Health Outcomes for Clients of Needle and Syringe Programs in Prisons: A Systematic Review

Lisbon Addictions Conference 2017
25th 14:30-16:00 STRUCTURED SESSION 28
„Harm reduction for people who inject drugs in Europe: findings from three major European projects"

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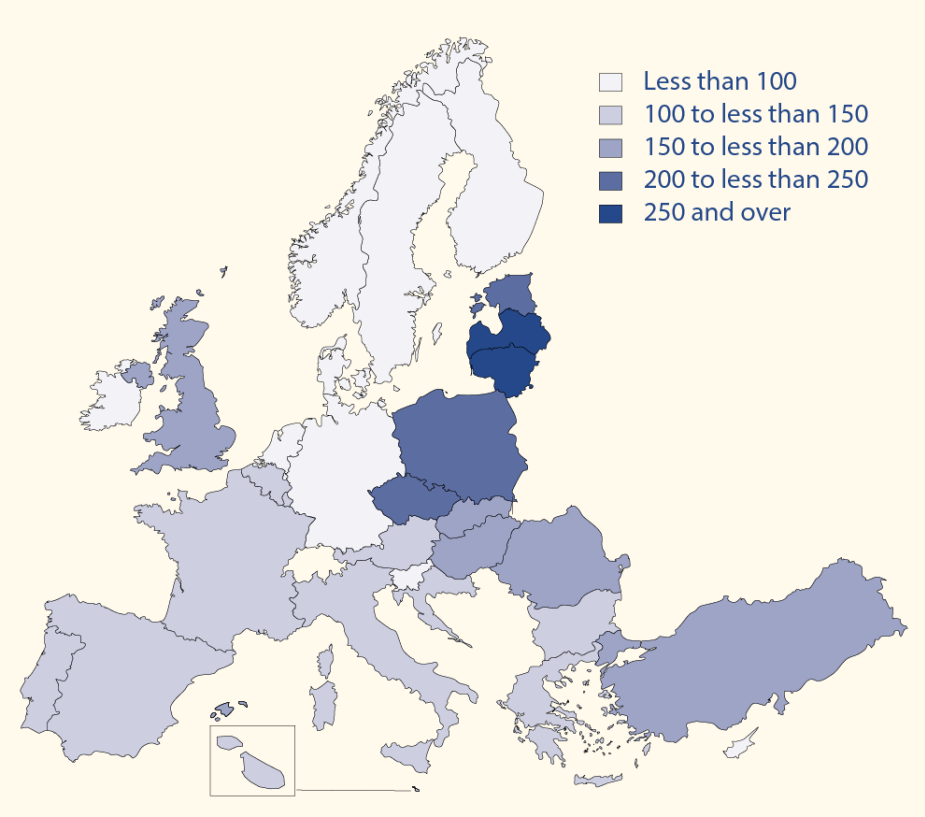
1. Background

Prison Population in Europe[1]
~ 770.000[2]

- ~2000 prisons in EU-30
- Prison Population Rate*100000:
- EU: 130; Russia: 475; US: 698
- 4 % women (~ 32 000)
- 17 countries with overcrowding
- 16 % average foreigners
- 1 / 4 prisoners no final sentence
- DU mainly short sentences
- High recidivism
- Vulnerable and marginalised



1 Sources: SPACE 2014 – Council of Europe
- Europe: 28 EU countries, Norway and Turkey;
- International Centre for Prison Studies

2 1st September 2013 – data collection Linda Montenari et al. EMCDDA

Drug Users in European Prisons[1]

- ~ One million prisoners per year in Europe
- 15-25% sentenced for drug related offences[2]
- US: 25-50% drug dependent on admission[3]
- Europe: ~ 1 in 6 prisoners problem drug users[4]
- 10–42% report regular drug use in prison
- 1–15% have injected drugs while in prison
- 3–26% first used drugs while incarcerated
- Up to 21% of injectors initiated injecting in prison[4]
- 90% relapse to heroin after release[5]

[1] Stöver & Michels (2010): Drug use and opioid substitution treatment for prisoners. In: Harm Reduction Journal 2010, 7:17; [2] Source: Council of Europe-SPACE I, Table 7; [3] Fazel et al. (2006); [4] Hedrich et al. (2012); [4] Stöver & Kastelic 2014, [5]Stöver 2016

The case of Germany: „Druck-Studie“ Robert-Koch-Institute/Germany: Imprisonment[1] n=2,077

81% [79.1-82.5] have been incarcerated*

average duration in prisons: 5 years, median 3,5 J; (1M – 30 J)

on the average 5,6x inprisoned

30% [27.3-31.7] of those ever incarcerated injected while in prison

11% [8.2-13.8] of those ever incarcerated and injected while in prison started their intravenous drug use in prisons

