dividing it over several ministries as currently is done.
- Upscale existing interventions which are effective and aim to harmonize cooperation between health workers and police. Expand the training for police to other areas of the country and introduce incentives for police to refer potential clients to harm reduction services.
- Improve data collection: introduce disaggregated data on age, sex and injecting history (date of first injection) of a client, in the reporting system.

Around research/data gaps

- Evaluate the effect and impact of strategies and interventions that aim to prevent initiation of injecting drugs.
- Analyse the relative risk of inmates for initiation compared to non-prisoners and identify; the factors that influence the risk of initiation, and the vulnerability to HIV for inmates with short term injecting history.

The framework: The environmental areas described in the framework of Rhodes are linked. Therefore the framework is adjusted so these linkages are visualised. It is recommended to use the adjusted framework when analysing the environment.

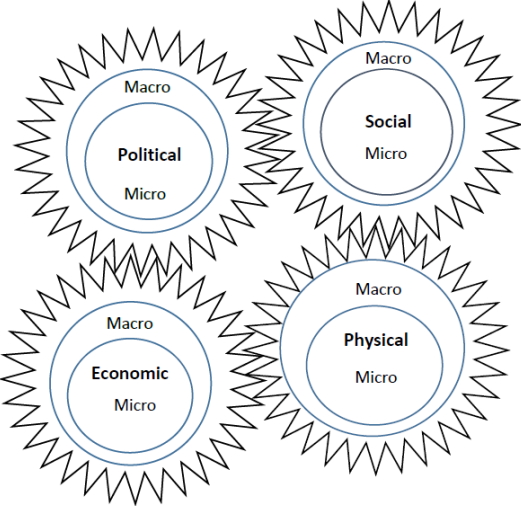


Figure 8. Adjusted framework of Rhodes

References

- Aids Foundation East West (April, 2013), Kyrgyzstan. [online] Available from: <http://www.afew.org/about-afew/where-we-work/kyrgyzstan> [Accessed 8th July 2014]
- Alexandrov T (2007), *Break the Cycle*, USAID funded drugs demand reduction program in Uzbekistan, Tajikistan and the Ferghana valley region of Kyrgyzstan, Iskander Print House 103 Furmanov Street, Almaty, Kazakhstan 21.08.2007. 2007 Alliance for Open Society International
- Ancker S, Rechel B, McKee M, Spicer N (2013), *Kyrgyzstan: still a regional 'pioneer' in HIV/AIDS or living on its reputation?*, Central Asian Survey, 32:1, 66-84. Routledge, Taylor and Francis group
- Asian Development Bank (Dec 2008), A Study on International Migrants' Remittances in Central Asia and South Caucasus, *Remittances of International Migrants and the Financial Sector in the Kyrgyz Republic*.
- Atamanov A and Berg van den M (2012), *International labour migration and local rural activities in the Kyrgyz Republic: determinants and trade-offs*, Central Asian Survey, 31:2, 119-136, DOI: 10.1080/02634937.2012.671992
- Barrett D, Hunt N, Stoicescu C (2013) *Injecting Drug Use Among Under-18s, A Snapshot of Available Data*, Harm Reduction International, December 2013
- Bashmakova L, Kuvatova J, *Kyrgyzstan (no date); protecting the privacy and dignity of people living with HIV and AIDS*, UNDP [online] Available from: http://www.undp.org/content/undp/en/home/ourwork/hiv-aids/Projects-initiatives/Kyrgyzstan_protecting_the_privacy_and_dignity_of_people_living_with_HIV_and_AI_DS/ [Accessed on 24th September 2013]
- Beletsky L, Tomas R, Shumskaya N, Artamonova I, Smelyanskaya M (2013), *Police education as a component of national HIV response: Lessons from Kyrgyzstan*, Drug and Alcohol Dependence 132S (2103) S48-S52, Elsevier July 2013
- Beyrer C, Malinowska-Sempruch K, Kamarulzaman A, Kazatchkine M, Sidibe M, Strathdee SA (2010), *Time to act: a call for comprehensive responses to HIV in people who use drugs*, Lancet 2010; 376: 551-63
- Boltaeva A, El-Basselb N, Deryabinaa AP, Terlikbaevab A, Gilbertb L, Huntb T, Primbetovab D, Strathdee SA (2013), *Scaling up HIV prevention efforts targeting people who inject drugs in Central Asia*, Drug and Alcohol Dependence 132S (2013) S41- S47
- Clarke D.J. and Aggleton P (2012), *Life Skills-Based HIV Education and Education for All*, United Nations Educational Scientific and Cultural Organisation, UNESCO April 2012

