

EuroSIDA Variation in ART-coverage and Virological Suppression among HIV Key Populations

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BACKGROUND

- EuroSIDA has recently reported increasing proportions of ART-coverage and virological suppression across Europe over time¹, but these improvements may be unevenly distributed across patient groups²
- We explored differences in ART-coverage and virological suppression among those on ART by gender and by HIV transmission category over time

METHODS

- EuroSIDA participants under follow-up 01/01/2014 - 31/12/2015 were included
- In cross-sectional analyses we assessed proportions of people on ART (≥ 3 antiretrovirals) and the proportion virologically suppressed (<500 copies/mL) among those on ART. No available HIV-RNA measurement in the period was considered unsuppressed (missing = failure)
- People were grouped into regions, according to country of residence, as indicated in [TABLE 1]
- Odds ratios were modelled using logistic regression, adjusting for current age, CD4 at entry into EuroSIDA, and current HBV- and HCV status

RESULTS

- Characteristics of people included by gender-specific risk group are shown in [TABLE 1]

Variation across regions in levels of ART-coverage and virological suppression among those on ART [FIGURE 1]

- Levels of ART-coverage and virological suppression among those on ART varied between gender-specific transmission categories, and the pattern varied substantially across regions
- Differences across regions in ART-coverage and virological suppression were most pronounced for people infected by IDU. Few differences were seen for MSM across regions

Variation within regions in ART-coverage [FIGURE 2]

- Within each region, the odds of receiving ART varied significantly depending on gender-specific transmission category
- Furthermore, the size of the differences between transmission categories varied significantly by region of residence (global p for interaction = 0.0075)
- In Northern and East Central Europe, there was no evidence of differences in the odds of receiving ART across transmission categories
- In contrast, compared with MSM, females infected by IDU were less likely to receive ART in Western (aOR 0.56 [0.37, 0.87]), Southern (aOR 0.52 [0.37, 0.74]) and Eastern Europe (aOR 0.54 [0.29, 1.03]), as were heterosexual females in Eastern Europe (aOR 0.54 [0.30, 0.98])
- In unadjusted estimates, males infected by IDU were also less likely to receive ART in Southern and Eastern Europe. However, these differences disappeared after adjustment, possibly due to limited power
- Eastern Europe showed the largest heterogeneity in ART-coverage across transmission categories, and differences generally remained after adjustment

Variation within regions in virological suppression among those on ART [FIGURE 3]

- The size of the observed differences between transmission categories varied depending on region of residence (global p for interaction <0.001)
- Within each region, we observed differences across transmission categories in the odds of being virologically suppressed among those on ART
- Among those on ART, people infected by IDU were less likely to be virologically suppressed compared with MSM in East Central (male aOR 0.43 [0.28, 0.66], female aOR 0.57 [0.32, 1.01]) and Eastern Europe (male aOR 0.43 [0.19, 0.98], female aOR 0.36 [0.15, 0.86])
- Compared with MSM, both males and females infected by heterosexual transmission were less likely to be virologically suppressed in Southern and East Central Europe, whereas this was true only for heterosexually infected females in Eastern Europe
- In contrast, in Western and Northern Europe, there were only minor differences across transmission categories in the odds of being virologically suppressed

DISCUSSION:

- We observed differences in the level of ART-coverage and virological suppression among those on ART across gender-specific HIV transmission categories
- Performance indicators for HIV were generally lower among people infected by IDU, and this pattern was most pronounced in the EuroSIDA regions that have the highest burden of people infected by IDU
- EuroSIDA is in a unique position to provide data for all regions of Europe, although participants may not be fully representative for all HIV-positive people in the specific regions
- Our results underline a potential for improvement with special focus and support for people infected by IDU. The high levels of ART-coverage and virological suppression observed among MSM across all regions may serve as a benchmark of HIV care for other transmission categories

The EuroSIDA study group: <http://www.chip.dk/Studies/EuroSIDA/Study-group>

References:

- ¹Laut et al, abstract O114, HIV Drug Therapy Glasgow 2016: <https://vimeo.com/188645057>.
²The Gap Report http://www.unaids.org/sites/default/files/media_asset/UNAIDS_Gap_report_en.pdf (accessed 15/01/2017)

