EuroSIDA

Temporal trends and impact of COVID-19 on the HIV cascade of care across Europe between 2016-2021

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Disclosures

No conflict of interest

Background

- Prior to the SARS-CoV-2 pandemic, ART coverage and viral suppression levels had been increasing across years
- During the COVID-19 pandemic, healthcare systems experienced pressure and were heavily disrupted
- People with HIV were at high risk of being highly affected by the pandemic due to the interruption of clinical care, that needs to be lifelong and continuously monitored
- Various measures were introduced across regions to keep HIV care systems resilient
- In Europe, the region that was hit hard by COVID-19 in 2020, data on the impact of COVID-19 on ART uptake and viral suppression during the pandemic has not been presented for most countries

Study aim

- To investigate the changes in HIV care in the WHO European region from 2016 to 2021 including the impact of COVID pandemic

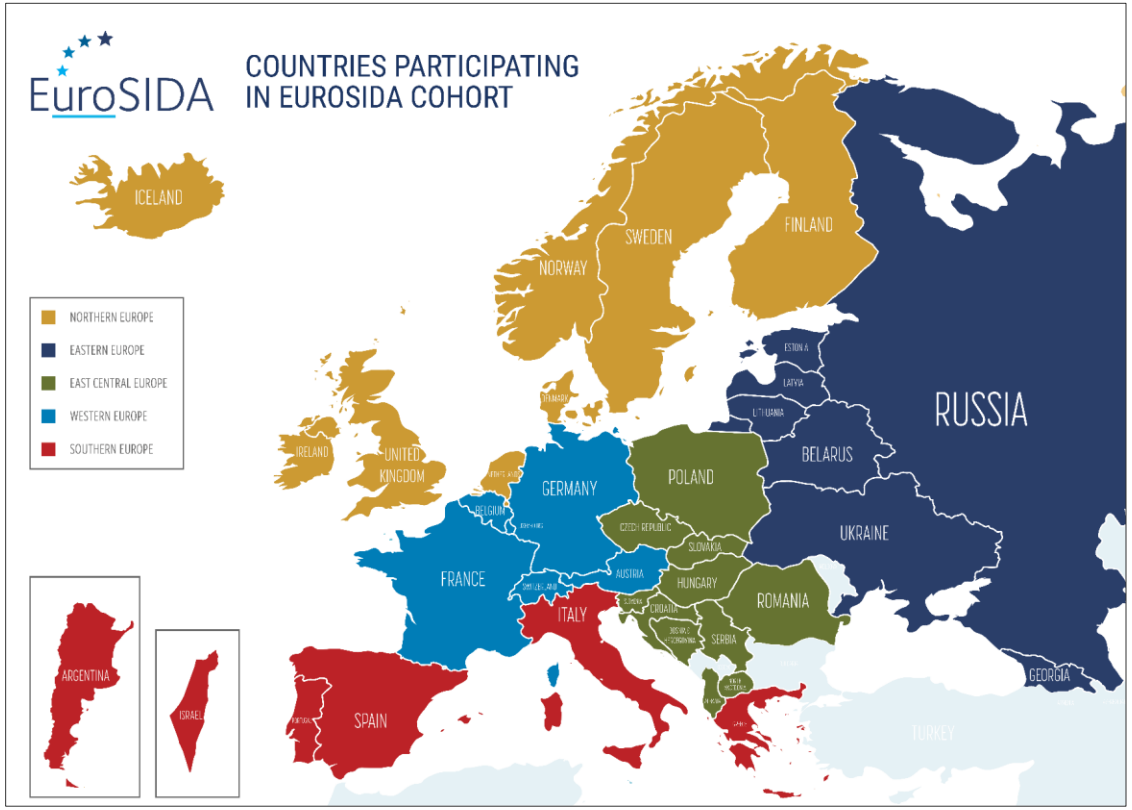
Objectives

- To describe and compare ART coverage and viral suppression levels across years from 2016 to 2021 in EuroSIDA cohort overall and across five European regions
- To compare proportions of in-person visits at a given year, overall and across regions
- To describe clinical and demographical factors associated with having an in-person visit, and with being virologically suppressed.

Study population

- Participants of the pan-European EuroSIDA cohort under prospective follow-up at a given calendar year (2016 – 2021) were included.
- Countries participating in EuroSIDA were grouped in five regions (*EuroSIDA study map*)
- EuroSIDA sites that did not submit data for at least one of the years or submitted data with completeness below 70% were excluded, as were data from Argentina.

