

# Interventions to prevent initiation into injecting

Anneli Uusküla  
on behalf of the Avant Garde study team  
University of Tartu  
Estonia

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# The transition

The transition from non-injecting to injecting drug use greatly increases the likelihood of both individual and societal adverse consequences of illicit drug use.

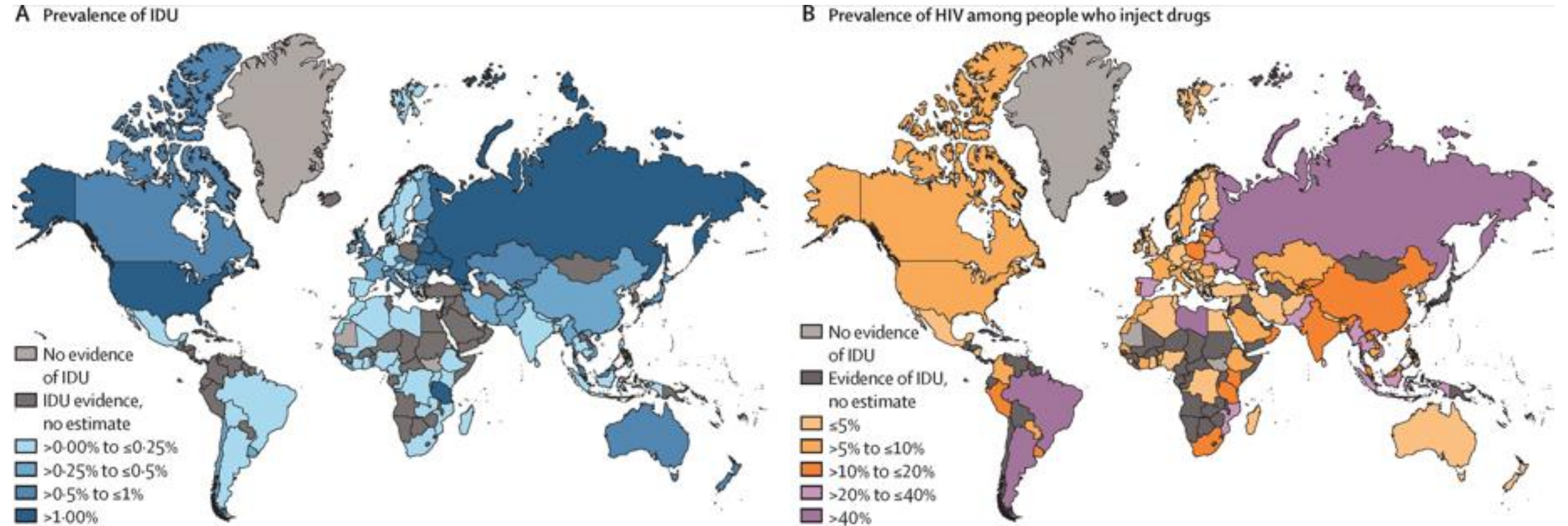
Compared to non-injecting use, injecting is more likely to lead to

- blood-borne virus transmission (HIV, hepatitis B and C)
- abscesses and other bacterial infections
- fatal overdoses
- more rapid development of substance use disorders

## I am an injecting drug user. I face these issues.



# Estimated prevalence of injecting drug use and HIV prevalence among PWID



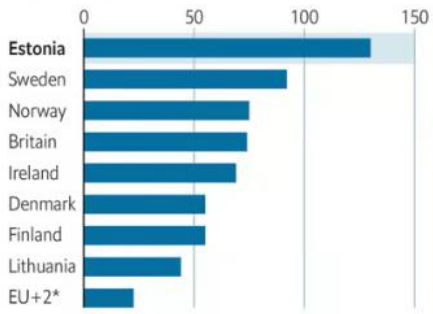
# Overdose deaths

2017

## Bitter pill

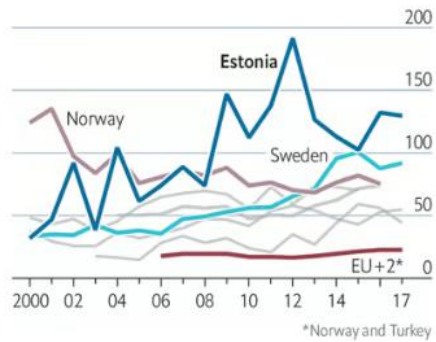
Drug-induced deaths per 1m population, aged 15-64  
Selected European countries

