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Prison-based needle and syringe programmes (PNSP) – Still highly controversial after all these years

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Abstract

Aims: In most countries, the spread of HIV and hepatitis C in prisons is clearly driven by injecting drug use with many infected prisoners who are unaware of their infection status. Despite many studies confirming the facts about risk behaviour and the prison setting as a risk environment for maintaining or taking up of risk behaviour, little progress has been made around effective and efficient infectious prophylaxis by means of prison-based needle and syringe programs and associated education. The aim of this contribution is to study why effective and efficient prevention models applied in the community (like PNSP) are very rarely implemented in prison settings. **Findings:** Only approximately 60 out of more than 10,000 prisons worldwide provide needle exchange in prisons. A United Nations Office on Drugs and Crime (UNODC) handbook on the implementation of prison-based needle exchange has been elaborated to better inform and guide officials in the Ministries of Justice, Health and people in charge of healthcare in prisons. It integrates the views and experiences of many experts throughout the world. **Conclusions:** The key problem apart from political problems in implementing prison-based needle and syringe programmes (PNSP) remains the lack of guarantee of confidentiality to prisoners. This is hindering prisoners from participating in the programmes continuously. The second problem is that HIV/AIDS and opioid consumption are no longer the key drivers of the debate around drugs and infectious diseases in prisons, but instead new psychoactive substances (NPS) and steroids have become issues. In many countries, the HIV rate among drug using prisoners is lower compared 20 years ago (e.g. Western Europe). While hepatitis C is by far the most prevalent infectious disease, it has been neglected by policy makers. It has been difficult to develop momentum to legitimise concerted action to prevent the spread of infectious diseases. The handbook of the UNODC aims to serve as a basis for the implementation of PNSPs.

Keywords

Addiction, AIDS, criminal justice system, drug abuse, drug injection, harm reduction, hepatitis C virus, HIV, heroin, injection drug use

History

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Introduction

Globally, over 10 million people are held in prisons and other places of detention at any given time. It has to be recognised that problematic drug users (injecting drugs) are highly overrepresented in prison settings. Those categorised as problematic drug users constitute a substantial proportion of prison populations in Europe. Counting only sentenced prisoners with drug offences as the main offence, 15 of 26 European countries for which information is available report proportions over 15%. The number of drug users in prisons is even higher. A systematic review of international studies – with a preponderance of studies conducted in the United States – found that 10–48% of men and 30–60% of women were dependent on or used illicit drugs in the month before entering prison (Fazel, Bains, & Doll, 2006). In the European Union, it has been estimated that about half of all members of

the prison population have been used illicit drugs at sometimes in their lives (Zurhold, Haasen, & Stöver, 2005).

In many prisons around the world, there is a higher prevalence of HIV, HBV, HCV, syphilis and tuberculosis than there is in society outside (Dolan, 2015). In most countries (except many African countries), the spread of HIV and hepatitis C in prisons is clearly driven by injecting drug use, with many infected prisoners who are unaware of their infection status (Burrows & Wodak, 2005).

No prison system has yet succeeded in remaining drug free (Stöver, 2016). As a result, prisoners with a dependent drug habit continue to inject these substances during their incarceration. Although injections in prisons may be less frequent, in most situations, prisoners have to use and share unsterile injecting equipment.

Because of the illegal nature of drug use, people who use drugs are often incarcerated, taken away from their communities and families and encounter high-risk injecting-related and sexual exposure to HIV and HCV in prisons. In some countries, they are beaten, denied treatment and forced to pay bribes to prison guards, local police or other officials (Human Rights Watch, 2006; Open Society Institute, 2009).

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Experiencing fear, harassment and corruption makes people take more risks with their drug use in custodial settings (International HIV/AIDS Alliance, 2010). They may inject in a rush, and they are more likely to share injecting equipment and inject in unsafe, unhygienic conditions (Shewan, Stöver, & Dolan, 2005). There is also evidence that prisoners have their first injection while in prison (Boys et al., 2002; Zimmermann, 2014). This places them at a high risk of acquiring infectious diseases like HIV and HCV.

Imprisonment is associated with certain risk factors and forms of risk behaviour in prisons. A fact primarily related to injecting drug use and to unsafe injection practices, both in the community and in prisons and also to unprotected sexual contacts in prisons and skin penetration (e.g. tattooing, piercing) (Matic, Lazarus, Nielsen, & Laukamm-Josten, 2008; UNODC, WHO, & UNAIDS, 2006).

Despite many studies confirming the facts about risk behaviour and the prison setting as risk environment for maintaining or taking up of risk behaviour, little progress has been made around effective and efficient infectious prophylaxis by means of prison-based needle and syringe-exchange programmes and associated education (Michel et al., 2011). Effective and efficient prevention models applied in the community are very rarely implemented. Only approximately 60 out of more than 10,000 prisons worldwide provide needle exchange (UNODC, 2015). Thus, HIV and HCV prevention is almost exclusively limited to verbal advices, leaflets and other measures directed to cognitive behavioural change (Arain, Robaey, & Stöver, 2014). Awareness-raising, information, education and communication programmes (IEC) about HIV, sexually transmitted infections, viral hepatitis and tuberculosis are needed in all closed settings. However, IEC strategies are only one out of 15 interventions within a comprehensive package suggested by UNODC, UNDP, ILO, WHO, UNAIDS (2013; see below part 1) to combat HIV and other infectious diseases. As stand alones measures directed only to IEC activities would not be sufficient, they should be complemented by other interventions.

On behalf of the United Nations Office on Drugs and Crime (UNODC) the authors developed a handbook on the implementation of prison-based needle exchange (UNODC, 2015), which has been elaborated by the participation of many experts throughout the world.

Prevalence of HIV, other blood-borne infections, drug use and risk behaviour in prisons

Globally, HIV and HCV prevalence rates are substantially higher in prisons compared to the community (UNAIDS, 2015). The prevalence of HIV, HBV, HCV and TB among prison populations tends to be two to 10 times higher than the prevalence in the general population (WHO, 2014). In United States, in 2010, there were 20,093 inmates with HIV in state and federal prisons; each year, an estimated one in seven persons living with HIV spend time in a correctional facility. Isolated from public health services, including national programmes, prisons and other closed settings are often seriously neglected in national prevention, treatment and care responses to HIV, hepatitis and tuberculosis (TB).

High prevalence rates of HIV, other blood-borne infections, such as hepatitis C (HCV) infection in prisons, as well as risk behaviours for the transmission of HIV and HCV are well documented in prisons, including the sharing of syringes and unprotected sexual contacts (Jürgens, Ball, & Verster, 2009; Stöver, Weilandt, Zurhold, Hartwig, & Thane, 2008; WHO/UNAIDS, 2008).

The example of hepatitis C is clearly demonstrating that the prevalence of HCV infection among prison inmates is many times higher in most custodial settings than in the general population (Haber et al., 1999; Vlahov, Nelson, Quinn, & Kendig, 1993), primarily because of the high proportion of people who inject drugs (PWID) (Spaulding, Greene, Davidson, Schneidermann, & Rich, 1999) who are known to be at high risk of infection. Esteban et al. concluded that HCV prevalence in the general population in Western Europe is 0.5%, and that it is 2.5% and 6% in Southern Europe and Eastern Europe respectively (Esteban, Saulea, & Quer, 2008). A meta-analysis performed by Vescio et al. (2008) showed that there is a high HCV prevalence in inmates in several countries around the world. HCV prevalence in inmates was approximately 30–40% (range: 2–58%).

Outside sub-Saharan Africa, the transmission of HIV and HCV in prisons is mostly driven by intravenous drug use with unsterile needles, syringes and drug using equipment, with many infected prisoners being unaware of their infection status.

In subpopulations like prisoners with a history of injecting drug use, the global summary prevalence of HCV was 64%. Data on HCV antibody prevalence among injecting drug users in European prisons between 2005 and 2010 were reported by five countries, with prevalence ranging from 12% in Hungary to 91% in Luxembourg (EMCDDA, 2012). Among female prisoners, the prevalence is two in three. Among female PWID, the prevalence can be even higher, ranging from 49% to 88% (Viitanen et al., 2011).

Also, outbreaks of both HIV and hepatitis C among prisoners have been documented in a number of prisons in a number of countries (Jürgens, 2003), and other studies have concluded that a significant percentage of cases of HIV infection among injecting drug users were acquired in prison (Allwright et al., 2010).

Globally, the prevalence rates of psychotropic substance use and dependence were found to be up to 10 times higher among prisoners than in the general population, ranging from 10% to 48% in male inmates and 30% to 60% in female prisoners (Fazel et al., 2006). In some countries problem opioid drug use in prison settings is even up to 100 times higher than in the community. Many people who inject before imprisonment reduce or stop injecting when they enter prison, but many resume injecting upon release, some continue and some even start in prisons. Generally, it needs to be stated that in many countries worldwide drug use is one of the main reasons for being in prison. Also, many drug users in prison are sentenced for crimes not directly related to drugs or sometimes not at all related to drugs.

Though some studies indicated less frequent IDU in prison than in the community, risk behaviour might even be higher (Dolan & Wodak, 1996; Keene, 1997; Shewan et al., 2005), prisoners are sharing injecting equipment with a population of

fellow prisoners that often has a high rate of HIV and HCV infections. Experts estimated that up to 75% of the prisoners with a history of IDU continue drug use in prison (Hellard, Hocking, & Crofts, 2004; Lines, Jürgens, Betteridge, & Stöver, 2005; Lines et al., 2006; Stöver, 2003) and up to 25% of injecting drug users (IDUs) started injecting while in prison, because it is the most economic application mode.

The described situation was the motivating factor and starting point for some jurisdictions to consider and finally implement PNSPs. Catalonia for instance was experiencing an extremely high prevalence of HIV in prisons in the 1980s (40.7% of all prisoners, 67.8% of IDUs); most people living with HIV/AIDS were PWID (87.7%).

Almost all prisoners return to the community. National strategies to address HIV and HCV are also affected by the fact that intravenous drug use is continuing in prisons and by the level of access to HIV and other blood born infections prevention, treatment, care and support services.

Prisons are a coercive environment. They are settings where prisoners encounter new, unanticipated risks that they may not have faced in the community (drug use with no access to clean needles and syringes, clandestine sexual contacts, rape or other non-consensual sex practices, tattooing with contaminated needles). To be effective, programmes addressing BBV prevention must take into account these conditions. Community-based strategies are often not extended to closed settings and cannot simply be transferred into the prison setting without acknowledging the particularities of the risk environments and the limitations on behavioural change. If prevention messages are to be understandable and relevant, specific living conditions and risk factors must be identified and prevention strategies tailored to them.

For instance, injecting drug users (IDUs) in prisons are far from being a homogeneous population, but one that comprises various subgroups that can benefit from targeted interventions (Shewan et al., 2005).

There are obvious risk differences among the i.v. drug using groups, especially for infection through contaminated equipment; for example, renters of syringes and needles are clearly at higher risk than the independent injectors. Moreover, all these groups will be composed of both HIV-positive and HIV-negative people, whose needs will often be different. Harm reduction and prevention programmes in prisons need to be tailor-made and adjusted accordingly (Stöver & Lines, 2006).

This also accounts for PSNP's role in TB prevention: TB (in relation to HIV and closed settings) is a risk factor and can be effectively addressed via contact with drug users at PNSP (e.g. case finding) (Stöver, 2014; Farhoudi et al., 2003).

Harm reduction in prisons

In the last 30 years, needle and syringe programmes (NSP) have become an indispensable tool and a paramount component of an integral and pragmatic public health response to the risk of HIV and hepatitis transmission among people who inject drugs and, ultimately, to the general public (WHO/UNAIDS/UNODC, 2007). Extensive studies on the

effectiveness of these programs have been carried out, providing scientific evidence that the provision of sterile injection equipment is an appropriate and important preventive health measure (WHO/UNODC/UNAIDS, 2007). NSPs had been implemented in 82 countries. Regional and national coverage varied substantially (Mathers et al., 2010).

The availability of harm reduction measures in prisons lies far behind the availability of these interventions in the general community. Illustrating this gap most vividly is the provision – or lack thereof needle and syringe programmes (Zurhold & Stöver, 2015). The Commission of the European Communities for instance found that although 24 of 27 EU Member States have NSPs in the community, only three of those have implemented them in prisons. This disparity led the Commission to conclude that harm reduction interventions in prisons within the European Union are still not in accordance with the principle of equivalence adopted by United Nations General Assembly, World Health Organisation and UNODC, which calls for equivalence between health services and care (including harm reduction) inside prison and those available to society outside prison. Therefore, it is important for the countries to adapt prison-based harm reduction activities to meet the needs of drug users and staff in prisons and improve access to services (Commission of the European Communities, 2007). Also, the evaluation of the 2003 European Council recommendations on harm reduction concluded to improve harm reduction measures in prisons (Gesundheit Österreich, 2013).

This is also reflected or underlined in many documents of international bodies, for example, in the Comprehensive Package of ‘‘HIV prevention, treatment and care in prisons and other closed settings: a comprehensive package of interventions’’.

The experiences of health services in many countries, as well as in many prison systems internationally, demonstrate that harm reduction provides the framework for an effective action to prevent the transmission of HIV and HCV in prisons (UNODC, WHO, UNAIDS, 2006). It has also been shown that the goal of reducing HIV and hepatitis B/C transmission is best accomplished when PNSP is one component of a broader, comprehensive harm reduction and health care package (UNODC/WHO/UNAIDS, 2006).

A ‘‘Comprehensive Package’’ developed by UNODC, ILO, UNDP, WHO, UNAIDS (2013) consists of 15 interventions that are essential for effective HIV prevention and treatment in closed settings:

- (1) Information, education and communication
- (2) HIV testing and counselling
- (3) HIV treatment, care and support
- (4) Prevention, diagnosis and treatment of tuberculosis
- (5) Prevention of mother-to-child transmission of HIV
- (6) Condom programmes
- (7) Prevention and treatment of sexually transmitted infections
- (8) Prevention of sexual violence
- (9) Drug dependence treatment
- (10) Needle and syringe programmes
- (11) Vaccination, diagnosis and treatment of viral hepatitis
- (12) Post-exposure prophylaxis

- (13) Prevention of transmission through medical or dental services
- (14) Prevention of transmission through tattooing, piercing and other forms of skin penetration
- (15) Protecting staff from occupational hazards

However, in a 2008 WHO report monitoring State progress in achieving the Dublin Declaration (2004) goals¹ found that, of the 53 signatory countries, condoms were available in prisons in only 18, PNSPs in six and substitution treatment in seventeen (WHO/UNAIDS, 2008).

Article 1 of the Dublin Declaration on HIV/AIDS in prisons in Europe and Central Asia states: “Prisoners have a right to protect themselves against HIV infection. Prisoners living with HIV/AIDS have a right to protect themselves from re-infection and/or coinfection with hepatitis C and/or TB. Therefore, States have a responsibility to: ensure that HIV prevention measures available in the outside community are also available in prisons. This includes providing prisoners with free access to HIV prevention and harm reduction measures including, but not limited to, sterile syringes and injecting paraphernalia [...]” (Lines et al., 2004).

A review by the International Harm Reduction Association in 2009 found the situation only marginally improved, with nine countries in Europe and Central Asia having PNSPs and 28 opiate substitution treatments (Cook, 2009).

Although an urgent need to improve coverage of harm reduction services in prisons has been demanded by many national and international bodies and experts (Stöver & Lines, 2006), PNSP and other harm reduction interventions are still missing in most countries. One reason for that might be the lack of information on how to practically introduce and implement harm reduction measures in prisons and especially PNSPs.

The discrepancy concerning the success of PNSPs in prisons on the one hand and its low acceptance and spread on the other hand is striking. In April 2011, UNODC therefore organised a consultation with professionals involved in PNSPs in Beirut/Lebanon. The purpose of the consultation was to identify factors of success and barriers to the implementation and scaling-up of these programmes in prisons. Participants of the meeting recommended (i) to develop guidance documents on the different models of implementation; (ii) to develop advocacy materials; (iii) to develop networking opportunities for professionals implementing prison needle and syringe programmes.

In response to the recommendations of participants at the meeting in Beirut, a handbook on how to implement PNSPs in prison has been developed to guide a more factual discussion on the feasibility of the implementation of PNSPs (UNODC, 2014). The purpose of this guide is to provide countries, organisations and professionals with a tool to support their efforts to advocate for, implement, scale-up and monitor PNSPs. This guidance document is built on UNODC, WHO and UNAIDS guidelines on HIV in prisons and closed settings, especially the WHO/UNODC/UNAIDS “Evidence for Action Technical Paper on Interventions to Address HIV in Prisons: Needle and Syringe Programmes and

Decontamination Strategies”, and on recent reports on experiences and reviews of literature on the subject. It will also build on international needle and syringe programme guidance documents for the community.

The document covers advocacy, step-by-step implementation of different models of needle and syringe programmes in prisons, and monitoring and evaluation. Examples will be provided from existing documented programmes. The target audience of this guide are prison governors and prison staff of all levels in all kind of custodial institutions, prison administration, ministries in charge of health in custodial settings, police representatives, non-governmental organisations (NGOs).

PNSPs remain highly controversial issues

No matter how effective they are in practice, prison harm reduction initiatives, like PNSP, remain controversial, even in countries where they have been successfully implemented for almost 20 years. This is the main reason for not scaling-up these harm reduction services. Despite existing evidence of the success of PNSP the opposition still remains and blocks the introduction (Matters of Substance, 2012).

The six principal objections towards the implementation of prison needle exchange are as follows: PNSPs

- would contradict with prison rules
- might lead to increased violence and the use of syringes as weapons against prisoners and staff.
- would lead to an increased consumption of drugs, and/or an increased use of injection drugs among those who were previously not injecting.
- would undermine abstinence-based messages and programmes by condoning drug use.
- local evidences about effectiveness cannot be generalised because evaluations of existing programs reflect specific and unique institutional environments (Lines et al., 2006).
- fears of decision makers to take responsibility for the implementation of these programmes due to lack of sufficient understanding or awareness of the effectiveness of these programmes.

These fears are widespread and have led to a fundamental opposition to implementation of PNSP in prisons in most parts of the world. However, there is no scientific evidence that these scenarios have ever come true. On the opposite, PNSP has been identified as an evidence-based intervention worldwide (WHO/UNODC/UNAIDS 2007; UNODC 2014).

PNSP as an effective harm-reduction intervention

Prison-based needle and syringe programs (PNSP) are an effective method to reduce risk behaviour concerning infections with HIV, HBV and HCV (Busch et al., 2013). Prison needle exchange programs have been successfully implemented in both men’s and women’s prisons, in institutions of varying sizes, in both civilian and military systems, in institutions that house prisoners in individual cells and those that house prisoners in barracks, in institutions with different security ratings, and in different forms of custody (remand and sentenced, open and closed). Needle exchanges were

¹See also ECDC’s report 2012 on the achievements of the Dublin Declaration.

typically implemented initially on a pilot basis, and later expanded based on the information learned during the pilot phase. Several different methods of syringe distribution are employed, based on the specific needs and the environment of the given institution. These methods include automatic dispensing machines; hand-to-hand distribution by prison physicians/health-care staff or by external community health workers; and programs using prisoners trained as peer outreach workers (WHO/UNODC/UNAIDS, 2007; Lines et al., 2006).

In a meta-analysis of 11 prisons, which have been scientifically evaluated to assess feasibility and efficacy, results did not support fears that commonly arise in the start-up of implementation of PNSPs (Stöver & Nelles, 2003). Syringe distribution was not followed by an increase in drug use or injection drug use. Syringes were not misused, and disposal of used syringes was uncomplicated. Sharing of syringes among drug users reduced. Based on these experiences, the authors concluded that in these settings harm reduction measures, including syringe exchange, were not only feasible but efficient. One important lesson to be learned out of this meta-analysis is that PNSPs are part of a broader health approach and should therefore be embedded in a global comprehensive prison-based drug and health promotion strategy. Looking at PNSPs not in an isolated way was part of the success of PNSPs in the penal institutions.

The evidence from the countries where prison needle-exchange programmes exist clearly demonstrates that PNSPs:

- are feasible and affordable in a wide range of prison settings
- have been effective in decreasing syringe sharing among people injecting drugs in prison, thereby reducing the risk of disease transmission (HIV, HCV) among both prisoners and prison staff.
- Encourage prisoners to readily accept and use sterile syringes provided through PNSPs, as has been found in previous studies.
- have not been associated with increased attacks on prison staff or other prisoners,
- have not led to an increased initiation of drug consumption or injection.
- Have contributed to workplace safety too; when prisoners are not forced to conceal injection equipment and a prisoner is permitted to have a sterile syringe for personal use, guards conducting searches of prisoners or cells are less likely to be pricked with a contaminated needle.
- can lead to reduced overdose risks and a decrease in abscesses, and facilitate referral to and utilisation of drug dependence treatment programmes (where available).
- can employ any of several different methods of needle distribution successfully in response to staff and inmate needs; and
- can successfully coexist with other drug prevention and treatment programmes (Lines et al., 2006).

For PNSPs to be successful in prisons, prisoners need to have easy, confidential access to syringes and equipment, and both prisoners and staff should be involved in the design and implementation of the PNSP. Successful PNSPs also feature a rigorous mechanism for safe disposal of syringes and good monitoring, evaluation and quality control.

The history of PNSPs demonstrates that needle and syringe programmes can be successfully implemented in jurisdictions that are relatively well resourced and financed (Switzerland, Germany (Meyenberg, Stöver, Jacob, & Pospeschill, 1999), Spain (Torre, de la Acín, Sanz, & Arroyo, 2009), as well as in countries in economic transition that operate with significantly less funding and infrastructural supports (Moldova, Kyrgyzstan, Tajikistan). Successful programmes took into account not only institutional size, security level or structure of the particular prison in which a programme was started, but also the needs of the prisoner population (e.g. where in the premise to install the needle-exchange dispenser).

Once transmission risks have been recognised as a severe threat to the health of prisoners, staff, families and partners by the representatives of the penitentiary system, prison authorities have shown flexibility and creativity by designing, implementing and adjusting a PNSP adapted to the needs of the particular population and institutional set-up in an institution.

What can be learned from experiences in countries introducing PNSP?

Prison-based needle exchange is a pragmatic and necessary health response to the challenges of HIV, HCV and injection drug use. It has been proven to be effective and safe in prison also. Needle exchange has been available in some prisons for as long as 20 years and it is an approach that has been rigorously evaluated almost everywhere it has been enacted. Different and mostly encouraging experiences have been made with different modes of provision in different levels of prison security and different sizes of prisoner population in several countries. The results are encouraging prison systems and governments to improve the health of prisoners by providing PNSP.

The experiences and evidence from the presented eight countries where prison needle exchange programmes currently exist (in approximately 60 prisons) demonstrate that such programmes

- have additional positive outcomes for the health of prisoners (e.g. referral to other drug or health-related services);
- have been effective in a wide range of different prison systems
- have successfully employed different methods of needle/syringe provision to meet the different needs of the institution and prisoners (UNODC, 2014).

Lack of confidentiality for prisoners to access PNSP

In closed settings, such as prisons, the concept of confidentiality is quite fragile and often leads to high levels of mistrust (Elger & Shaw, 2016). There is a perception, among both professionals and prisoners, that when established procedures are strictly observed, the identity of PNSP participants could be identified by staff members and also by other prisoners (e.g. by cell revisions, or by being seen to pull out a syringe out of the automat, or visit the needle exchange point etc.). Thus, results from qualitative research show that participants state that even models emphasising the necessity of confidentiality the exchange does not guarantee confidential usage

(Majó et al., 2010). Exchanging a needle becomes a risk that may damage their correctional status, prisoners might get identified as drug users and are fearing severe negative consequences and disadvantages for their current sentence. Therefore, as has been reported by several sources, prisoners might be hesitating in accessing PNSP in order to not lose their privileges. Obviously, this deeply rooted perception of lack of confidentiality has restricted programme recruitment for two reasons: because disclosure of participation has serious negative impact on inmates' day-to-day life; and, on the other hand, because it clashes with the widely held belief that if an inmate is seen by the institution as being an active drug user, his or her prospects within the correctional process will suffer greatly as a result (Majo, 2014).

These discourses tend to be related with a somewhat more limited idea of confidentiality. Far from relating “confidential” with “anonymous”, they link NSP participation with professional “secret” and the need to register and monitor programme participation.

Increased institutional safety

One of the most important lessons to emerge from international experience is that implementing prison needle-exchange programmes does not necessitate a trade-off between health and security. In fact, in no case, worldwide had needles and syringes been used as weapons either against personnel or other inmates. This was and is one of the controversial issues facing PNSP. Syringes were not misused and disposal of syringes did not exhibit any problems. For reasons of safety in the working place, it is interesting to note that exchange rates within PNSPs are high (almost 1:1): for example, the return rate for two prisons in Lower Saxony were 98.9% for the dispensing machine in the women's prison in Vechta, and 98.3% in the men's prison in Lingen, Gross-Hesepe (see also Champ-Dollon it is not as high, but this can mean that prisoners left with their material, broke it in the toilet, gave it-new-to someone else). Therefore, the risk of needle stick injuries by syringes not properly disposed is very low.

Usually, inmates participating in the needle-exchange programme are required to keep their kit in a pre-determined location in their cells. This is expressed in most of the regulations to operate PNSP. This measure assists the staff when they enter the cell to conduct cell searches. Because PNSP is an approved programme, there is no need for the offender to conceal them in their cells. To date, no needle stick injury inflicted accidentally on staff by a needle obtained through the PNSP has been reported worldwide.

Providing prisoners with access to the means necessary to protect them from contracting HIV and HCV is in fact compatible with the interests of workplace safety and of the maintenance of safety and order in the institutions (Anex, 2010).

All the international evidence indicates that there are already needles present within the prisons of many countries. A “needle-free” environment is to a wide extent a myth. Harm reduction means to acknowledge this situation and to respond with well-managed prison-based needle-exchange programs, in which the number of syringes in circulation is known, the prisoners who have them are (in almost all

models) known, and the needles are sterile, or at least used only once and by one person only. From a workplace health and safety perspective, this scenario is the most promising, because in the long term, reduction in parentally transmitted diseases will make prisons a healthier and less risky environment.²

No increase in drug consumption or injecting

The provision of sterile needles and syringes has not meant condoning the use of illegal injectable drugs in prisons. The provision of sterile needles in prisons has not resulted in prison officials condoning or otherwise permitting the use, possession or sale of drugs. In all cases, drugs remain prohibited within institutions where needles exchange is in place, and security staff is instructed to locate and confiscate all such contraband (including needles and syringes that are not part of the exchange program). In this sense, the policy and practice is not different than in jurisdictions that do not have needle-exchange programmes. PNSP signify that prison authorities take seriously their legal obligation to protect the health of prisoners under their care and control.

The belief that needle-exchange programmes promote injection drug use has historically been a central barrier to the implementation of this effective harm-reduction measure in both the community and prison. However, within prisons, this argument is complicated by the fact that many prisoners are incarcerated as a result of drugs or of drug-related offences. Consequently, providing bleach or sterile needles to prisoners is seen to be condoning or promoting behaviour that the prison should be seeking to eradicate as part of the individual's rehabilitation. Acknowledging the reality of drug use in prisons may be perceived as an admission of the failure of such systems and their personnel to provide effective drug treatment and counselling programmes and to maintain institutional control and security.

In the case of prison syringe exchange, evaluations (Stöver & Nelles, 2003) have consistently found that the availability of sterile needles and syringes does not result in an increased number of drug injectors, an increase in overall drug use, or an increase in the amount of drugs in the institutions.

There is evidence in a number of countries that a considerable number of prisoners inject drugs for the first time while in prison (5–25%) (Zimmermann, 2014). The argument that a needle-exchange programme would lead to prisoners begin using injection drugs is therefore undermined by the fact that this behaviour is already existing in many countries, again without prison needle-exchange programmes. In these jurisdictions, individuals are forced to share or reuse needles, creating a high risk of HIV and HCV transmission. While making sterile needles and syringes available to incarcerated drug users has not led to an increase in drug use, it has led to a decrease in the number of prisoners sharing injection equipment and thus contracting HIV, HCV and other infections.

² See also the Spanish Ministry of the Interior and the Ministry of Health and Consumer Affairs, in their 2002 guidelines on the implementation of prison needle exchange programs. Ministerio del Interior/Ministerio de Sanidad y Consumo (2002).

PNSP as part of a comprehensive package of a broader health approach

Ideally, needle and syringe-exchange programmes should be one component of a comprehensive package of drug services within prisons that includes abstinence-based programs, drug dependence treatment, and counselling, drug-free units, opioid substitution therapy and harm-reduction measures.

PNSP and related harm reduction counselling are essential prevention tools; however, it is only one part of a harm reduction approach – a paramount module within a comprehensive package of complementary drug services, which finally is part of a health promotion strategy.

From this perspective, the availability of sterile needles does not undermine or impede the provision of other programmes, but rather offers drug users more options for improving their health status, and a potentially greater interaction with the range of health and drug treatment options offered in a particular institution. Experiences from PNSP models convincingly show that this service has a bridge function – additional drug service options (detoxification, opioid substitution therapy etc.) should be made clear to prisoners.

In so far, PNSPs can serve as valuable points of contact and referral for a difficult-to-reach drug-using population to other drug addiction treatment programmes in prison and the community. Especially, the latter is of utmost importance, links to harm reduction and HIV prevention programmes upon release and during breaks need to be organised. In some jurisdictions, those released from prison receive an individual package consisting of a disposable syringe, disinfectant, ascorbic acid and a leaflet with the addresses of HIV prevention organisations (e.g. Moldova).

The Moldova experiment,³ in which peers are giving out harm reduction materials, including sterile needles and syringes, reports about prisoner empowerment, when the project had helped to motivate prisoners to focus on and take greater care of their own health. One reason was that prisoners were more inclined to believe that the administration was willing and able to support and help them (Hoover & Jürgens, 2009).

PNSP as part of a comprehensive package of a broader health approach emphasises the need to collaborate with other community services and involvement of NGOs in terms of offering throughcare. Continuity of services is a significant factor in “success” of treatment programmes, OST, PNSP and otherwise, and also in reducing the risk of overdose on release (Hedrich et al., 2012).

The guiding principles for implementing and managing PNSPs can be found in the respective handbook of the UNODC.⁴

³ Syringes were initially distributed through the medical unit, but this strategy only reached about 25% of prisoners who injected drugs. Distribution subsequently switched to a peer model, reaching 65–70% of known drug injectors and allowing syringe exchange to be available 24 hours a day (Harm Reduction Coalition, 2007).

⁴ UNODC (2015): A handbook for starting and managing needle and syringe programmes in prisons and other closed settings. UNODC. http://www.unodc.org/documents/hiv-aids/publications/Prisons_and_other_closed_settings/ADV_COPY_NSP_PRISON_AUG_2014.pdf (accessed 16 January 2016)

Conclusions

Many studies worldwide confirm the facts about individual risk behaviour and the prison setting as risk environment for maintaining or taking up of risk behaviour. However, little progress has been made around effective and efficient infectious prophylaxis by means of prison-based needle and syringe programmes and associated education and other proven and effective interventions. PNSP implementation is still poor and patchy after its first implementation in Switzerland in 1993 (Wolff, 2014). There are no new systems implementing PNSPs in the last five years.

The slow implementation of PNSP worldwide has often been justified by the decrease in heroin use and intravenous use in particular. However, even a reduced number of intravenous drug users might be exposed to risks while continuing heroin consumption in prisons.

The key problem apart from the political problems in implementing PNSP remains the lack of guarantee of confidentiality to prisoners (Crespo et al., 2012). This is hindering prisoners from participating in the programmes continuously (Enggist & Klaue, 2010). The second problem is that HIV/AIDS is no longer the driver of the debate. In many countries, the HIV rate among prisoners is low compared to 20 years ago (e.g. Western Europe). While hepatitis C is by far the most prevalent infectious disease, it has been neglected by policy makers. It has been difficult to develop momentum to legitimise concerted action to prevent the spread of the virus. An evaluation of the Council of Europe Recommendation stated: “To speed up the full implementation of harm reduction measures in prison, this issue should be especially highlighted in a follow-up policy work at the EU level” (Busch, Grabenhofer-Eggerth, Weigl, & Wirl, 2013).

Confidentiality has emerged as one of the key aspects of PNSP implementation. Although some professionals have described confidentiality as an absolute requirement (leading to them occasionally allowing anonymous programme participation), others have described it as relative (justifying participant registration and monitoring for therapeutic and security reasons). In any case, guaranteeing confidential access to PNSPs remains a major challenge.

PNSP remain controversial – even in some of the countries, where they have been implemented. It is therefore pivotal to get these programmes started, because experience shows that after a short period of time, PNSP become a “normal” service within other drug services. Thus, the most critical step is to start. The controversy cannot be solved by talking endlessly about the various pros and cons.

Declaration of interest

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References

- Allwright, S., Bradley, F., Long, J., Barry, J., Thornton, L., & Parry, J.V. (2010). Prevalence of antibodies to hepatitis B, hepatitis C, and HIV and risk factors.
- Anex. (2010). *With conviction: The case for controlled needle and syringe programs in Australian Prisons*. Melbourne, Australia: Anex.

- Arain, A., Robaey, G., & Stöver, H. (2014). Hepatitis C in European prisons: a call for an evidence-informed response. *BMC Infectious Diseases*, 14(Suppl 6), S17. DOI: 10.1186/1471-2334-14-S6-S17.
- Boys, A., Farrell, M., Bebbington, P., Brugha, T., Coid, J., Jenkins, R., ... Taylor, C. (2002). Drug use and initiation in prison: Results from a national prison survey in England and Wales. *Addiction*, 97, 1551–1560. DOI: 10.1046/j.1360-0443.2002.00229.x.
- Burrows, D., & Wodak, A. (2005). *Harm reduction in Iran; issues in national scale-up*. WHO.
- Busch, M., Grabenhofer-Eggerth, A., Weigl, M., & Wirl, C. (2013). Report on the current state of play of the 2003 Council Recommendation on the prevention and reduction of health-related harm, associated with drug dependence, in the EU and candidate countries – Final Report. Gesundheit Österreich.
- Cook, C. (2009). *Harm reduction policy and practice worldwide: an overview of national support for harm reduction and policy and practice*. London: International Harm Reduction Association.
- Crespo, R., Codern, N., Major, X., Guerrero R., Ayneto, X., Muñoz, Y., & Maresme, M. (2012). What works, for whom in what circumstances? Qualitative evaluation of needle exchange programs in Catalan prisons. Presentation ACCESS conference - Drug users in custody: Learning the lessons. Workshop, 5th October, Milano/Italy.
- Dolan, K., & Wodak, A. (1996). An international review of methadone provision in prisons. *Addiction Research*, 4, 85–97. DOI: 10.3109/16066359609005565.
- Dolan, K. (2015). *Epidemiology of HIV, hepatitis B and hepatitis C, and TB among prisoners*. In: Lancet: (HIV in prison paper 1) (in press).
- ECDC/European Centre for Disease Prevention and Control and EMCDDA/European Monitoring Centre for Drugs and Drug Addiction. (2011). *Prevention and control of infectious diseases among people who inject drugs*. Stockholm: ECDC, 2011. Stockholm.
- ECDC. (2013). Monitoring implementation of the Dublin Declaration on Partnership to Fight HIV/AIDS in Europe and Central Asia: 2012 progress.
- Elger, B.S., & Shaw, D.M. (2016). Confidentiality in prison health care – A practical guide. In Elger, B., Ritter, C., & Stöver, H. (Eds.), *Emerging issues in prison health*. Springer.
- EMCDDA. (2012). Prisons and drugs in Europe: the problem and responses, printed in Luxembourg. Retrieved from <http://www.emcdda.europa.eu/publications/selected-issues/prison>.
- Enggist, S., & Klau, K. (2010). Bekämpfung von Infektionskrankheiten im Gefängnis (BIG). Bundesamt für Gesundheit. Presentation 19.11.2010 workshop DBDD Berlin/Germany, ‘‘Drogen und Haft’’.
- Esteban, J.I., Sauleda, S., & Quer, J. (2008). The changing epidemiology of hepatitis C virus infection in Europe. *Journal of Hepatology*, 48, 148–162. doi:10.1016/j.jhep.2007.07.033.
- European convention for the prevention of torture and inhuman or degrading treatment or punishment. 2002.
- Farhoudi, B., Motevalian, A., Motamedi Heravi, M., Motevali Khameneh, M., Mohraz, M., Rassolinejad, R., ... Mohseni, L. (2003). Human immunodeficiency virus and HIV – associated tuberculosis infection and their risk factors in injecting drug users in a prison in Iran. Report to the WHO/EMRO.
- Fazel, S., Bains, P., & Doll, H. (2006). Substance abuse and dependence in prisoners: a systematic review. *Addiction*, 101, 181–191. doi: 10.1111/j.1360-0443.2006.01316.x.
- Gesundheit Österreich. (2013). Report on the current state of play of the 2003 council recommendation on the prevention and reduction of health-related harm, associated with drug dependence, in the EU and candidate countries. Retrieved from http://www.goeg.at/en/BerichtDetail/project_berichte282.html_en.pdf (accessed on 16 January 2016).
- Haber, P.S., Parsons, S.J., Harper, S.E., White, P.A., Rawlinson, W.D., & Lloyd, A.R. (1999). Transmission of hepatitis C within Australian prisons. *Medical Journal of Australia*, 171, 31–33.
- Harm Reduction Coalition. (2007). *Syringe Exchange in Prisons: The International Experience*.
- Hedrich, D., Alves, P., Farrell, M., Stöver, H., Möller, L., & Mayet, S. (2012). The effectiveness of opioid maintenance treatment in prison settings: a systematic review. *Addiction* (in press). DOI: 10.1111/j.1360-0443.2011.03676.x. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/21955033>.
- Hellard, M.E., Hocking, J.S., & Crofts, N. (2004). The prevalence and the risk behaviours associated with the transmission of hepatitis C virus in Australian correctional facilities. *Epidemiology and Infection*, 132, 409–415.
- Hoffmann, P. (2012). PNSP. Presentation 20 June 2011. Luxembourg.
- Hoover, J., & Jürgens, R. (2009). Harm reduction in prison: The Moldova model. OSI Public Health Program.
- Human Rights Watch. (2006). ‘‘Rhetoric and risk: human rights abuses impeding Ukraine’s fight against HIV/AIDS’’. Retrieved from www.hrw.org/en/reports/2006/03/01/rhetoric-and-risk.
- International HIV/AIDS Alliance. (2010). HIV and drug use: Community responses to injecting drug use and HIV.
- Jürgens, R. (2003). HIV/AIDS prevention for drug dependent persons within the criminal justice system. Presented at the Commission on Narcotic Drug Ministerial Segment. Ancillary Meeting on HIV/AIDS and Drug Abuse. Vienna, 16 April 2003.
- Jürgens, R., Ball, A., & Verster, A. (2009). Interventions to reduce HIV transmission related to injecting drug use in prison. *Lancet Infectious Diseases*, 9, 57–66. doi:10.1016/S1473-3099(08)70305-0.
- Keene, J. (1997). Drug misuse in prison: views from inside: a qualitative study of prison staff and inmates. *The Howard Journal of Criminal Justice*, 36, 28–41. doi: 10.1111/1468-2311.00037.
- Läubli, M., & Weber, M. (2000). Swiss Federal Office of Public Health, Evaluation Services, Prevention and Harm Reduction Measures within the Swiss Prison Context: summary of evaluation and research findings – 1993–1999. Bern.
- Lines, R., Jürgens, R., Stöver, H., Kaliakbarova, G., Laticevski, D., Nelles, J., ... Curtis, M. (2004). *Dublin declaration on HIV/AIDS in prisons in Europe and Central Asia*. Prison Health is Public Health. Dublin, Ireland.
- Lines, R., Jürgens, R., Betteridge, G., & Stöver, H. (2005). Taking action to reduce injecting drug-related harms in prisons: the evidence of effectiveness of prison needle exchange in six countries. *International Journal of Prisoner Health*, 1, 49–64. <http://dx.doi.org/10.1080/17449200500157085>.
- Lines, R., Jürgens, R., Betteridge, G., Laticevski, D., Nelles, J., & Stöver, H. (2006). *Prison needle exchange: Lessons from a comprehensive review of international evidence and experience* (2nd ed.). Canadian HIV/AIDS Legal Network.
- Majo, X. (2014). Spritzenvergabe in spanischen Gefängnissen. In Stöver, H., & Knorr, B. (Eds.), *HIV und Hepatitis-Prävention in Haft – keine Angst vor Spritzen!* Oldenburg: BIS-Verlag.
- Majó, X., Folch, C., Casabona, J., Brugal, M.T., Meroño, M., & Gonzalez, V. (2010). *Accesibilitat i retorn de xeringues en el consum injectat de drogues a catalunya*. Oldenburg: BIS-Verlag.
- Mathers, B., Degenhardt, L., Ali, H., Wiessing, L., Hickman, M., Mattick, R.P., ... 2009 Reference Group to the UN on HIV and Injecting Drug Use. (2010). HIV prevention, treatment and care for people who inject drugs: A systematic review of global, regional and national coverage. *The Lancet*, 375, 1014–1028. doi: 10.1016/S0140-6736(10)60232-2.
- Matic, S., Lazarus, J.V., Nielsen, S., & Laukamm-Josten, U. (Eds.). (2008). *Progress on implementing the Dublin Declaration on Partnership to Fight HIV/AIDS in Europe and Central Asia*. Copenhagen, WHO Regional Office for Europe. Retrieved from http://www.euro.who.int/_data/assets/pdf_file/0011/53858/E92606.pdf (assessed on 29 March 2016).
- Matters of Substance. (2012). Should needle exchange programmes be introduced into prisons? Drugfoundation New Zealand. Retrieved from www.drugfoundation.org.nz.
- Meyenberg, R., Stöver, H., Jacob, J., & Poseschill, M. (1999). Infektionsprophylaxe im Niedersächsischen Justizvollzug – Abschlußbericht. Bd. 3 der Schriftenreihe ‘‘Gesundheitsförderung im Justizvollzug’’. Oldenburg: BIS-Verlag, 508 S. Retrieved from http://oops.uni-oldenburg.de/frontdoor.php?source_opus=716.
- Michel, L., Jauffret-Roustide, M., Blanche, J., Maguet, O., Calderon, Chr., Cohen, J., & Carrieri, P.M. (2011). Limited access to HIV prevention in French prisons (ANRS PRI2DE): Implications for public health and drug policy. *BMC Public Health*, 11, 400. DOI: 10.1186/1471-2458-11-400.
- Ministerio del Interior/Ministerio de Sanidad y Consumo. (2002). Needle exchange in prison. Framework Program. Madrid.
- Office of the United Nations High Commissioner for Human Rights and the Joint United Nations Programme on HIV/AIDS. (2002). *HIV/AIDS and Human Rights International Guidelines*. Third International Consultation on HIV/AIDS and Human Rights Geneva, 25–26 July 2002.

- Open Society Institute. (2009). At what cost? HIV and human rights consequences of the global "war on drugs". Retrieved from www.soros.org/initiatives/health/focus/ihrd/articles_publications/publications/atwhatcost_20090302.
- Robaey, G., Arain, A., Stöver, H. (2016). Hepatitis C viral infection in prisons. In Elger, B., Ritter, C., & Stöver, H. (Eds.), *Emerging issues in prison health*. SpringerRoca, X.M. (without year). Trying to overcome inequity and discrimination in prison health: The syringe exchange experience in Catalonia and Spain. Presentation.
- Shahbazi, M., Farnia, M., Keramati, M.R., & Alasvand, R. (2010). Advocacy and piloting the first needle and syringe exchange program in Iranian prisons. *Retrovirology*, 7, P81. doi: 10.1186/1742-4690-7-S1-P81.
- Shewan, D., Stöver, H., & Dolan, K. (2005). Injecting in prisons. In Pates, R., McBride, A., & Arnold, K. (Eds.), *Injecting illicit drugs* (pp. 69–81). Oxford: Blackwell.
- Spaulding, A.C., Greene, C., Davidson, K., Schneidermann, M., & Rich, J. (1999). Hepatitis C in state correctional facilities. *Preventive Medicine*, 28, 92–100. doi:10.1006/pmed.1998.0418.
- Stöver, H., & Trautmann, F. (Eds.). (2001). *Risk reduction for drug users in prisons. Encouraging Health Promotion for Drug Users within the Criminal Justice System*. Utrecht: Trimbos.
- Stöver, H., & Nelles, J. (2003). Ten years of experience with needle and syringe exchange programmes in European Prisons. *International Journal of Drug Policy*, 14, 437–444. doi:10.1016/j.drugpo.2003.08.001.
- Stöver, H. (2003). 10 years of syringe provision to intravenous drug users in prisons – an end to the projects in Germany. Newsletter.
- Stöver, H., & Lines, R. (2006). *Silence still = death. 25 years of HIV/AIDS in prisons. World Health Organisation/WHO – Regional Office for Europe (ed.): 25-Years of HIV/AIDS in Europe*, S. 67–85.
- Stöver, H., Weilandt, C., Zurhold, H., Hartwig, C., & Thane, K. (2008). Final report on prevention, treatment, and harm reduction services in prison, on reintegration services on release from prison and methods to monitor/analyse drug use among prisoners. Brussels, European Commission, Directorate-General for health and Consumers, (SANCO/2006/C4/02). Retrieved from http://ec.europa.eu/health/ph_determinants/life_style/drug/documents/drug_frep1.pdf (accessed on 29 March 2016).
- Stöver, H. (2014). How to improve HIV/TB prevention, treatment and care in prisons. Comment améliorer la prévention, les soins et le traitement du VIH et de la tuberculose en milieu carcéral. In: *AidsSpan. Independent observer of the global fund*. 31 October 2014. Retrieved from http://aidsSpan.org/gfo_article/how-improve-hivtb-prevention-treatment-and-care-prisons.
- Stöver, H. (2016). Drug services and harm reduction practice in prisons. In Elger, B., Ritter, C., & Stöver, H. (Eds.), *Emerging issues in prison health*. Springer.
- Torre, R., de la Acín, E., Sanz, J., & Arroyo, J.M. (2009). *Le Programme D'Échange de Seringues en Milieu Pénitentiaire en Espagne. Présentation: Journée nationale Prison. Représentations, pertinence et faisabilité dans le contexte des prisons françaises. Maire du 10ème, Paris, 25 juin 2009*. Espagne: Division Santé de la Direction Générale Pénitentiaire – Ministère de l'Intérieur.
- UNAIDS. (2006). *Report on the Global AIDS Epidemic*, May 2006, p. 114. Retrieved from www.unaids.org/en/HIV_data/2006GlobalReport/default.asp.
- UNAIDS. (2006). *Islamic Republic of Iran Country Report on Monitoring of the United Nations General Assembly Special Session on HIV and AIDS Declaration of Commitment*. Office of the Undersecretary for Health, Ministry of Health and Medical Education, Centre for Diseases Management. Retrieved from: http://data.unaids.org/pub/Report/2006/2006_country_progress_report_iran_en.pdf?preview=true.
- UNAIDS. (2015). *HIV in prisons and other closed settings*. Retrieved from http://www.unaids.org/sites/default/files/media_asset/20151012_UNAIDS_PCB37_15-21_EN.pdf.
- United Nations Commission on Human Rights. (1996). *HIV/AIDS in Prisons – Statement by the Joint United Nations Programme on HIV/AIDS (UNAIDS)*. Presented at the 52nd session; item 8 of the agenda. Geneva.
- United Nations General Assembly. (1990). *Basic principles for the treatment of prisoners*. 14 December 1990 UNGA Res 45/111, annex, 45 UN GAOR Supp (No 49A) at 200. Retrieved from UN Doc A/45/49 <http://www.un.org/documents/ga/res/45/a45r111.htm>.
- United Nations Office on Drugs and Crime. (2010). *HIV in prisons: Situation and needs assessment toolkit*. Retrieved from http://www.unodc.org/documents/hiv-aids/publications/HIV_in_prisons_situation_and_needs_assessment_document.pdf.
- UNODC. (2014). *World Drug Report 2014*. New York (NY): UNODC.
- UNODC. (2015). *A handbook for starting and managing needle and syringe programmes in prisons and other closed settings*. UNODC. Retrieved from http://www.unodc.org/documents/hiv-aids/publications/Prisons_and_other_closed_settings/ADV_COPY_NSP_PRISON_AUG_2014.pdf.
- UNODC, WHO, UNAIDS. (2006). *HIV/AIDS prevention, care, treatment and support in prison settings. A framework for an effective national response*. Retrieved from http://www.unodc.org/documents/hiv-aids/HIV-AIDS_prisons_Oct06.pdf.
- UNODC/ILO/UNDP/WHO/UNAIDS. (2013). *HIV prevention, treatment and care in correctional settings and other closed settings: A comprehensive package of interventions*. Retrieved from https://www.unodc.org/documents/hiv-aids/HIV_prisons_advance_copy_july_2012_leaflet_UNODC_ILO_UNDP_Ebook.pdf.
- UNODC/WHO/UNAIDS. (2006). *AIDS prevention, care, treatment and support in prison settings: a framework for an effective national response*. Retrieved from http://www.who.int/hiv/pub/idu/framework_prisons.pdf?ua=1.
- Vescio M.F., Longo, B., Babduieri, S., Starnini, G., Carbonara, S., Rezza, G., & Monarca, R. (2008). Correlates of hepatitis C virus seropositivity in prison inmates: a meta-analysis. *Journal of Epidemiology and Community Health*, 62, 305–313. doi: 10.1136/jech.2006.051599.
- Viihtanen, P., Vartiainen, H., Aarnio, J., von Gruenewaldt, V., Hakamäki, S., Lintonen, T., . . . Joukamaa, M. (2011). Hepatitis A, B, C and HIV infections among Finnish female prisoners—young females a risk group. *Journal of Infection*, 62, 59–66. doi:10.1016/j.jinf.2010.10.011.
- Vlahov, D., Nelson, K.E., Quinn, T.C., & Kendig, N. (1993). Prevalence and incidence of hepatitis C virus infection among male prison inmates in Maryland. *European Journal of Epidemiology*, 9, 566–569. DOI: 10.1007/BF00209538.
- WHO, UNODC, UNAIDS. (2007). *Interventions to ADDRESS HIV in prisons: Drug dependence treatments. Evidence for Action Technical Papers*. Retrieved from www.unodc.org/unodc/en/hiv-aids/publications.html.
- WHO, UNODC, UNAIDS. (2007). *Guide to starting and managing needle and syringe programmes*. Geneva.
- WHO, UNODC, UNAIDS. (2007). *Interventions to address HIV in prisons. Evidence for action technical papers*. Geneva, WHO, pp. 59–64. Retrieved from http://www.who.int/hiv/pub/prisons/e4a_prisons/en/index.html.
- WHO, UNODC, UNAIDS. (2007). *Effectiveness of interventions to address HIV in prisons. Evidence for action technical papers*. Geneva: WHO, 2007b.
- WHO, UNODC, UNAIDS. (2009). *Technical Guide for countries to set targets for universal access to HIV prevention, treatment and care for injecting drug users*. Retrieved from <http://www.who.int/hiv/pub/idu/targetsetting/en/index.html>.
- WHO/ILO. (2007). *Post-exposure prophylaxis to prevent HIV infection. Joint WHO/ILO guidelines on post-exposure prophylaxis (PEP) to prevent HIV infection*. Retrieved from <http://www.who.int/hiv/pub/guidelines/PEP/en/>.
- WHO/UNAIDS. (ed.; 2008). *Progress on implementing the Dublin Declaration on Partnership to Fight HIV/AIDS in Europe and Central Asia progress on implementing the Dublin*. Copenhagen: WHO/UNAIDS, S. 223–231.
- WHO/UNAIDS/UNODC. (2007). *Guide to starting and managing needle and syringe programmes*. Washington, DC: World Health Organisation, Department of HIV/AIDS.
- WHO/UNODC/UNAIDS. (2007). *Interventions to address HIV in prisons: Needle and syringe programmes and decontamination strategies. Evidence for action technical papers*. Geneva. Retrieved from http://www.who.int/hiv/pub/idu/prisons_needle/en/index.html.
- WHO/UNODC/UNAIDS. (2007). *Interventions to address HIV in prisons: needle and syringe programmes and decontamination strategies/Ralf Jürgens. (Evidence for action technical papers)*. Geneva.
- Wolff H. (2014). Spritzenvergabe in Haft in der Schweiz. In Stöver, H., & Knorr, B. (Eds.). *HIV und Hepatitis-Prävention in Haft – keine Angst vor Spritzen!* BIS-Verlag Oldenburg.