1 Zimmermann, R. et al. (2014): Ausgewählte Ergebnisse der DRUCK-Studie für die Praxis. 6. Fachtag Hepatitis C und Drogengebrauch Berlin, 23.10.2014

High prevalence of blood-borne virus infections and consequences

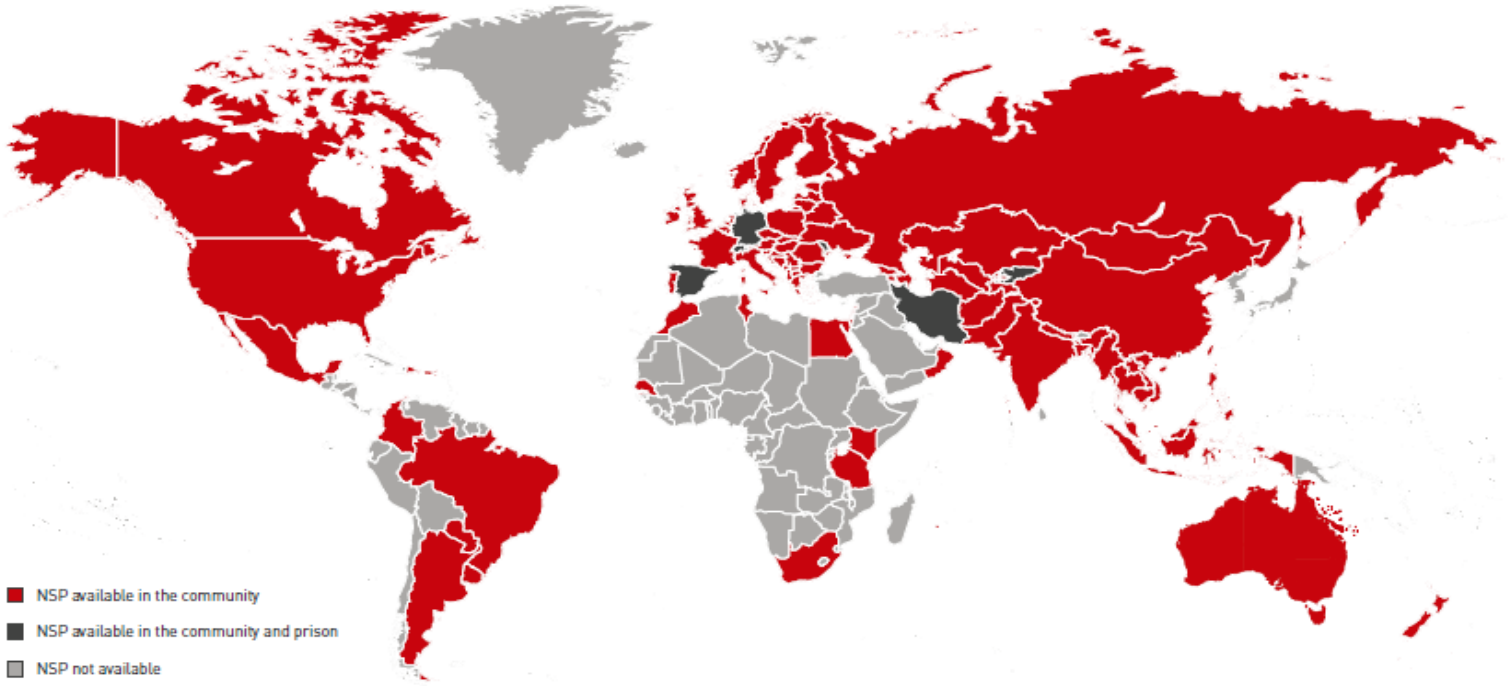
- Disproportional high prevalence of blood-borne virus infections among prisoners
- Unsafe drug use motor of spread of infections (sharing of needles/syringes, paraphernalia)
- WHO, UNODC, and UNAIDS have recommended that prisons implement prison-based needle and syringe programs (PNSPs) for prisoners
- Comprehensive package =>

HIV-Prevention – The Comprehensive Package: 15 Key Interventions (UNODC/ILO 2012)

1. Information, education and communication
2. HIV testing and counselling
3. 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 => Opioid Substitution 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

[1]UNODC/ILO (2012): HIV prevention, treatment and care in prisons and other closed settings: a comprehensive package of interventions

(P)NSP in Community & Prison worldwide[1]



1 HRI (2015): **The Global State of harm reduction**

2. Methodology

- Systematic search to find studies of needle and syringe programs in prisons from 4 bibliographic databases: MEDLINE (via Ovid), Embase (via Ovid), PsycINFO, (via Ovid) and CINAHL (via EBSCOhost).
- Searched from inception to 31 January 2017
- No language restriction was applied
- All components of the search methodology in accordance with PRISMA MOOSE guidelines