2017



Source: European Monitoring Centre for Drugs and Drug Addiction

The Economist

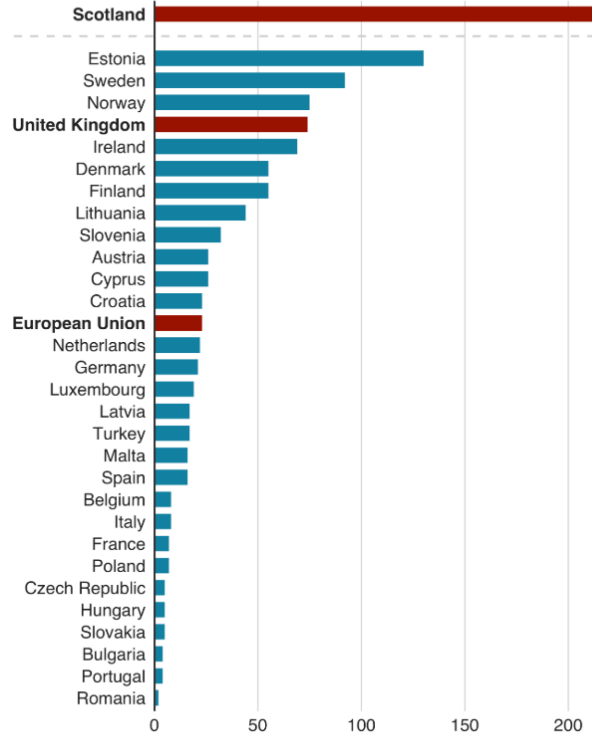


\*Norway and Turkey

2018

## Scotland has more drug deaths per capita than any European country

Number of deaths per million people, latest available data



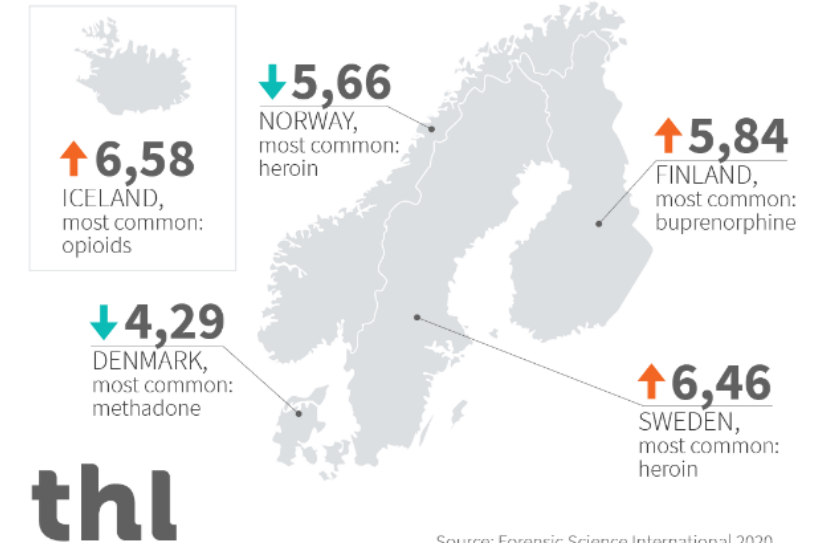
Source: National Records of Scotland. Note: No data available for Greece