- World Health Organization Europe. (2005). *Status paper of prison, drugs and harm reduction*. Copenhagen: World Health Organization Europe.
- World Health Organization. (2004). *Advocacy guide: HIV/AIDS prevention among injecting users: workshop manual*. World Health Organization, UNAIDS. Retrieved from <http://www.who.int/hiv/pub/advocacy/en/advocacyguideen.pdf>.
- World Health Organization. (2014). *Consolidated guidelines on hiv prevention, diagnosis, treatment and care for key populations*. Retrieved from http://apps.who.int/iris/bitstream/10665/128048/1/9789241507431_eng.pdf?ua=1.
- Zimmermann, R. (2014). Hepatitis C und drogenkonsum epidemiologie global und in Deutschland. 6. Fachtag hepatitis C und drogengebrauch Berlin.
- Zurhold, H., Haasen, C., & Stöver, H. (2005). *Female drug users in European prisons: a European study of prison policies, prison drug services and the women's perspectives*. Oldenburg, D: Bibliotheks- und Informationssystem der Carl von Ossietzky Universität.
- Zurhold, H., & Stöver, H. (2015). Provision of harm reduction and drug treatment services in custodial settings – Findings from the European ACCESS study. *Drugs: Education, Prevention & Policy*, DOI: 10.3109/09687637.2015.1112363.