



# Inter- and intra-regional variability in the degree of ART-induced HIV-RNA suppression

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## BACKGROUND

- HIV-RNA suppression is a key outcome measure to evaluate the performance of ART treatment programs, and UNAIDS/WHO recommend that at least 90% of a population using ART longer-term should have viral suppression<sup>1</sup>.
- The aim of this study was to evaluate and compare differences in country-specific rates of viral suppression among those on ART.

## METHODS

- We included all EuroSIDA participants on ART with a current HIV-RNA measured 1<sup>st</sup> January 2013 through 31<sup>st</sup> December 2014 (most recent within 12 months).
- