

HIV treatment cascade and epidemiological analysis of the new HIV outbreak in injecting drug users from Luxembourg

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Drug use and HIV infection in Luxembourg

- ✓ Stabilization in the prevalence of problematic drug use and a reduction in associated mortality but overall increase in the number of IDUs in the past 10 years

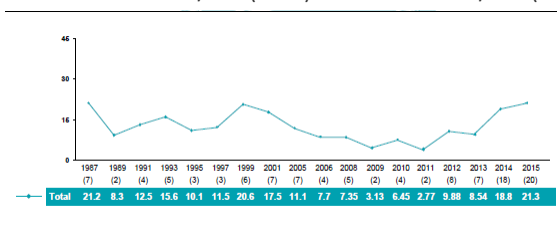
2015: 2500 active IDUs estimated

2016: 3.063 et 3.585 IDUs registered in 2 harm reduction programs

- ✓ Since 1983, 202/1184 (17%) new HIV infections were due to injecting drugs.

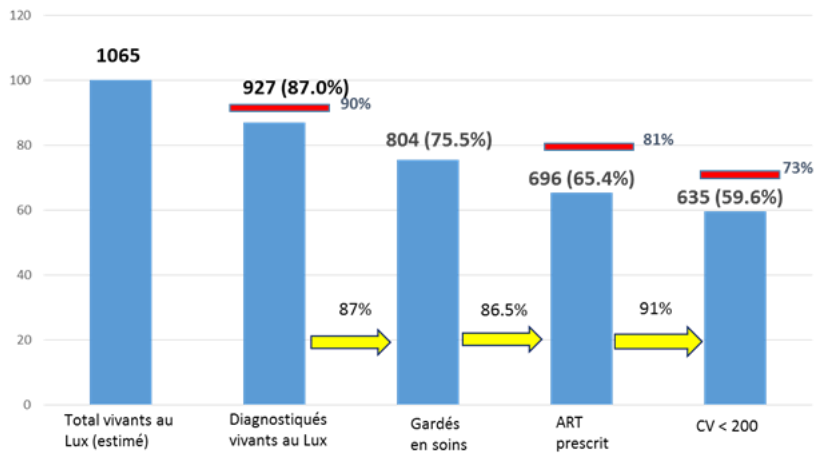
152/202 (75.2%) patients were coinfectd with HCV

13/202 (6.4%) with HBV and 11/202 (5.5%) HBV/HCV

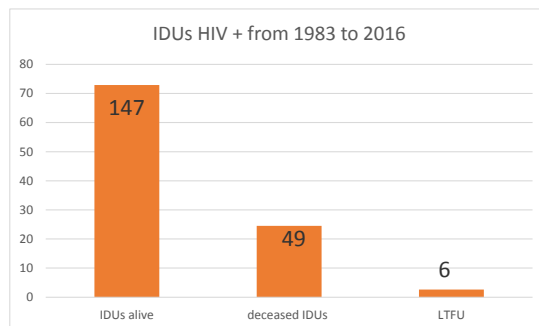


- IDUs: 30% of new HIV infections in 2016
- HIV prevalence of 9% in IDU.

HIV Cascade of care, Luxembourg, 2015



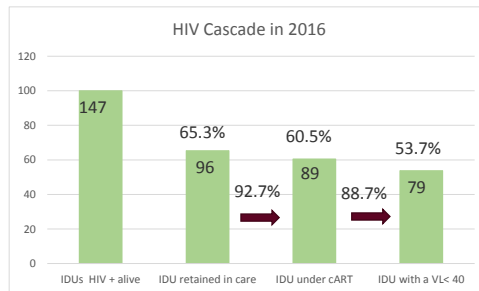
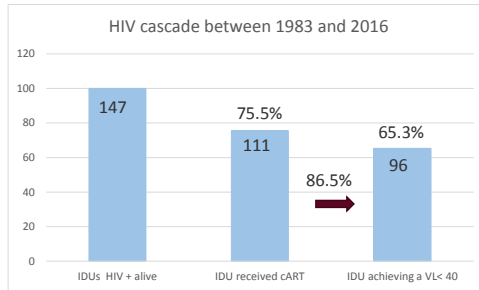
Mortality in IDU infected with HIV



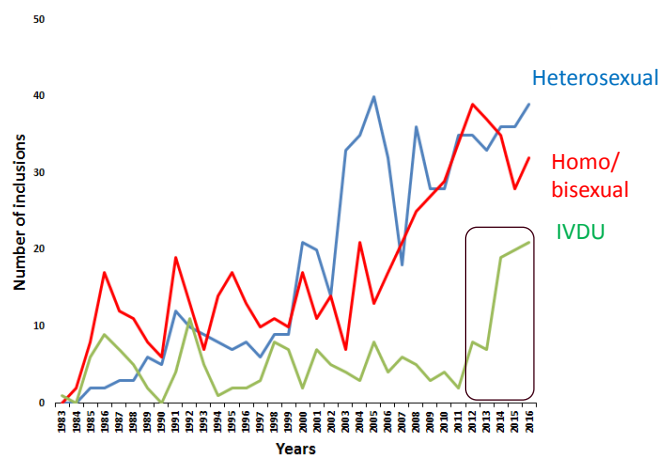
Since 1983, 202/1184 (17%) new HIV infections were due to injecting drugs

HIV cascade in IDU

No estimation
of HIV + IDU
non diagnosed



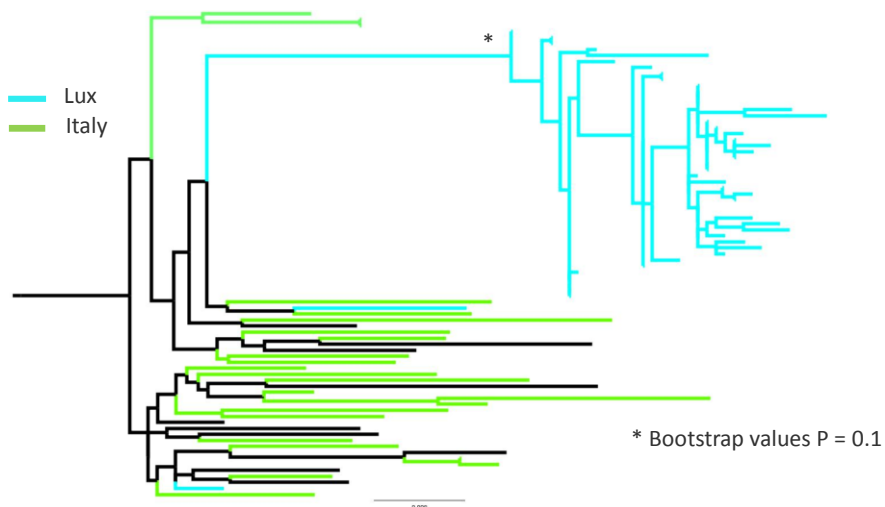
HIV outbreak in IDU



- 2013-2016: 67 new IDU cases included in the HIV cohort at the National Service of Infectious Diseases
- Only 3 new IDU diagnosed in 2017 (meeting expert, treatment access, and reinforcement of prevention)

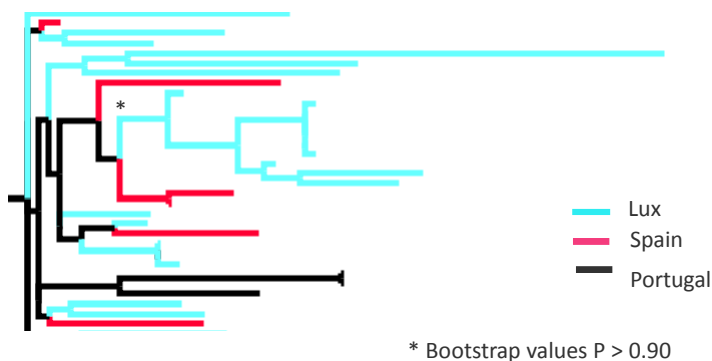
2013-2016: 35 IDUs belongs to 1
subtype B cluster of 45 patients

11 /21 patients identified in 2016 and all at the drug consumption room



2013-2016: 8 IDUs belongs to one
CRF-14BG cluster of 12 patients

Cluster localised in the south of Luxembourg



4 cases belong to 4 other clusters (2 MSM, 1 heterosexual, 1 CFR42)

Epidemiological and clinical data

	Median age (IQR)	Sexe	Birth Country	Median inclusion viral load (IQR ^a) cp/ul	Median CD4 (IQR ^a) cells/ul	HCV Infection	HCV genotype
Cluster HIV B (n = 33)	34 (30 – 38)	Male: 22 Female: 11	Luxembourg : 24 Other countries : 9	13 159 (2157 – 30 861)	699 (479 – 850)	Past : 13 Ongoing : 17	1a : 9 3a : 12
Cluster HIV CRF14_BG (n = 8)	37.5 (33.5 – 41.5)	Male: 7 Female: 1	Luxembourg : 4 Other countries : 4	64 560 (31 795 – 165 991)	533 (285 – 719)	Past : 5 Ongoing : 3	1a : 5
Others (n = 27)	40.5 (34 – 46)	Male: 16 Female: 11	Luxembourg : 10 Other countries : 17	936 (181 – 25 811)	588 (200 – 802)	Past : 9 Ongoing : 10	1a : 5 3a : 1

- Overall 86% were co-infected with HCV, 62.5% have been attending OST facilities and all were more likely to be infected in the country.
- A higher prevalence of females was observed as compared to all UDIs followed in Luxembourg (31 vs 21%, p<0.05).
- Interviews from 32/67 UDIs revealed that 12 were currently homeless, and 27 injected cocaine in addition or not to heroin.

Increased cocaine injection since 2012

YEAR	RELIS recorded drug users					Supervised drug consumption rooms		
	Primary drug		Secondary drug		Total	Cocaine	Cocaine mixtures	Cocaine total
	Cocaine IDU ^a	Cocaine non-IDU ^a	Cocaine IDU ^a	Cocaine non-IDU ^a	Cocaine			
2012	4	9	18	22	53	3	2	5
2013	6	11	13	21	51	4	3	7
2014	6	14	22	19	61	6	5	11
2015	8	11	20	24	63	13	9	22
2016						15	7	22

Cocaine injection vs heroin injection

Characteristic	Total (%) n=153	drug users		p-value
		COC ± HERO (n=90)	HERO alone (n=63)	
Age median (IQR)	41 [34-46]	39 [33-45]	44 [38-52]	0.0015
Age of first consumption median (IQR)	17 [14-20]	17 [14-20]	17 [15-21]	0.53
Regular consumption				0.0065
Yes	126 (82.9%)	80 (89.9%)	46 (73.02%)	
No	26 (17.11%)	9 (10.11%)	17 (26.98%)	
poly-use of drugs				<0.0001
Yes	103 (68.67%)	86 (97.73%)	17 (27.42%)	
No	47 (31.33%)	2 (2.27%)	45 (72.58%)	
under OST				0.82
Yes	103 (67.76%)	61 (68.54%)	42 (66.67%)	
No	49 (32.24%)	28 (31.46%)	21 (33.33%)	
Drug sharing				0.01
Yes	92 (63.45%)	63 (71.59%)	29 (50.88%)	
No	56 (36.55%)	25 (28.41%)	28 (49.12%)	
Syringe sharing				0.09
Yes	22 (16.06%)	17 (20.24%)	5 (9.43%)	
No	115 (83.94%)	67 (79.76%)	48 (90.57%)	
Preservative use				0.04
Yes	60 (48.78%)	42 (56%)	18 (37.5%)	
No	63 (51.22%)	33 (44%)	30 (62.5%)	
Prostitution				0.16
Yes	19 (12.42%)	14 (15.56%)	5 (7.94%)	
No	134 (87.58%)	76 (84.44%)	58 (92.06%)	
Prison				0.84
Yes	67 (43.79%)	40 (44.44%)	27 (42.86%)	
No	86 (56.21%)	50 (55.55%)	36 (57.14%)	
piercing				0.0015
Yes	43 (28.1%)	34 (37.78%)	9 (14.29%)	
No	110 (71.9%)	56 (62.22%)	54 (85.71%)	
HIV + last test				0.05
Yes	17 (11.18%)	14 (15.56%)	3 (4.84%)	
No	135 (88.82%)	76 (84.44%)	59 (95.16%)	

Bivariable and multivariable generalized estimating equation (GEE) analyses

Characteristic	Odds ratio (OR)					
	Unadjusted OR (95%CI)			Adjusted OR (95%CI)		
	OR	95%CI	OR	95%CI	OR	95%CI
Age						
Per year older	1.066	1.024	1.11			
Regular consumption						
Yes vs No	0.304	0.126	0.738			
Poly-use of drugs						
Yes vs No	0.009	0.002	0.04	0.013	0.002	0.077
Drug sharing						
Yes vs No	0.411	0.205	0.824			
Piercing						
Yes vs No	0.275	0.12	0.626	0.142	0.021	0.983

Conclusions

- ✓ 17% of all new HIV infections since 1983 were due to injecting drugs in Luxembourg but this rate reached 30% in 2016
- ✓ The HIV treatment cascade and care shall be improved since only 60% of all IDU alive were under ARV treatment and 54% had undetectable viral load in 2016
- ✓ Injecting cocaine was found to be a key risk factor related to HIV infection in the recent HIV outbreak and was associated with sharing of drugs
- ✓ Additional strategies to on-site safer-use prevention measures targeting IDU in out-of-treatment and care settings, need to be further developed:
 - Outreach intervention
 - Providing sterile injection material and rapid HIV/hepatitis testing
 - Short video clips, awareness of HIV exposure
 - Treatment as prevention (42/67 under treatment in 2016) and pre-exposure prophylaxis.

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