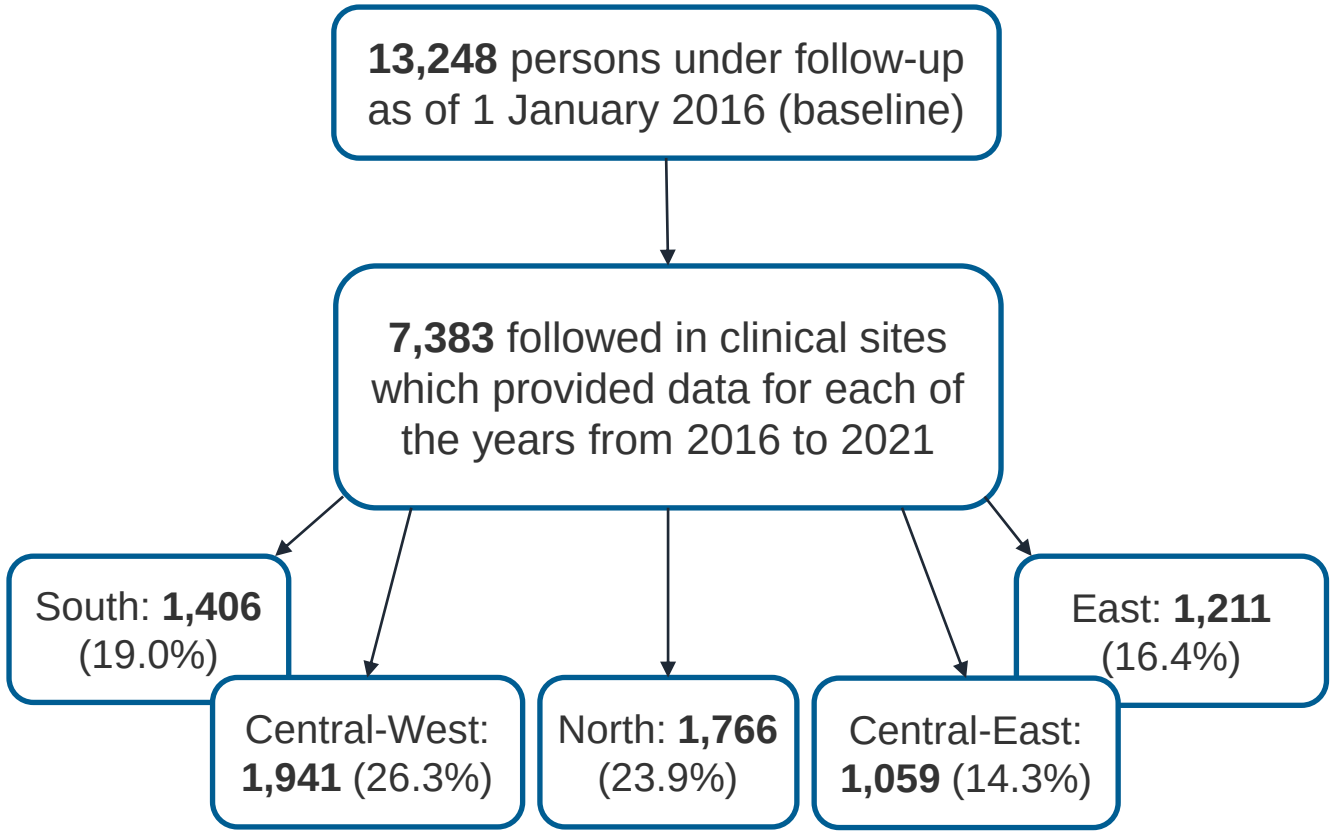
EuroSIDA study map



Methods

- **HIV cascade of care**: proportion of people *on ART* (receiving at least one antiretroviral drug at a given year) and of *virologically suppressed* (the last HIV RNA test result during a given year was below 200 copies/mL or below detection limit) were calculated of those under prospective FU.
- **In-person visit** was defined as at least one weight or blood pressure measurement at a given year.
- Multivariable logistic regression was used to describe clinical and demographical factors associated with having an **in-person visit** (versus no in-person visit) among all participants, and with **HIV RNA below 200 copies/mL** (versus HIV RNA ≥200 copies/mL, missing = excluded) among those receiving ART.