Collins K (2011), *Kyrgyzstan's latest revolution*, Journal of Democracy, Volume 22, Number 3, July 2011, pp. 150-164, Published by The Johns Hopkins University Press

Country progress report 2010, Страновой отчет о достигнутом прогрессе в осуществлении глобальных мер в ответ на ВИЧ – инфекцию в 2014 году [Кыргызская республика], UNAIDS, Bishkek Maart 2014

DesJarlais D.C, Pinkerton S, Hagan H, Guardino V, Feelemyer J, Cooper H, Hatzakis A, Uuskula A (2013), Review article: *30 Years on Selected Issues in the Prevention of HIV among Persons Who Inject Drugs*, Hindawi Publishing Corporation Advances in Preventive Medicine Volume 2013, ArticleID346372

Elovich R. and Drucker E. (2008), *On drug treatment and social control: Russian narcology's great leap backwards*, Harm Reduction Journal 2008, 5:23

European Monitoring Centre for Drugs and Drugs Addiction (EMCDDA) (no date), *Country overview: Kyrgyzstan* accessed [online] available from <http://www.emcdda.europa.eu/publications/country-overviews/kg> [accessed 26th of June 2014]

Fletcher A and Krug A (2012) *Excluding Youth? A global review of harm reduction services for young people*. The Global State of Harm reduction 2012, towards an integrated response, Chapter 3.2. Harm Reduction International

Global Fund (2014), KGZ-H-UNDP, *promoting accessibility and quality of prevention, treatment, detection and care services for HIV among the most vulnerable population in the Kyrgyz Republic*, Global Fund Grant Performance Report Round 10, External Print Version. Last Updated: 06 June 2014 (principal recipient UNDP)

Global Fund (2011a), KGZ-202-G01-H-00, *Improvement of the quality of life of People Living with HIV and AIDS and reduction of HIV infections*, Global Fund Grant Performance Report round 2, external print versions. Last updated: 13 July 2011 (principal recipient: National Aids Center, Kyrgyzstan)

Global Fund (2011b), KGZ-708-G05-H 2011, *Increasing universal access to prevention, detection, treatment, care and support for key population groups in the Kyrgyz Republic*, Global Fund Grant Performance Report round 7, external print version. Last Updated on: 30 May 2011 (principal recipient: National AIDS Center, Kyrgyzstan)

Golden RE, Collins CB, Cunningham SD, (2013) *Overview of structural interventions to Decrease Injecting Drug-use risk*, Best Evidence Structural Interventions for HIV Prevention, Springer Science+Business Media New York 2013

Gray R (2008), Preventing IDU initiation among drug-curious youth: *An attempt to measurably reduce IDU initiation among youth in Central Asia*, IHRA's 19th Conference Barcelona, Spain

Jürgens R, Ball A, Verster A (2009), *Interventions to reduce HIV transmission related to injecting drug use in prison*, *Lancet Infect Dis* 2009; 9: 57–66

Kissin D.M, Zapata L, Yorick R, Vinogradova E.N, Volkova G.V, Cherkassova E, Lynch A, Leigh J, Jamieson D.J, Marchbanks P.A, Hillis S (2007) *HIV seroprevalence in street youth, St Petersburg, Russia*, *AIDS* 21(17): 2333–40, November 2007

The Lancet (2009), *The future of harm reduction programmes in Russia*, Vol 374 (9697), October 10, 2009

Latypov A (2009), *Policy analysis Opioid substitution therapy in Tajikistan: Another perpetual pilot?* *International Journal of Drug Policy* 21 (2010) 407–410

Mathers B, Degenhardt L and Sabin M, March (2011) "*We can protect drug users from becoming infected with HIV*" Context and progress of the global response to HIV among people who inject drugs. UNSW (University of New South Wales, Sydney, Australia), Burnet Institute

Mogilevsky R and Omorova A 2011, Country study, *Assessing development strategies to Achieve the MDGs in the Kyrgyz Republic*, Center for Social and Economic Research, Kyrgyzstan, (CASE – Kyrgyzstan), United Nations Department for Social and Economic affairs.

Mollmann M 2004, *HIV/AIDS test?* Human Rights Watch, May 2004

Nashkoev M, Sergeyev B. AIDS in the Commonwealth of Independent States, 2008 MAP report. Geneva: Monitoring the AIDS Pandemic (MAP), 2008.

Niccolai L.M, Verevochkin S. V, Toussova O.V, White E, Barbour R, Kozlov A.P, Heimer R (2010), *Estimates of HIV incidence among drug users in St. Petersburg, Russia: continued growth of a rapidly expanding epidemic*, *European Journal of Public Health*, August 2010 Vol. 21, No. 5, 613–619

Pinkham S, Stoicescu C ,Myers B (2012), Review article: *Developing Effective Health Interventions for Women Who Inject Drugs: Key Areas and Recommendations for Program Development and Policy*, Hindawi Publishing Corporation *Advances in Preventive Medicine* Volume 2012, Article ID 269123, 10 pages doi:10.1155/2012/269123

Rechel B, Bayard Roberts, Erica Richardson, Sergey Shishkin, Vladimir M Shkolnikov, David A Leon, Martin Bobak, Marina Karanikolos 2013. *Health and health systems in the Commonwealth of Independent States*. *Lancet*

- Redmond G, Spooner C (2007), *Alcohol and other drugs related deaths among young people in CIS countries: Proximal and distal causes and implications for policy*. Social policy research centre, University of New South Wales, Australia. *International journal of Drugs policy* 20 (2009) 38-47
- Renton A, Gzirishvili D, Gotsadze G, Godinho J (2006) *Epidemics of HIV and sexually transmitted infections in Central Asia. Trends, drivers and priorities for control*. *International Journal of Drug Policy* 17 (2006) 292-503
- Rhodes T (2002), *The 'risk environment': a framework for understanding and reducing drug-related harm, Commentary*, The Centre for Research on Drugs and Health Behaviour, Imperial College, University of London, UK. Elsevier and the *International Journal of Drug Policy* 13 (2002) 85-94
- Roberts A, Mathers B, Degenhardt L (2010), *Women who inject drugs: A review of their risks, experiences and needs*, Reference Group to the United Nations on HIV and Injecting Drug Use, Sydney, Australia
- Rolls D.A, Wang P, Jenkinson R, Pattison P.E, Robins G.L, Sacks-Davis R, Daraganova G, Hellard M. McBryde E (2013), *Modelling a disease-relevant contact network of people who inject drugs*. Elsevier, *Social Networks* 35 (2013) 699-710
- Spicer N, Aleshkina J, Biesma R, Brugha R, Caceres C, Chilundo B, Chkhatarashvili K, Harmer A, Mieke P, Murzalieva G, Ndubani P, Rukhadze N, Semigina T, Walsh A, Walt G, Zhang X (2010), *National and subnational HIV/AIDS coordination: are global health initiatives closing the gap between intent and practice?* *Globalization and Health* 2010, 6:3
- Spicer N, Bogdan D, Brugha R, Harmer A, Murzalieva G, Smigina T (2011a). *It's risky to walk in the city with syringe*. Faculty of Public Health and Policy, London School of Hygiene and Tropical, BioMedCentral
- Spicer N, Harmer A, Aleshkina J, Bogdan D, Chkhatarashvili K, Murzalieva G, Rukhadze N, Samiev A, Walt G October (2011b), *Circus monkeys or change agents? Civil society advocacy for HIV/AIDS in adverse policy environments*. Elsevier, *Social Science & Medicine* 73 (2011) 1748-1755
- Stachowiak J. A, Tishkova F.K, Strathdee S.A, Stibich M.A, Latypov A, Mogilnii V, Beyrer C (2004) *Marked ethnic differences in HIV prevalence and risk behaviors among injection drug users in Dushanbe, Tajikistan, 2004* *Drug and Alcohol Dependence* 82 Suppl. 1 (2006) S7-S14
- Strathdee S.A, Hallett T.B, Bobrova N, Rhodes T, Booth R, Abdool R, Hankins (2010) *HIV and risk environment for injecting drug users: the past, present, and future*, *Lancet* 2010, 376: 9737: 268-84

