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Study on Drug Related Infectious Diseases in Injecting Drug Users- Belgium

Preliminary findings

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Outline

1. What?
2. How?
3. Study process
4. Preliminary results
5. Concluding remarks

1. Be-DRID study: what?

= Multi-centre cross-sectional sero-behavioural prevalence study.

Research questions:

- HIV-, HBV- and HCV-prevalence in current IDUs (injecting past 12 months) in Belgium?
- Psychiatric co-morbidity in current IDUs in Belgium?
- Access to and use of health care in current IDUs in Belgium?

2. Be-DRID study: how?

- **Multi-centre**:
  - All MSOCs in Flanders (#5) and MASS in Wallonia (#3)
    - Low threshold, needle exchange
- **Sero**-behavioral:
  - HIV, HBV (HBsAg), HCV (anti-HCV)
  - Saliva sampling
    - easy, no meds required, ideal for outreach testing
    - 'epidemiological' tests, no 'diagnostic' tests
  - Validation of oral fluid tests for HIV detection initiated

Validation of oral fluid tests for HIV*:

- carried out by **ITG** (Antwerp) – **WIV-ISP** (Brussels)
- 302 paired saliva-serum samples from HIV^+ and HIV^- persons
- performance of 3 ELISA kits (Vironostika HIV Uni-Form II Ag/Ab, Enzygnost Anti-HIV 1/2 Plus and Genscreen ™ HIV-1/2 version 2)
- When optimizing for high Sensitivity (~100%),
  - Enzygnost (Sp = 98.1%)
  - Genscreen (Sp = 97.6%)
  - Vironostika (Sp = 96.2%)
- Results robust to 'drinking water before sampling', 'long period (up to 7 days) of storage at room temperature between sampling and testing' -> ideal for outreach testing.

*K. Fransen, T. Vermoesen, G. Beelaert, J. Menten, V. Hutse, K. Wouters, E. Florence. HIV testing using Oral Fluid samples. *In preparation.*

2. Be-DRID study: how?

Sero-**behavioral**:

- Sections from existing (validated) instruments

Content	Source
Sociodemographics	EUROPASI
Injecting drug use – risk factors	EMCDDA example questionnaire for ST9
Psychiatric co-morbidity	Mini International Neuropsychiatric Interview Plus 5.0
Health care use/access	Health Interview Survey

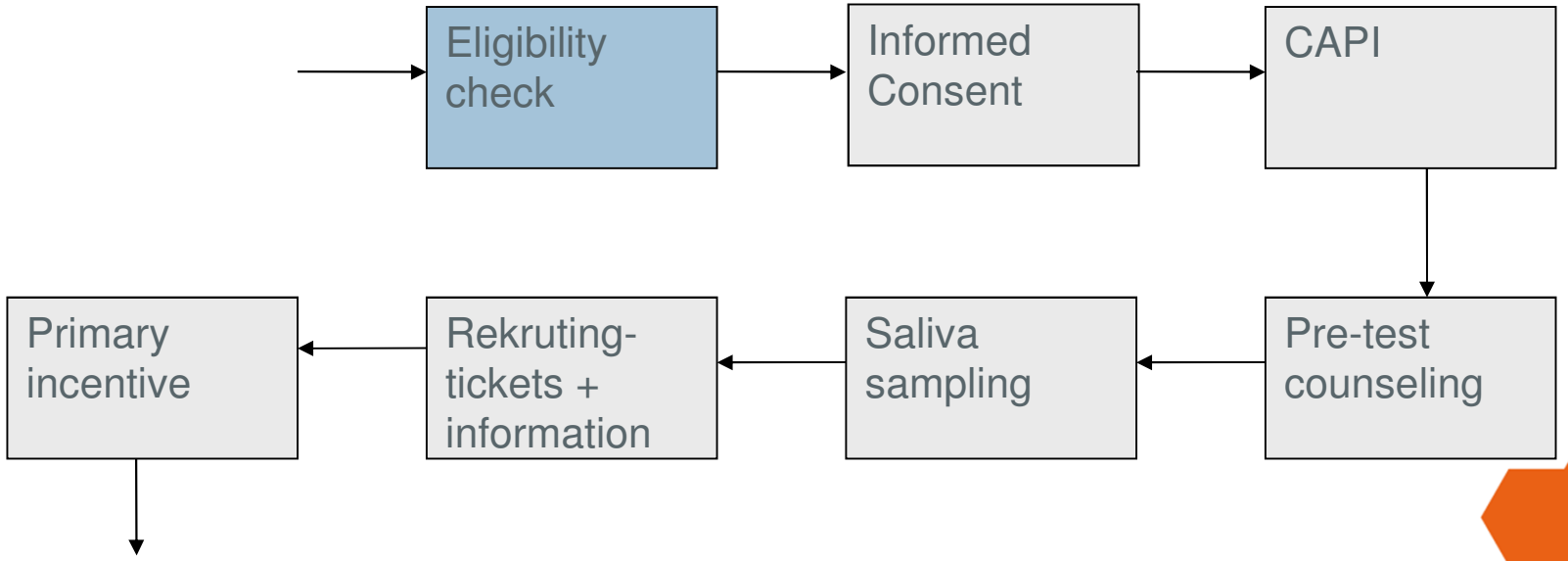
- CAPI (computer assisted personal interview): LimeSurvey

'Unstable' Java-scripts workarounds for survey piping (~MINI: counting symptoms)

Limesurvey best choice for more complex surveys??

2. Be-DRID study: how?

- Interviewers = health workers at drug centres
  - trained
  - RDS ⇔ external interviewers
  - (+) experience with drug users
  - (-) burden for centres, personnel issues at centres (lost 4/18 interviewers)
- Interview process:



2. Be-DRID study: how?

Rekruting: Respondent Driven Sampling (RDS)

Heckathorn ('97,'02), Johnston ('08)

- = Method for sampling
  - snowball mechanism – peer rekrutement – distributing tickets
  - primary and secondary incentives (food vouchers – 30 euro)
  - initial respondents = 'seeds' (known by researchers, non-random)
- = Statistical inference
  - claims to obtain population estimates ('probabilistic sampling')
  - based on social network theory
  - recruitment probabilities $\propto$ inverse social network size

Illicit person's social network size ??

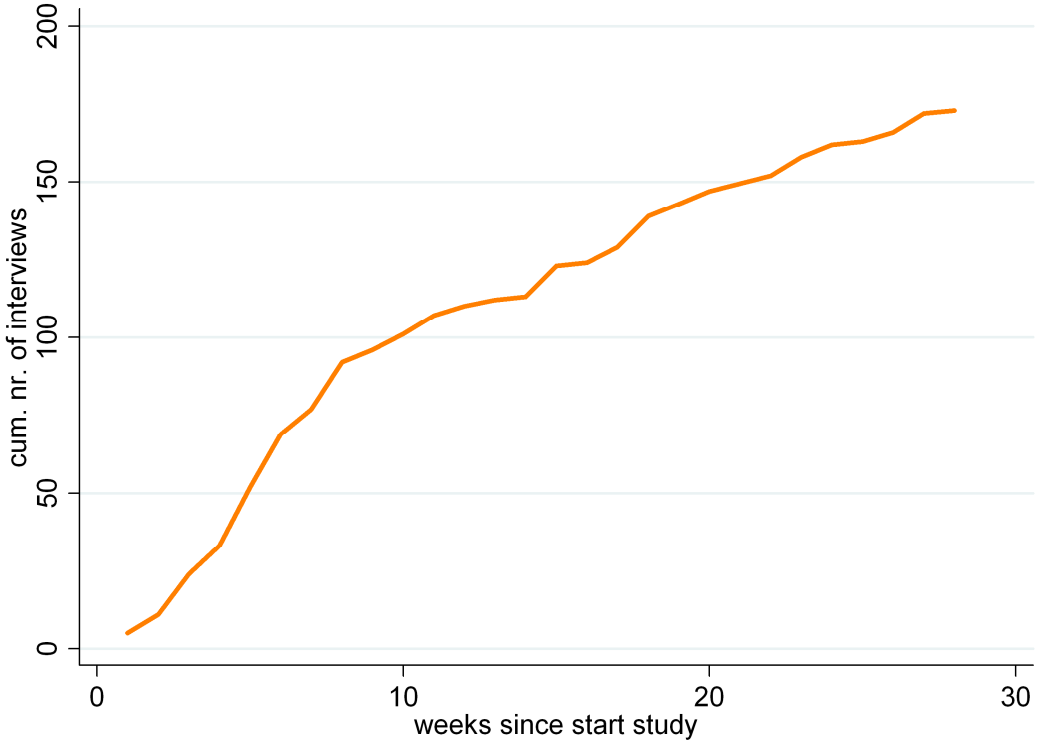
assumes random sampling within a person's network ??

RDS inference = topic of debate

- Design effect (d.e.)
  - d.e. = 2 (Salganik, '06; EMCDDA)
  - d.e. = 5-10!! (Goel&Salganik, '10)
  -  uncertainty d.e. -> impossible to determine sample size
- High variance in estimates
  - Goel&Salganik, '09; Goel&Salganik, '10
- Commonly used methods limited to prevalence estimates
  - RDS-I estimate (Salganik&Heckathorn, '04) , RDS-II estimate (Volz&Heckathorn, '08) , …
- RDS in real world
  -  Uncorrected estimates outperformed RDS-corrected estimates (McCreesh, '12)
- RDS problematic, but 'best on market'?

3. Be-DRID study: study process

rekrutement process: cum. # interviews by week



3. Be-DRID study: study process

sample size: # interviews dd 02/10/2012
(end study: 01/11/2012)

Centre	n	%
Free Clinic, Antwerpen	67	38.7
Diapason Charleroi	20	11.6
MSOC Gent	30	17.3
MSOC Limburg	34	19,7
MASS-Start Liège	2	1,8
MSOC Oostende	9	5,2
MSOC Vlaams Brabant	8	4,6
Total	**173**	100

Why is rekrutement so slow?

Interviewers feedback

- Personnel issues at the centres
  - loss of health care workers (alias interviewers)
- Not very successful in rekruting drug users outside low threshold centres
  - only **3.5%** of participants not in contact with LT services the past 12 months
  - good coverage of LT services in Belgium
  - drug users not in contact with such a service, will not do so because of a study
- Changes in needle exchange practice
  - Liège: needle exchange by bus
- Injecting drug users often isolated
  - Oostend, Leuven, Diest….smaller cities
- Questionnaire is found to be 'heavy'
  - Duration +- 40 min.
- 'Chaotic' drug users often do not manage to get in contact with the interviewers after having received a rekrutement ticket

4. Be-DRID study: results (prelim.)

sample descriptives: injecting drug use (1)

Substance	LT	LY	LM	LY/LT	LM/LY
heroine	**95,4%**	87,3%	60%	**91,4%**	68,7%
cocaine	**91,9%**	73,6%	49,1%	**83,4%**	66,7%
stimulantia	**71,1%**	49,1%	26,4%	**67,5%**	53,8%
methadon	36,4%	11,8%	3,6%	36,1%	30,5%
other opiates	23,1%	4,5%	1,8%	20,6%	40%
hallucinogens	20,9%	8,2%	0,9%	39,2%	11%
tranquilizers	18,2%	4,5%	0%	24,7%	0%

4. Be-DRID study: results (prelim.)

sample descriptives: injecting drug use (2)

Variable		
mono IV-drug use (last year)		**0%**
poly IV-drug use (last year)*	#2	33.6%
	#3	25.5%
	>3	10.4%
no sterile needle (last injection)		21.8%
distributive sharing (last month)		10.2%
receptive sharing (last month)		12.5%
sharing paraphernalia (last month)		**45.5%**
no condom use (last intercourse | >2 partners)		**56.8%**

* Mostly cocaine – heroine (– .)