Baseline characteristics

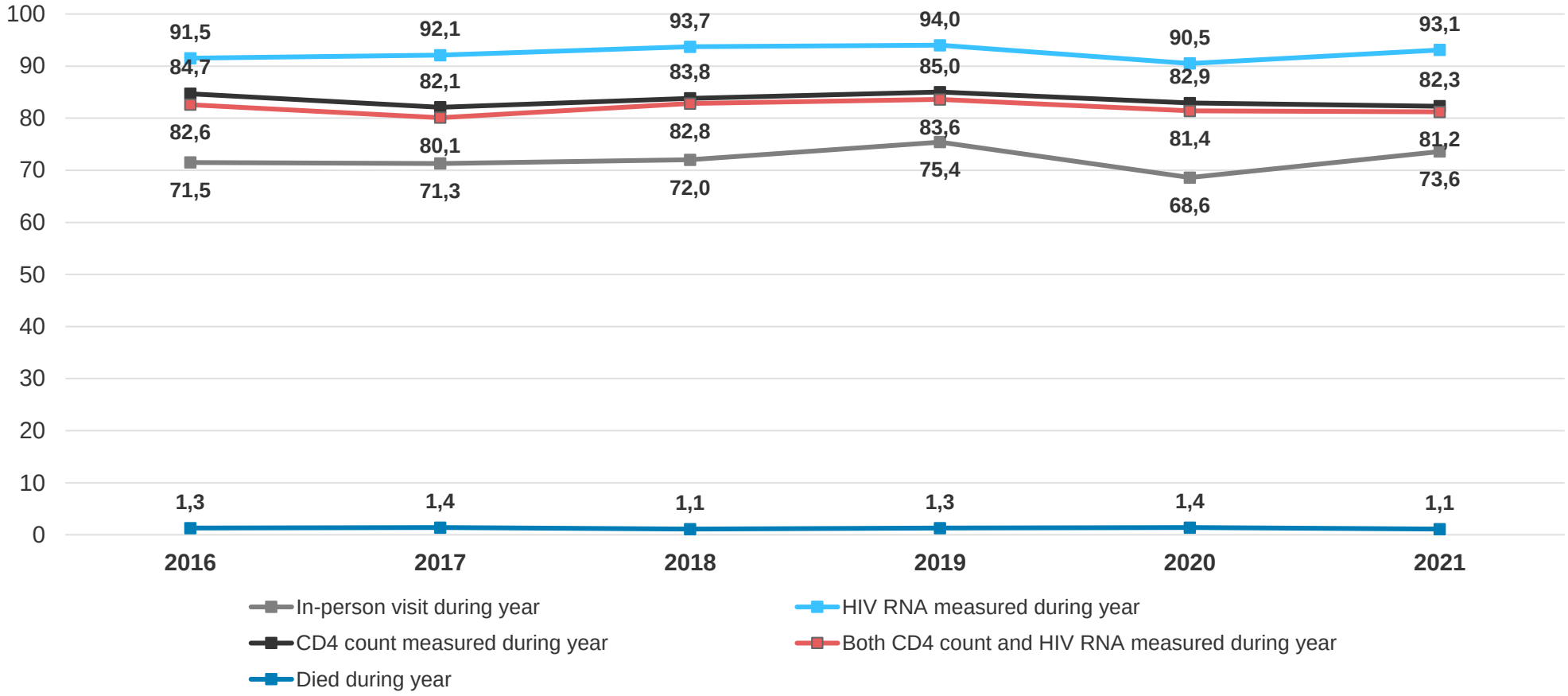


Of the **7,383** eligible persons:

- Men: **71.6%**; White ethnicity: **89.7%**
- MSM[1]: **34.2%**; PWID[2]: **30.0%**
- Median age: **51 years** (IQR 42 – 57)
- Baseline CD4 cell count below 500 cells/mm^3: **28.8%**
- Prior AIDS: **29.7%**