BBC

2019

## Drug overdose deaths

in the Nordic countries per 100 000 inhabitants



Source: Forensic Science International 2020

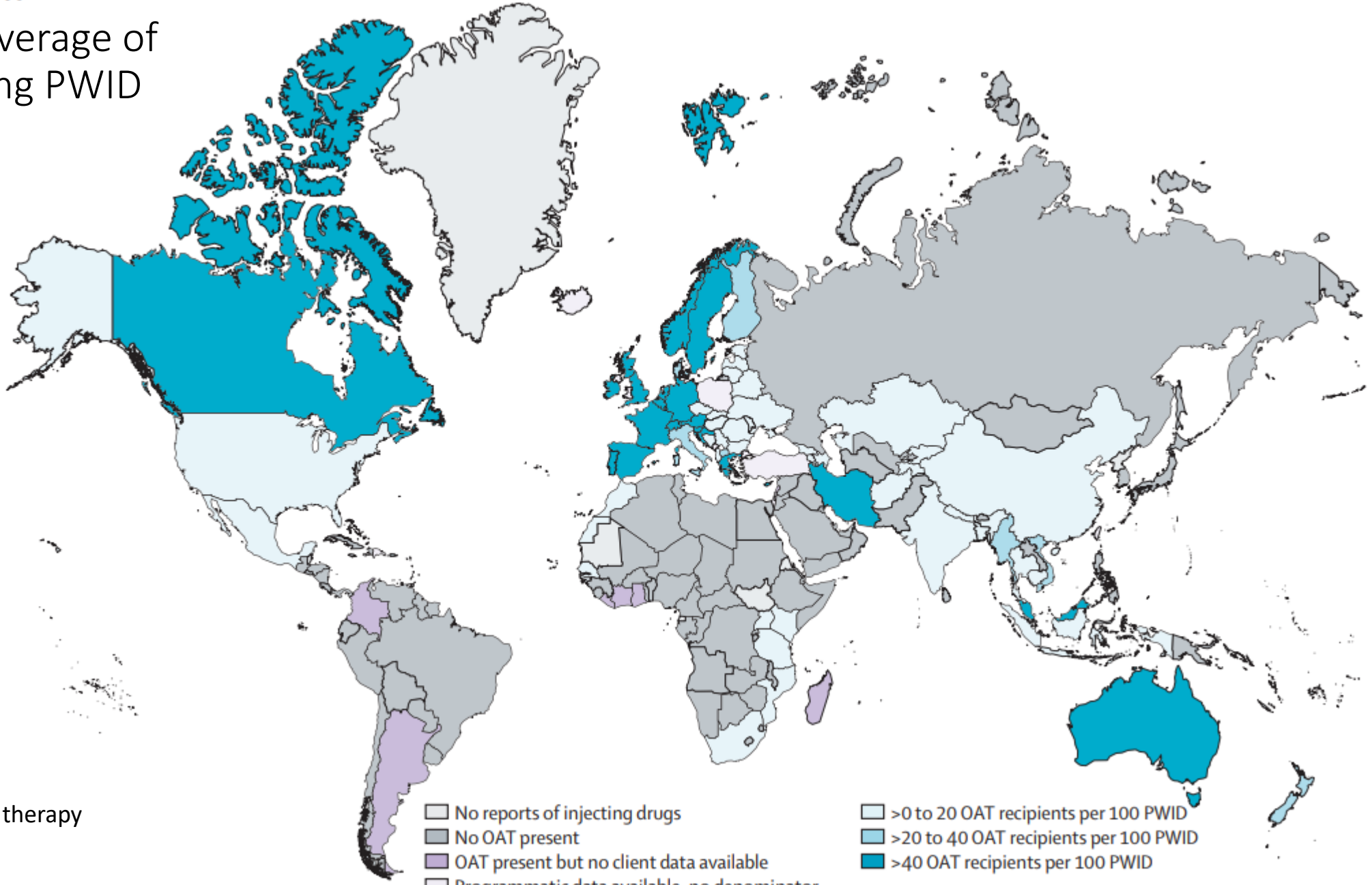
thl

Economist 2019

BBC 2019

A

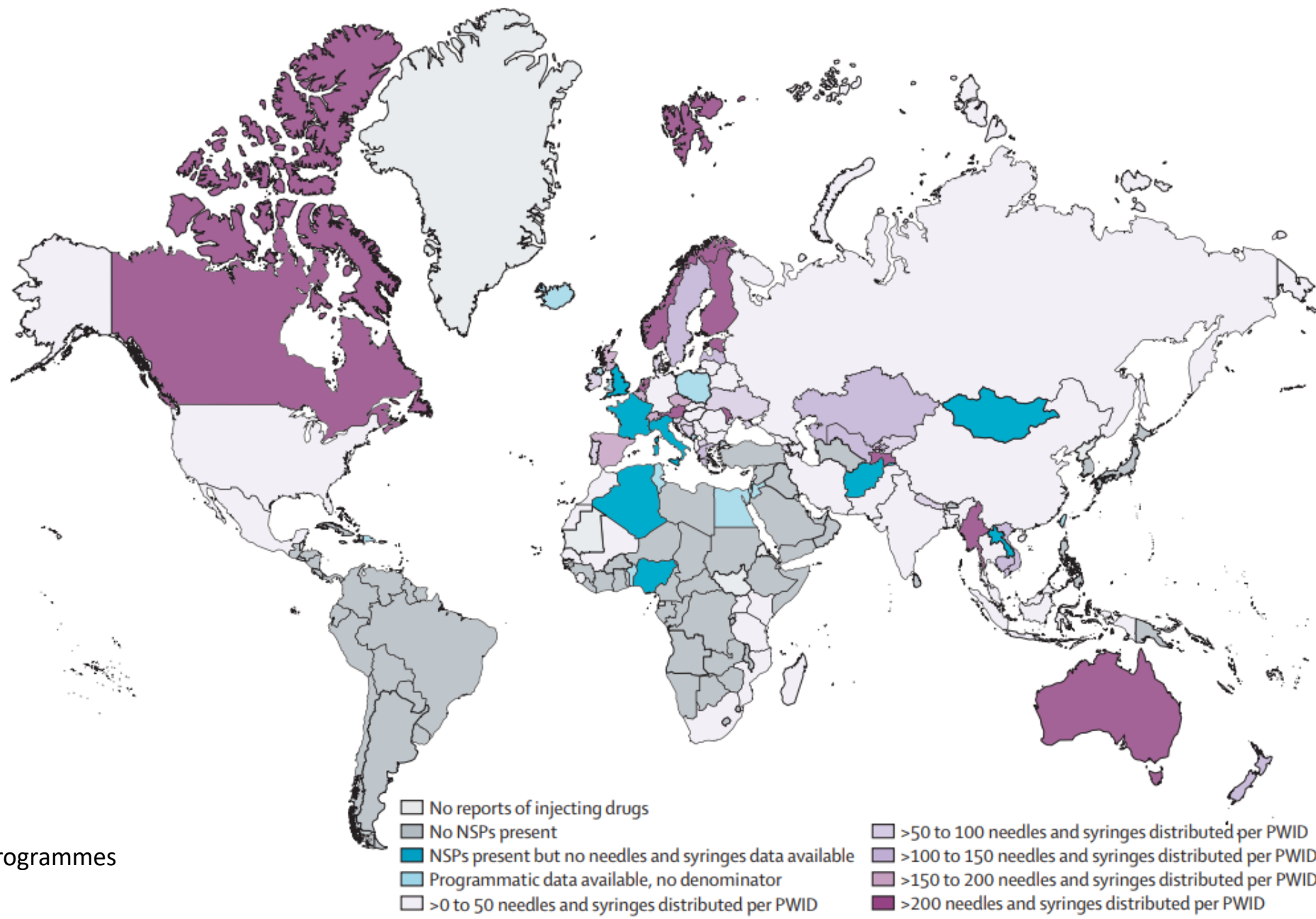
# Global coverage of OAT among PWID



OAT Opioid agonist therapy

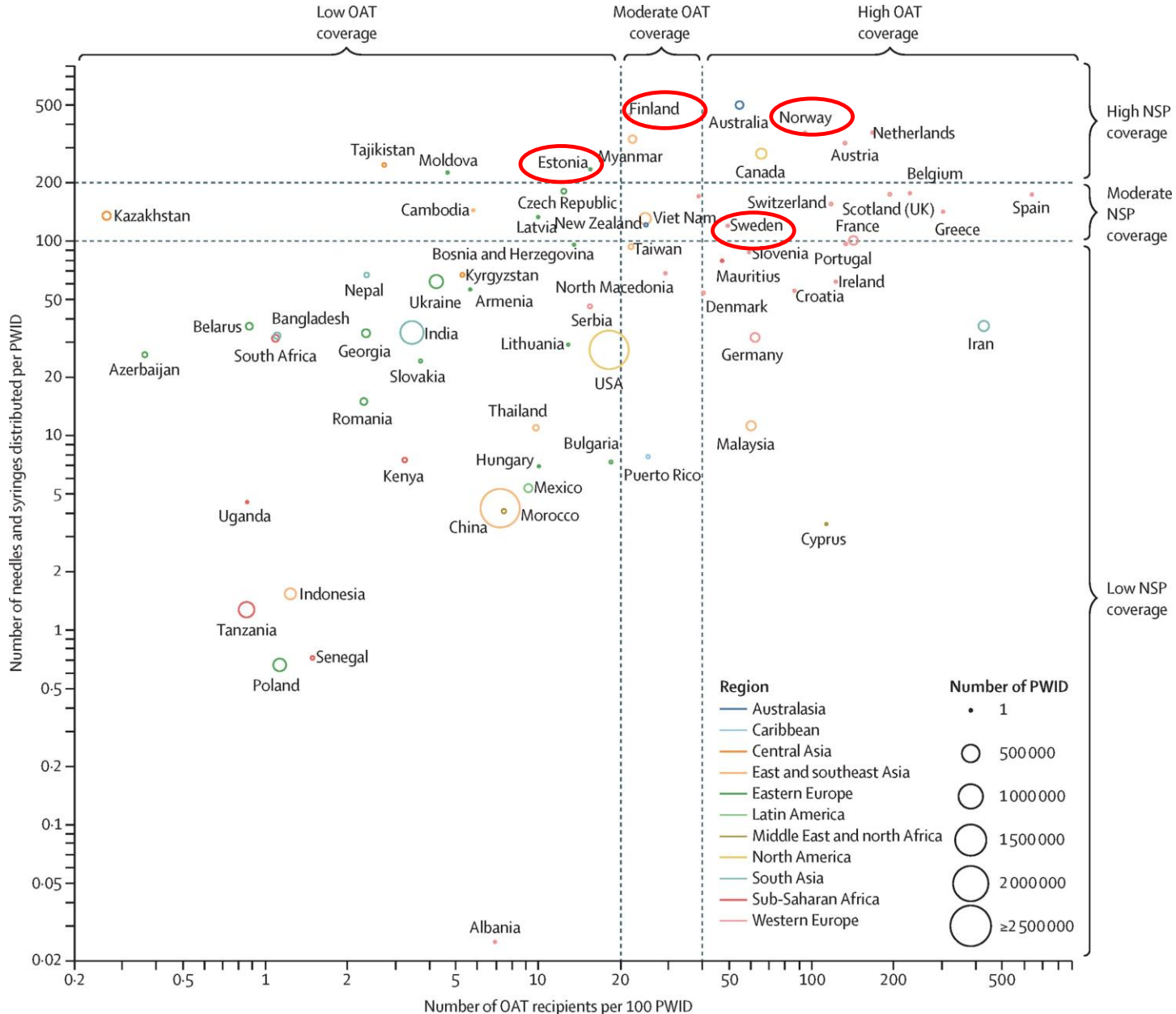
- No reports of injecting drugs
- No OAT present
- OAT present but no client data available
- Programmatic data available, no denominator
- >0 to 20 OAT recipients per 100 PWID
- >20 to 40 OAT recipients per 100 PWID
- >40 OAT recipients per 100 PWID

# Global coverage of NSPs among PWID



NSP Needle and syringe distribution programmes

# Combination coverage of NSPs and OAT for people who inject drugs



NSP Needle and syringe distribution programmes  
 OAT Opioid agonist therapy

# Interventions to prevent the initiation of injection drug use: A systematic review

Studies evaluated four different types of interventions:

- Social marketing
- Peer-based behavior modification
- Treatment
- Drug law enforcement

n=8

Peer-based behavior modification and addiction treatment interventions were found to be most effective.