4. Be-DRID study: results (prelim.)

sample descriptives: mental health (1a)

Psychiatric disorder	ICD 10	%
Depressive episode, current (2 weeks)	F32.x	5,2
Depressive episode substance induced, current (2 weeks)		2.9
Depressive episode due to somatic disorder, current (2 weeks)	F06.xx	1
Dysthymia, current (2 years)	F34.1	7,9
Suicidality, current (4 weeks) – low risk		35,6
Suicidality, current (4 weeks) – moderate risk		10,9
Suicidality, current (4 weeks) - high risk		**21,8**
(Hypo)manic episode, current	F30.x,F31.8-F31.9, F34.0	2
(Hypo)manic episode substance induced, current		6,9
(Hypo)manic episode due to somatic disorder, current		2

4. Be-DRID study: results (prelim.)

sample descriptives: mental health (1b)

Psychiatric disorder	ICD 10	%
Panic disorder, current (4 weeks)		2
Panic disorder substance induced, current (4 weeks)		2
Panic disorder due to somatic disorder, current (4 weeks)		0
Agoraphobia, current	F40.00	**14,9**
Social phobia, current	F40.1	5,9
Simple phobia, current	F40.2	2
Obsessive-compulsive disorder, current	F42.8	5
Obsessive-compulsive disorder substance induced, current		5,9
Obsessive-compulsive disorder due to somatic disorder, current		0
Post-traumatic stress disorder, current	F43.1	**15,6**

4. Be-DRID study: results (prelim.)

sample descriptives: mental health (1c)

Psychiatric disorder	ICD 10	%
Alcohol dependence, current (12 months)	F10.2x	**30,7**
Stimulantia dependence, current (12 months)	F15.1	**18,8**
Cocaine dependence, current (12 months)	F14.1	**49,5**
Opiates dependence, current (12 months)	F11.1	**88,1**
Hallucinogenes dependence, current (12 months)	F16.1	1
Inhalantia dependence, current (12 months)	F18.1	0
Marihuana dependence, current (12 months)	F12.1	**12,9**
Tranquilizers dependence, current (12 months)	F13.1	**37,6**
Other substance dependence, current (12 months)	F19.1	2

4. Be-DRID study: results (prelim.)

sample descriptives: mental health (1d)

Psychiatrische disorder	ICD 10	%
Psychotic disorder, current (4 weeks)	F20.xx-F29	7,9
Psychotic disorder substance induced, current (4 weeks)		13,9
Psychotische disorder due to somatic disorder, current (4 weeks)		2
Anorexia Nervosa, current episode	F50.0	0
Boulimia Nervosa, current episode	F50.2	2
Gegeneralized anxiety disorder, current episode (6 months)	F41.1	12,9
Gegeneralized anxiety disorder substance induced, current episode		1
Gegeneralized anxiety disorder due to somatic disorder, current		1
Antisocial personality disorder	F60.2	**60,7?**
Attention deficit with hyperactivity	F90.0, F98.8	12,9

4. Be-DRID study: results (prelim.)

sample descriptives: co-dependence

#*	**substances**	%	
0		6.4	
1	stimulantia	.9	
1	cocaine	2.7	
1	opiates	**14.5**	=18.1%
1	tranquilizers	**0**	
2	stimulantia-opiates	8.2	
2	cocaine-opiates	26.4	
2	cocaine-tranquilizers	.9	=51%
2	opiates-tranquilizers	15.5	
3	stimulantia-cocaine-opiates	5.5	
3	stimulantia-opiates-tranquilizers	4.5	=10%

* Abstraction of substances other than cocaine, opiates, stimulantia and tranquilizers

4. Be-DRID study: results (prelim.)
sample descriptives: HIV, HBV, HCV prevalence

No results yet, batch analyses at the end of the study

5. Be-DRID study: concluding remarks

- RDS-sampling did not work well
- RDS-inference is still problematic
- Psychiatric co-morbidity among IDUs is high
  - affects prevention, treatment – integrated approach
- Poly-drug use and co-dependence

Q&A

Serological tests

Saliva samples (Oracol collection device)

- HCV: modified Ortho HCV v3.0 Elisa (Se =89% , Sp =100%)1
- HBV: modified ETI-MAK-4 ELISA (Se=90.7%, Sp=100%)2
- HIV: convential HIV test (ELISA + LIA)3

1 De Cock et al (2004). *Detection of HCV antibodies in oral fluid.* J Virol Methods;122(2):179-83.

2 Hutse et al. (2005). *Oral fluid as a medium for the detection of hepatitis B surface antigen.* J Med Virol. 2005 Sep;77(1):53-6.

3 Beelaert et al (2011). *Performing HIV test on oral fluid: a feasibilty study*. ITG Protocol