	Gender-specific transmission category						
	Overall	MSM	IDU (male)	IDU (female)	Heterosexual (male)	Heterosexual (female)	Other (male)
Total number of people included, n (% of overall)	11,949 (100)	4,545 (38.0)	1,896 (15.9)	848 (7.1)	1,585 (13.3)	2,223 (18.6)	623 (5.2)
Number of people by region of residence, n (% of transmission category)							
West	2,505 (21.0)	1,541 (25.1)	224 (11.8)	120 (14.2)	361 (22.8)	411 (18.5)	193 (31.0)
South	3,101 (26.0)	1,071 (23.6)	551 (29.1)	205 (24.2)	458 (28.9)	590 (26.5)	161 (25.8)
North	2,716 (22.7)	1,500 (33.9)	211 (11.1)	113 (13.3)	318 (20.1)	386 (17.9)	135 (21.7)
East Central	1,894 (15.8)	738 (16.2)	399 (18.9)	163 (19.2)	184 (11.6)	286 (12.9)	104 (16.7)
East	1,743 (14.6)	95 (2.1)	551 (29.1)	247 (29.1)	284 (16.7)	538 (24.2)	30 (4.8)
Current age in years, median (IQR)	38 (30, 45)	40 (33, 47)	36 (28, 41)	33 (26, 40)	40 (33, 48)	34 (27, 41)	40 (33, 48)
CD4 at entry into EuroSIDA, median (IQR)	381 (239, 560)	391 (248, 567)	369 (212, 560)	400 (249, 602)	380 (224, 526)	400 (248, 574)	367 (218, 572)
People on ART with no available HIV-RNA, by region of residence, n (% of transmission category)							
West	50 (2.4)	29 (3.1)	3 (1.6)	2 (2.4)	5 (1.6)	64 (13.6)	1 (2.2)
South	247 (10.0)	71 (8.1)	37 (8.7)	10 (12.3)	53 (13.7)	64 (13.6)	8 (6.3)
North	241 (10.1)	157 (12.0)	11 (8.2)	5 (5.1)	19 (8.8)	33 (9.2)	11 (8.8)
East Central	189 (11.7)	33 (5.2)	51 (17.3)	17 (12.5)	25 (15.2)	43 (17.4)	5 (13.5)
East	132 (10.5)	2 (2.8)	62 (53.3)	27 (16.1)	16 (7.7)	31 (8.2)	3 (12.0)
Known HBV positive, n (%)	371 (3.1)	166 (3.7)	62 (3.3)	20 (2.4)	51 (3.2)	39 (1.8)	26 (4.2)
Known HCV positive, n (%)	1,876 (15.7)	123 (2.7)	946 (49.9)	436 (51.4)	101 (6.4)	153 (6.9)	95 (15.2)

TABLE 1: Characteristics of people included by gender-specific risk group. MSM = men who have sex with men; IDU = injecting drug use. Hetero = heterosexual intercourse. Other = other/unknown HIV transmission route.

Western Europe (West): Austria, Belgium, France, Germany, Luxembourg, Switzerland. Southern Europe (South): Argentina, Greece, Israel, Italy, Portugal, Spain. Northern Europe (North): Denmark, Finland, Iceland, Ireland, Netherlands, Norway, Sweden, United Kingdom. East Central Europe (East Central): Bosnia-Herzegovina, Croatia, Czech Republic, Hungary, Poland, Romania, Serbia, Slovenia. Eastern Europe (East): Belarus, Estonia, Georgia, Latvia, Lithuania, Russia, Ukraine.

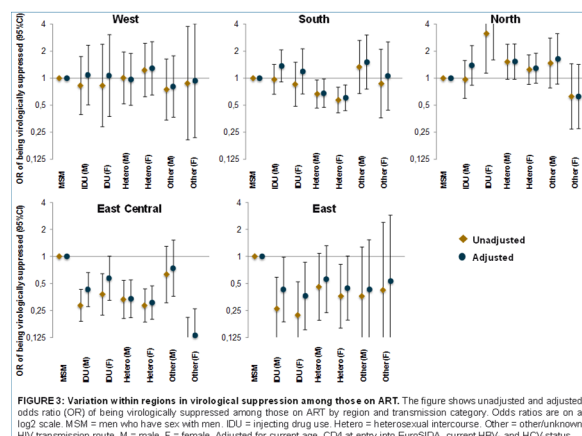
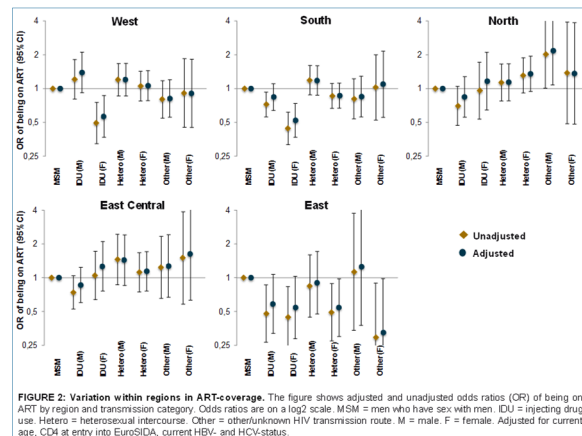
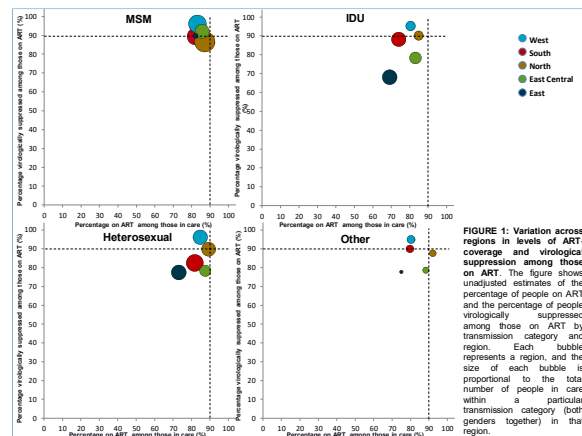


FIGURE 3: Variation within regions in virological suppression among those on ART. The figure shows unadjusted and adjusted odds ratio (OR) of being virologically suppressed among those on ART by region and transmission category. Odds ratios are on a log2 scale. MSM = men who have sex with men; IDU = injecting drug use. Hetero = heterosexual intercourse. Other = other/unknown HIV transmission route. M = male; F = female. Adjusted for current age, CD4 at entry into EuroSIDA, current HBV- and HCV-status.