Two of three studies assessing the impact of drug law enforcement on patterns of injecting initiation found no impact on injecting initiation, while one study reported inconclusive results



# The transition (persons who use but do not inject drugs, non-PWID)

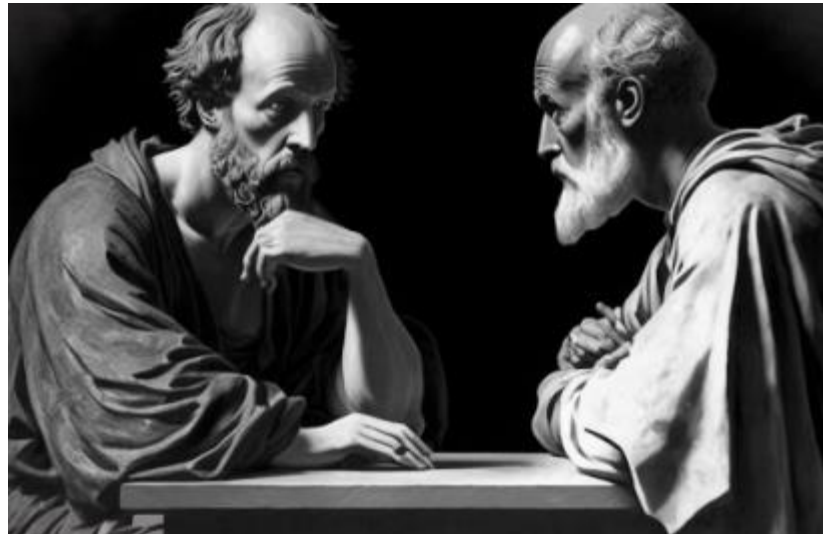
Factors	No. of studies	Factors	No. of studies
<i>Individual factors</i>	15	<i>Familial factors</i>	6
Seeking pleasure and rapid induction of high via injection	9	Drug Injection by a family member	3
Curiosity	8	Inappropriate family reactions to drug use	3
Severity of addiction and development of tolerance	7	Dramatic family events or conflicts	3
Self-treatment of opioid dependency via injection of other drugs <sup>a</sup>	5	<i>Social and environmental factors</i>	15
Preference for easier and quicker mode of drug administration	5	Peer-role	13
Lack of knowledge and misconceptions about harms of injection	3	High cost of drugs and lower cost of injection	10
Mental and emotional problems	2	Easier access to injectable drugs than opium	6
Lower age of drug initiation	2	Social disadvantages (e.g. poverty and homelessness)	5
Being single	1	Low quality of the drug	5
		Need to hide drug use	4
		Low availability of the drug, mainly in prison	4
		Limited preventive measures	2
		Lack of alternative pleasurable activities	1
		Industrialization and high speed of life	1

# The transition

Injecting an illicit drug is a complicated and potentially dangerous procedure, and almost everyone who begins injecting requires the assistance of an experienced injector for a first injection.



**Persons who do not inject  
drugs (non-PWID)**



**Persons who inject drugs  
(PWID)**

# The transition (theory)

According to social cognitive theory, three fundamental processes could drive initiation of injection

- (1) Social modelling of injection, and concomitant interest in emulating one's injecting friends
- (2) Development of outcome expectancies about injection—including both  
enhanced positive expectancies (e.g. that injecting will produce a more intense, more efficient, cheaper high)  
decreased negative expectancies (e.g. that injecting will produce stronger need and greater harms to health and life)
- (3) Development of self-efficacy about injecting on one's own.

# The transition (persons who use but do not inject drugs, non-PWID)

The social-cognitive and interpersonal processes through which **non-PWID are initiated into injecting**

- Through their participation in the general illicit drug use subculture and their interactions with persons who inject drugs (PWID), non-PWID “**normalize**” **injecting** as a route of drug administration
- Through further **discussions with PWID** and possible **observations of PWID actually injecting**, they become more **interested** in injecting, become **motivated** to try injecting, and then **ask for assistance with their first injection**

# The transition (PWID)

The social-cognitive and interpersonal processes through which **persons who inject drugs initiate those who non-PWID into injecting**

- Engaging in “**injection promoting**” behaviors
  - speaking positively about injecting to non-PWID,
  - injecting in front of non-PWID
  - offering to give a first injection.
- **Being asked** to assist with a first injection
- **Assisting** with a first injection