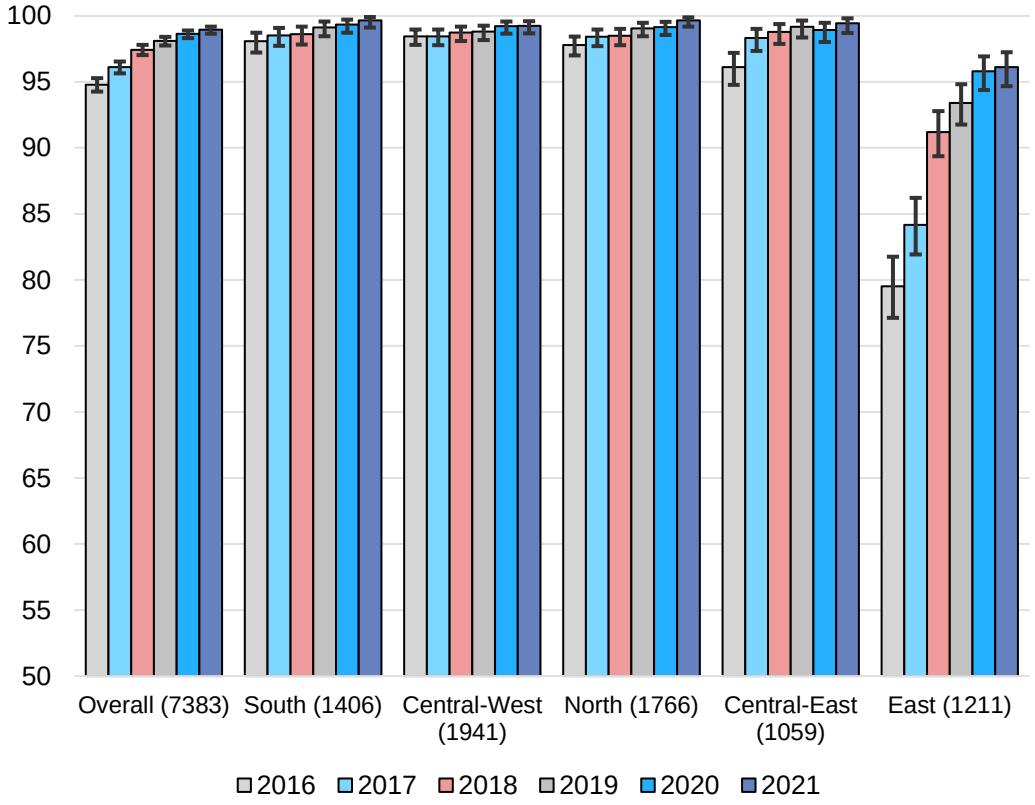
[1] men who have sex with men [2] people who inject drugs

In-person visits, deaths, CD4 count and HIV RNA measurements

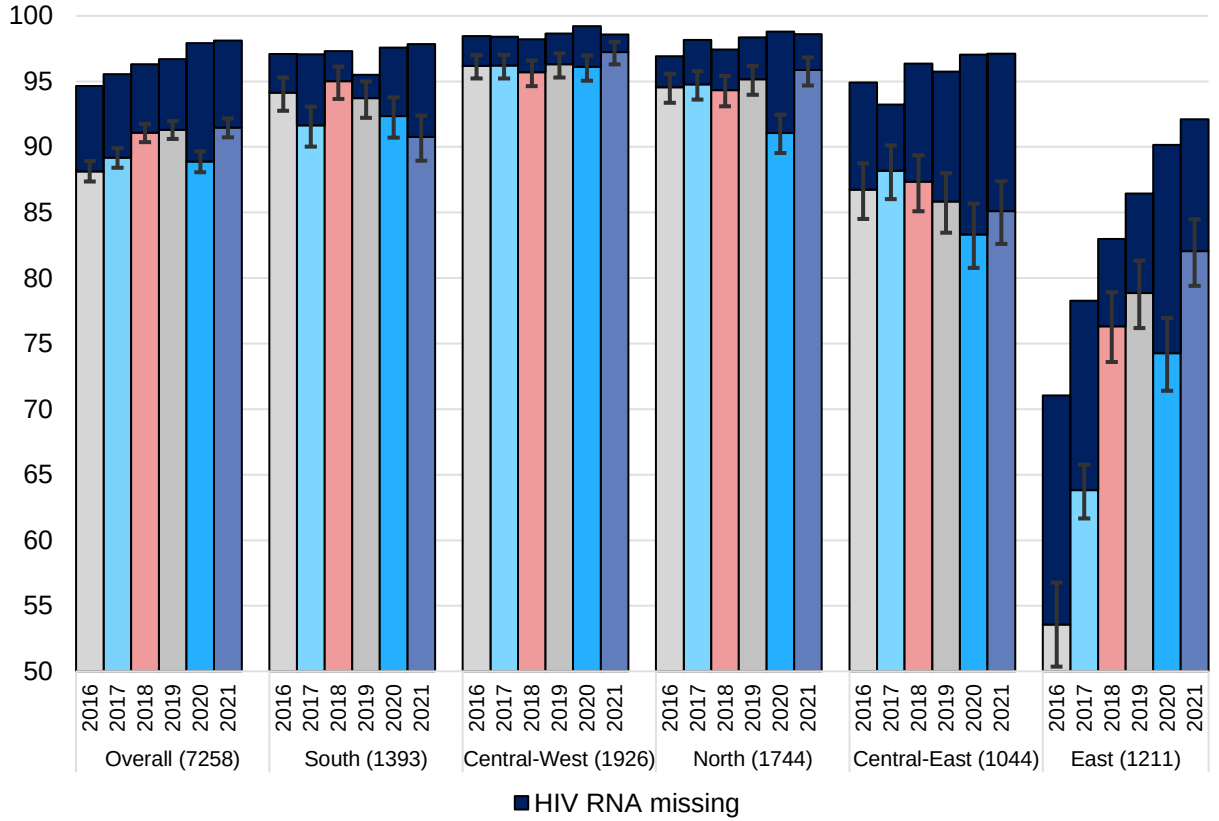


HIV cascade of care across years

Percentage of people on ART among those under follow-up



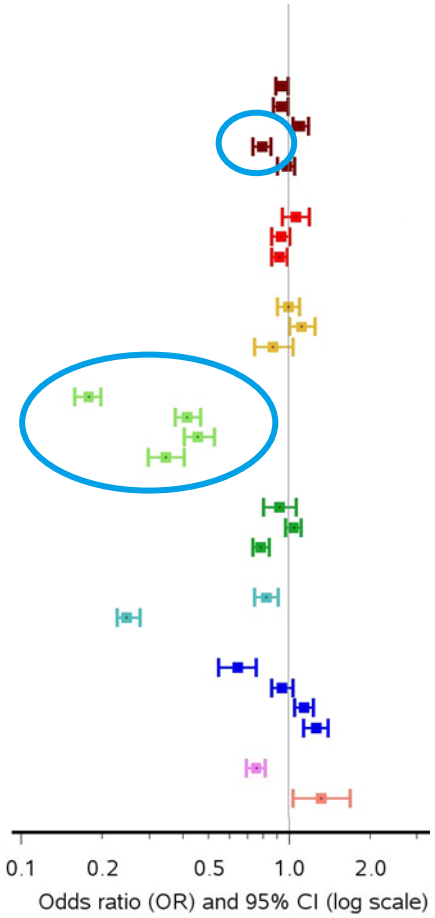
Percentage of virally suppressed and with missing HIV RNA