3. Results

- 745 records
- 61 studies were included for full-text review
- 9 studies were included after full-text review:
  - Germany (n=4),
  - Iran (n=1),
  - Spain (n=3), and
  - Switzerland (n=1)

Selected results: Swiss pilot studies

- Hindelbank (June 1994–1995) and Oberschöngrün (> May 1995)
- During the pilot, no new infections of HIV, HBV, or HCV, no increase in drug use were observed
- All but one participant were observed to have discontinued the exchange of used syringes
- The number of overdoses or drug-related deaths was not observed to have increased
- No new abscesses related to the injection of drugs (Nelles et al. 1997)

Selected results: Iranian prisons

- When the program was fully deployed, the number of used syringes shared declined to zero
- No additional health outcomes were measured
- An average of 3.7 syringes were shared per person per week

Selected results: Spanish pilot study

- Between 1999 and 2009 prisoners have been tested in **Pereiro de Aguiar** prison for HCV, HBV, and HIV at baseline and at a ten-year follow-up.
- HIV infections dropped from 21% to 8.4%;
- HCV prevalence dropped from 40% to 26.2%;
- HBV prevalence of 2% rose to 2.2%.
- Health-related advices were provided during needle and syringe provision, encouraging clients to adopt hygienic habits and attend other health care program.
- Unclear to what extent PNSPs contribute to these results.

Selected results: Spanish pilot study

- In a survey conducted in a male prison in **Bilbao**, Spain, prisoners self-reported that their risk behavior decreased, and that their drug consumption did not increase
- Hernandez-Fernandez, et al. observed that prisons who had implemented harm reduction services saw reductions in: HIV (by 71%), AIDS (85%), tuberculosis (93.7%), and HIV and HCV seroconversions (85% and 71%).

Selected results: German pilot studies

- Heinemann, et al. conducted a cross-sectional study in a men's prison in Hamburg/Germany and found that, since the start of the PNSP, there had been no new HIV and hepatitis infections among PWID
- Stöver et al. (1999) conducted a comparative PNSP pilot study in one women's (Vechta) and one men's prison (Gross-Hesepe) with different modes of distribution:
  - no new HIV or hepatitis infections,
  - an increase in the number of follow-up treatments for drug users, and no overdoses =>

Selected results: German pilot studies

- In the women's prison, abscesses were observed to decrease, likely due to an uptake of hygienic habits
- The overall health status of the participating opioid-dependent prisoners improved and
- while younger prisoners were more likely to take health-related risks than older ones, the PNSP was associated with a reduction in the risks involved in drug consumption overall.

4. Discussions

Discussion

- Systematic review sought to assess health outcomes for PNSPs
- All 9 studies identified evidence associating PNSPs with one or more health benefits
- The outcome for which the studies collectively demonstrated the strongest evidence was a reduction in HIV transmission
- The strength of the evidence was low overall

Discussion

- Findings from 6 studies indicated the potential for PNSPs to contribute to reducing HCV transmission among inmates.
- A very small amount of evidence suggested additional benefits such as
  - reducing HBV transmission,
  - reducing the incidence of drug use-related abscesses and
  - improving infectious disease-related knowledge

Discussion

- One general fear is that needles might be used as weapons against other prisoners or staff and that drug consumption and trafficking of drugs would increase.
- Pilot studies have shown these fears to be unjustified in various settings
- Five of the nine studies reported that neither needles nor syringes were used as weapons

3. Conclusions

Prison-based needle and syringe programs – UNODC Handbook

In 60 prisons worldwide – in 9 countries

Conclusions

- Only nine countries in which PNSPs are currently operating – and in some of those countries, coverage is very low
- Findings of our review, while qualified by these limitations, nonetheless bolster the WHO/UNODC/UNAIDS recommendation for PNSP to be provided in prisons

Conclusion

- The available evidence appears to be promising, especially when considered alongside evidence regarding the health impact of NSPs in non-prison settings
- Not been enough methodologically robust studies published on this intervention in prison settings to allow for unqualified conclusions to be drawn.

Methodology

- Principle of equivalence adopted by the UN General Assembly raises further concerns about the failure of many governments to institute PNSPs[1]

1 United Nations General Assembly. *Basic Principles for the Treatment of Prisoners.* Point 9 of Resolution A/RES/45/111 68th plenary meeting. New York: United Nations General Assembly; 1990

Methodological Limits

- Findings from PNSP studies are difficult to compare due to inconsistency in study design and goals
- significant variation among the prison settings included in this review
- heterogeneity in research study design, setting, and. as a result, outcome, makes it difficult to draw sound conclusions and provide evidence-informed recommendations
- From a scientific standpoint, the simultaneous use of multiple interventions makes it difficult to attribute any observed changes to one specific intervention

Prison-Based Needle Exchange Programmes (PNSP)

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