# Interventions to prevent initiation into injecting

## Non-PWID

British Journal of Addiction

### AIDS and the transition to illicit drug injection—results of a randomized trial prevention program

March 1992

DON C. DES JARLAIS, CATHY CASRIEL, SAMUEL R. FRIEDMAN, ANDREW ROSENBLUM

### Effects of drug treatment for heroin sniffers: a protective factor against moving to injection?

Margaret S. Kelley<sup>a,\*</sup>, Dale D. Chitwood<sup>b</sup> Social Science & Medicine 58 (2004) 2083–2092

## PWID

*Drugs: education, prevention and policy*, Vol. 5, No. 2, 1998

### Evaluation of a Brief Intervention to Prevent Initiation into Injecting

NEIL HUNT,<sup>a,1</sup> GARRY STILLWELL,<sup>1</sup> COLIN TAYLOR<sup>2</sup> & PAUL GRIFFITHS<sup>2</sup>

### Interrupting the social processes linked with initiation of injection drug use: Results from a pilot study

*Drug and Alcohol Dependence* 137 (2014) 48–54

C. Strike<sup>a,b,\*</sup>, M. Rotondi<sup>c</sup>, G. Kolla<sup>a</sup>, É. Roy<sup>d</sup>, N.K. Rotondi<sup>b</sup>, K. Rudzinski<sup>a,b</sup>, R. Balian<sup>e</sup>, T. Guimond<sup>a</sup>, R. Penn<sup>a</sup>, R.B. Silver<sup>e</sup>, M. Millson<sup>a</sup>, K. Sirois<sup>e</sup>, J. Altenberg<sup>e</sup>, N. Hunt<sup>f</sup>

### Implementing an Updated “Break the Cycle” Intervention to Reduce Initiating Persons into Injecting Drug Use in an Eastern European and a US “opioid epidemic” Setting

*AIDS and Behavior* (2019) 23:2304–2314

<https://doi.org/10.1007/s10461-019-02467-y>

Don Des Jarlais<sup>1</sup>, Anneli Uuskula<sup>2</sup>, Ave Talu<sup>2</sup>, David M. Barnes<sup>1</sup>, Mait Raag<sup>2</sup>, Kamyar Arasteh<sup>1</sup>, Greete Org<sup>2</sup>, Donna Demarest<sup>3</sup>, Jonathan Feelemyer<sup>4</sup>, Hayley Berg<sup>1</sup>, Susan Tross<sup>5</sup>

RESEARCH ARTICLE

**PLOS ONE**

Adapted “Break the Cycle for Avant Garde” intervention to reduce injection assisting and promoting behaviours in people who inject drugs in Tallinn, Estonia: A pre- post trial

Anneli Uuskula<sup>1☯\*</sup>, Mait Raag<sup>1☯</sup>, David M. Barnes<sup>2†</sup>, Susan Tross<sup>3†</sup>, Talu Ave<sup>1‡</sup>, Don C. Des Jarlais<sup>2☯</sup>

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	Tallinn, Estonia		Staten Island, NY	
	N	%	N	%
Total	299	100	103	100
Avg. age (SD)	33 (7)	–	44 (12)	–
Avg. years since first injection (SD)	14 (6)	–	17 (14)	–
Gender				
Male	230	77	63	61
Female	69	23	39	38
Non-binary	–	–	–	1
Race or ethnicity				
White	–	–	52	50
Black	–	–	22	21
Latinx	–	–	13	13
Staten Island, NYC other	–	–	16	16
Estonian	41	14	–	–
Russian	240	80	–	–
Tallinn other	18	6	–	–
Injecting drug use				
Heroin	1	<1	98	95
Cocaine	1	<1	38	37
Speedball	0	0	40	39
Opiate analgesics	3	1	15	15
Fentanyl	214	72	6	6
Amphetamine or methamphetamine	191	64	8	8

	Tallinn, Estonia		Staten Island, NY	
	N	%	N	%
Any injecting	299	100	103	100
Daily injecting	74	25	60	58
Non-injecting drug use				
Any non-injected drug use	201	67	96	93
Heroin	0	0	58	56
Cocaine	0	0	43	42
Speedball	0	0	48	48
Opiate analgesics	45	15	57	55
Fentanyl	102	34	5	5
Amphetamine or methamphetamine	45	15	12	12
Injection promoting behavior				
Talk positively about injecting to non-injector	21	7	26	25
Inject in front of non-injectors	77	26	25	24
Offer to inject	3	1	5	5
Assisted with first injection last 6 months	14	5	14	14



# The intervention (BtCAG)

RESEARCH ARTICLE **PLOS ONE**  
Adapted “Break the Cycle for Avant Garde”  
intervention to reduce injection assisting and  
promoting behaviours in people who inject  
drugs in Tallinn, Estonia: A pre- post trial


Anneli Uusküla<sup>1\*</sup>, Mait Raag<sup>1</sup>, David M. Barnes<sup>2†</sup>, Susan Tross<sup>3†</sup>, Talu Ave<sup>1†</sup>, Don  
C. Des Jarlais<sup>2</sup>