Factors associated with in-person visit and viral suppression

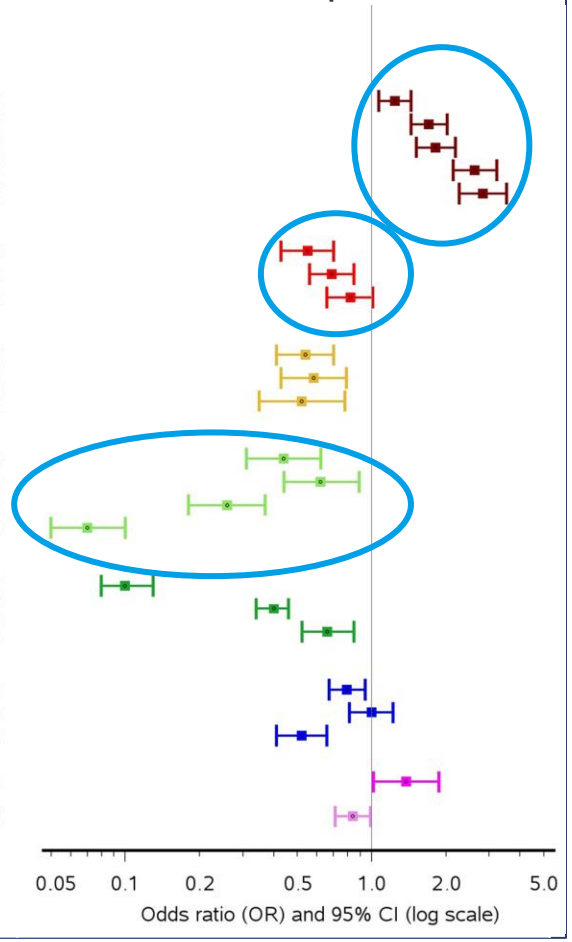
Factors associated with in-person visit

	Adjusted OR (95% CI)
Calendar year (ref. 2016)	
2017	0.95 (0.90-1.00)
2018	0.94 (0.88-1.00)
2019	1.11 (1.04-1.19)
2020	0.80 (0.74-0.86)
2021	0.99 (0.91-1.06)
Age category, years (ref. >=60) [a]	
<=39	1.07 (0.95-1.20)
40-49	0.94 (0.87-1.01)
50-59	0.93 (0.87-0.99)
HIV transmission risk (ref. MSM)	
IDU	1.00 (0.91-1.10)
Heterosexual	1.12 (1.01-1.26)
Other/unknown	0.88 (0.75-1.04)
Region (ref. Central West)	
South	0.18 (0.16-0.20)
North	0.42 (0.38-0.47)
Central East	0.46 (0.41-0.53)
East	0.35 (0.30-0.41)
CD4 count, cells/mm3 (ref. >=500) [a]	
<200	0.93 (0.81-1.07)
200-499	1.05 (0.98-1.12)
Unknown	0.79 (0.74-0.85)
HIV viral load, copies/mL (ref. <200) [a]	
>=200	0.83 (0.75-0.92)
Unknown	0.25 (0.23-0.28)
ART regimen (ref. NNRTI-based) [a]	
Not on treatment	0.65 (0.55-0.76)
PI-based	0.95 (0.87-1.04)
INSTI-based	1.15 (1.06-1.24)
Other	1.27 (1.14-1.41)
Prior comorbidities/events [a]	
AIDS-defining disease (ref. no AIDS)	0.76 (0.70-0.82)
End-stage liver disease (ref. no ESLD)	1.33 (1.04-1.71)



Factors associated with HIV RNA <200 copies/mL

	Adjusted OR (95% CI)
Calendar year (ref. 2016)	
2017	1.24 (1.07-1.44)
2018	1.71 (1.44-2.02)
2019	1.82 (1.52-2.18)
2020	2.62 (2.14-3.21)
2021	2.83 (2.27-3.53)
Age category, years (ref. >=60) [a]	
<=39	0.55 (0.43-0.70)
40-49	0.69 (0.56-0.85)
50-59	0.82 (0.66-1.01)
HIV transmission risk (ref. MSM)	
IDU	0.54 (0.41-0.70)
Heterosexual	0.58 (0.43-0.79)
Other/unknown	0.52 (0.35-0.78)
Region (ref. Central West)	
South	0.44 (0.31-0.62)
North	0.62 (0.44-0.89)
Central East	0.26 (0.18-0.37)
East	0.07 (0.05-0.10)
CD4 count, cells/mm3 (ref. >=500) [a]	
<200	0.10 (0.08-0.13)
200-499	0.40 (0.34-0.46)
Unknown	0.66 (0.52-0.85)
ART regimen (ref. NNRTI-based) [a]	
PI-based	0.79 (0.67-0.94)
INSTI-based	1.00 (0.81-1.22)
Other	0.52 (0.41-0.66)
Prior comorbidities/events [a]	
Malignancy (ref. no malignancy)	1.38 (1.02-1.87)
AIDS-defining disease (ref. no AIDS)	0.84 (0.71-0.99)



[a] Time-updated factors assessed at the last visit/assessment in each year, or if not available, at the midpoint of the year

Limitations

- The eligible sites were selected based on submitting data of good quality for all consecutive years, which increases the risk of representative bias.
- EuroSIDA only collects data on people linked to care, therefore we were unable to describe the proximity to the first UNAIDS target of 90% people with HIV being aware of their status.
- Using a weight or blood pressure measurement as a proxy for an in-person visit may lead to under ascertainment of in-person visits, since it does not include visits to the clinic when weight and blood pressure were not measured.
- There is a potential for residual confounding by factors not collected in EuroSIDA, such as socioeconomic status or mental disorders.

Conclusions

- Despite a minor drop of in-person visits in 2020, we observed consistent increase in the ART coverage from 2016 to 2021, with ART uptake over 97% in all EuroSIDA regions in 2021.
- A slight decrease in the viral suppression levels in 2020 was attributed to the missing HIV RNA measurements data, while the likelihood of achieving viral suppression in those with known HIV RNA test results was increasing over years.
- In-person visits and viral suppression were strongly associated with regions, highlighting the inter-regional differences in HIV care across all study years.

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