Stoicescu C, Cullen L, Toska E, Cook E and Abrickaja L, Harm Reduction International (2012), *The Global State of Harm reduction 2012, towards and integrated response, section 2.2 Eurasia*.

Thorne C, Ferencic N, Malyuta R, Mimica J, Niemiec T (2010) *Central Asia: hotspot in the worldwide HIV epidemic*. *Lancet infect Dis* 2010; 10: 479-88

UN, *The Universal Declaration of Human rights*, 10 December 1948

UNAIDS (2013), *UNAIDS report on the global AIDS epidemic 2013*

UNODC (2013), *World Drugs Report 2013*

UNAIDS (2011), *Terminology guidelines, revised version October 2011*

UNODC (2014a), *World Drugs Report 2014*

UNODC (2014b), *UNODC and Kyrgyzstan strengthen their cooperation against illicit drugs and crime. Accessed on internet on 05-07-2014*

<http://www.unodc.org/unodc/en/frontpage/2014/June/unodc-and-kyrgyzstan-strengthen-their-cooperation-against-illicit-drugs-and-crime.html?ref=fs5>

UNODC (2008) *Illicit Drug trends in Central Asia*, April 2008

UNODC (no date), *Kyrgyzstan country statistics*.

Urmat M. Tynaliev and Gary N. McLean (2010), *Labour migration and National Human Resource Development in the context of post-Soviet Kyrgyzstan*, *Human Resource Development International* Vol. 14, No. 2, April 2011, 199–215

Werb D, Buxton J, Shoveller J, Richardson C, Rowell G, Wood E (March 2013), *Interventions to prevent the initiation of injecting drug use: A systematic review*. *Elsevier, Drug and Alcohol Dependence* 133 (2013) 669– 676

Werb D Oct (2013), *Injection career trajectories among illicit drug users in Vancouver, Canada, systematic review*, University of British Columbia, Vancouver.

WHO, UNODC, UNAIDS (2009), *Technical Guide for countries to set targets for universal access to HIV prevention, treatment and care for injecting drug users*, World Health Organization 2009

Wolfe D (2005), *Pointing the Way: Harm Reduction in Kyrgyz Republic*, Harm Reduction Association of Kyrgyzstan "Partners' network", Center for History and Ethics of Public Health Columbia University New York, NY USA

Wolfe D, Carrieri P, Shepard D (2010), *Treatment and care for injecting drug users with HIV infection: a review of barriers and ways forward*, Lancet 2010; 376: 355–66

World Bank [no date, online], available from: <http://data.worldbank.org/indicator/NY.GNP.PCAP.CD/countries/KG-7E-XM?display=graph> [accessed on 30-07-2014]

Youth Rise, for reducing drugs related harm [no date, online], available from: <http://www.youthrise.org/blog/youth-rises-iwg-renata-speech-unaided-pcb> [accessed on 16-07-2014]

Youth Rise, for reducing drugs related harm (2013). *Impacts of Drug Policy on Young People Who Use Drugs in Kyrgyzstan*. Posten on 5-4-2013

Zurhold H, Stöver H (2013), *Evidence of effectiveness of harm reduction measures in prisons*, Systematic review, European Union Drug Prevention and Information Programme

Annexes

Annex 1: A simple model of risk environment, Rhodes 2002

	Micro environment	Macro environment
Physical		
Social		
Economic		
Political		