Our enhanced BtCag intervention had seven main parts

- (1) discussion of **own first time** injecting drugs
- (2) discussion of **injection “promoting” and “assisting” behaviors**, and experiences with and attitudes toward these behaviors
- (3) discussion of the **health, legal, social, and emotional risks of injection** (including a module on safe injection practices)
- (4) role-plays of behaviors and scripts for **avoiding or refusing requests** to help non-PWID inject for the first time
- (5) role-plays of **talking with other PWID about not encouraging non-PWID** to start injecting
- (6) discussion of **coaching nonPWID in safer injection practices**, should they feel helping is their best option
- (7) discussion of how **naloxone** can be used to reverse overdoses

# Flowchart of the study 2018-2019

HARM REDUCTION CENTRE



**Lastekodu 6, Tallinn**

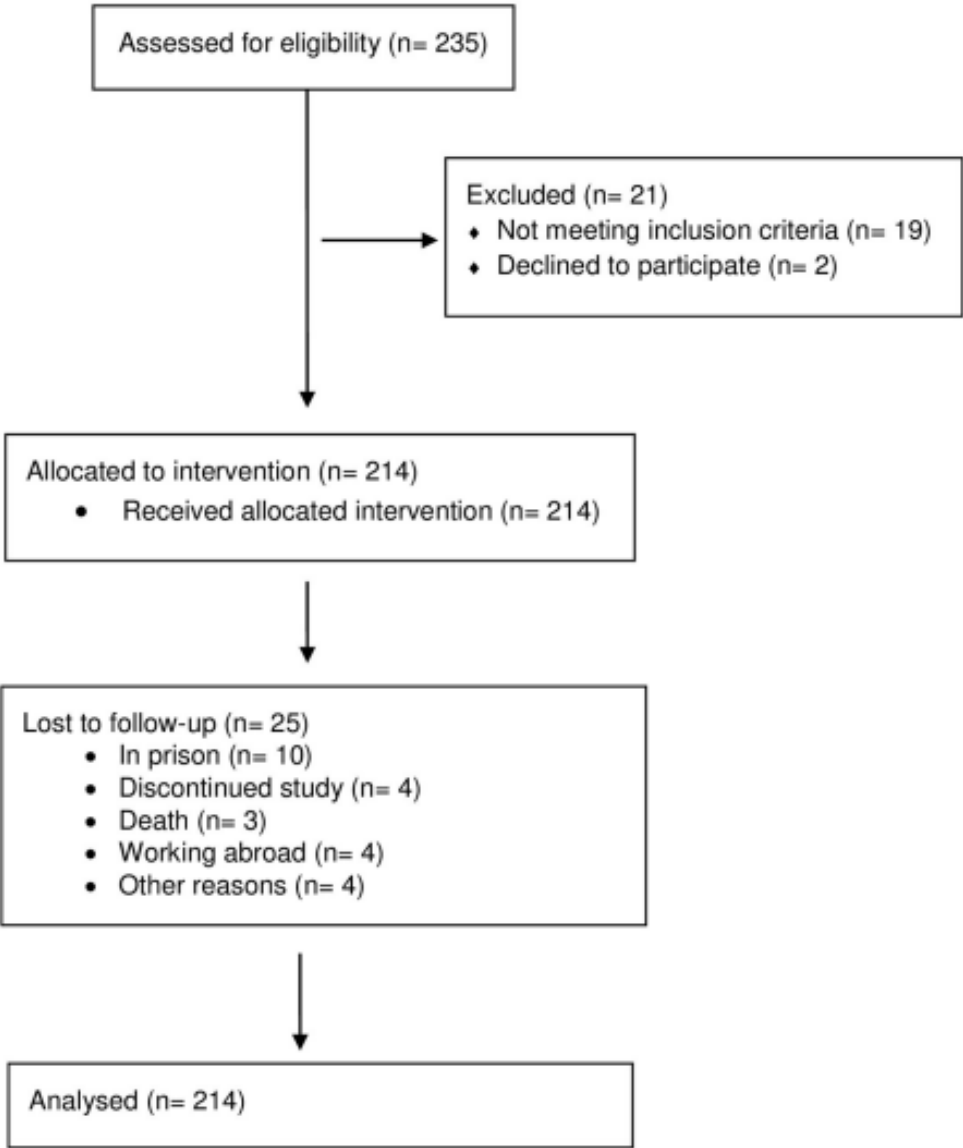
The harm reduction centre at Lastekodu Street in Tallinn started operating on September 25 in 2002.

Enrollment

Intervention

Follow-Up

Analysis



# Characteristics of participants, Tallinn, Estonia 2018–2019.

Variable	Categories	Baseline n (%)	Follow-up n (%)	Baseline vs follow-up p-value
<b>Socio-demographic characteristics</b>				
Age	> 30	145 (76,7%)	145 (76,7%)	
	< = 30	44 (23,3%)	44 (23,3%)	
Gender	Female	61 (32,2%)	61 (32,2%)	
	Male	128 (67,7%)	128 (67,7%)	
Education	<10 years	95 (50,3%)	95 (50,3%)	
	> = 10 years	94 (49,7%)	86 (45,5%)	
Employment	Not employed	89 (47,1%)	79 (41,8%)	0,2120
	Employed	100 (52,9%)	110 (58,2%)	
Place of residence	Unstable housing	32 (16,9%)	43 (22,8%)	0,0455
	Stable housing	157 (83,1%)	146 (77,2%)	
<b>Injection drug use (in the last 6 months)</b>				
Length of injection drug use (lifetime)	< = 5 years	8 (4,2%)	8 (4,2%)	
	> 5 years	181 (95,8%)	181 (95,8%)	
Main drug injected	Other	118 (62,4%)	135 (71,4%)	0,0104
	Fentanyl	71 (37,6%)	54 (28,6%)	
Does not injected drugs		na	33 (17,5%)	
Any non-injection drug use	No	11 (5,8%)	2 (1,1%)	0,0265
	Yes	178 (94,2%)	187 (98,9%)	
Injecting daily (in the last 4 weeks)	Daily	37 (21,6%)	24 (20,5%)	0,6892
	Less frequent	134 (78,4%)	93 (79,5%)	
Receptive sharing	No	156 (83,0%)	157 (85,8%)	0,5959
	Yes	32 (17,0%)	26 (14,2%)	
Distributive sharing	No	153 (81,4%)	164 (89,6%)	0,0108
	Yes	35 (18,6%)	19 (10,4%)	

# Characteristics of participants, Tallinn, Estonia 2018–2019

Variable	Categories	Baseline n (%)	Follow-up n (%)	Baseline vs follow-up p-value
<b>Sexual behaviour (in the last 6 months)</b>				
Any sex partners	Yes	163 (86,2%)	149 (79,7%)	0,0093 ↓
	No	26 (13,8%)	38 (20,3%)	
..Any unprotected sex	Yes	136 (83,4%)	120 (79,5%)	0,8383
	No	27 (16,6%)	31 (20,5%)	
<b>HIV infection</b>				
HIV seropositivity	Pos	103 (54,5%)	104 (55,0%)	> 0,95
	Neg	86 (44,5%)	85 (45,0%)	
<b>Treatment and harm reduction services utilization</b>				
Currently on methadone	No	177 (93,7%)	187 (98,9%)	0,0094
	Yes	12 (6,3%)	2 (1,1%)	↓
Main source of new syringes in the last 6 months	Other	57 (40,6%)	40 (26,1%)	0,5218
	NSP	129 (69,4%)	113 (73,9%)	
Currently on ART	Yes	76 (73,8%)	79 (76,0%)	0,6464
	No	27 (26,2%)	25 (24,0%)	

# Characteristics of participants, Tallinn, Estonia 2018–2019

Variable	Categories	Baseline n (%)	Follow-up n (%)	Baseline vs follow-up, p-value
Injecting drug users	< = 10	129 (68,3%)	133 (70,4%)	0,6025
	> 10	60 (31,7%)	56 (29,6%)	
Non-injecting drug users	> 3	44 (23,3%)	34 (18,0%)	0,2120
	< = 3	145 (76,7%)	155 (82%)	
<b>External norms</b>				
Any friends assisted injection initiation in the last 6 months	No	56 (51,4%)	77 (69,4%)	0,0446



# Main results, Tallinn, Estonia 2018–2019

Variable	Categories	Baseline n (%)	Follow-up n (%)	Baseline vs follow-up, p-value
	Yes	53 (48,6%)	34 (30,6%)	
<b>Initiation of others L6M: helping and promoting behaviours</b>				
Has been asked to assist with a 1 <sup>st</sup> injection	No	159 (84,1%)	169 (89,4%)	0,1116
	Yes	30 (15,9%)	20 (10,6%)	
... for how many	Mean (SD)	2,63 (3,15)	1,75 (1,12)	0,6160
	Min—Max	1–15	1–5	
Has talked positively	No	182 (96,3%)	185 (97,9%)	0,5050
	Yes	7 (3,7%)	4 (2,1%)	
... to how many	Mean (SD)	1,85 (0,69)	1 (0)	0,3173
	Min—Max	1–3	1–1	
Has injected in front of a non-injector	No	159 (84,1%)	173 (91,5%)	0,0216
	Yes	30 (15,9%)	16 (8,5%)	
... how many	Mean (SD)	1,87 (0,82)	2,81 (1,83)	0,2685
	Min—Max	1–4	1–7	
Has offered to give a 1 <sup>st</sup> injection	No	184 (97,4%)	189 (100%)	0,0736
	Yes	5 (2,6%)	0 (0%)	
... to how many	Mean (SD)	1,4 (0,89)	-	-
	Min—Max	1–3	-	
Has assisted with a 1 <sup>st</sup> injection	No	176 (93,6%)	186 (98,4%)	0,0162
	Yes	12 (6,4%)	3 (1,6%)	





UNIVERSITY OF TARTU

Convictus team

Ave Talu

Don Des Jarlais, New York University  
Susan Tross, Columbia University

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All participants

Thank you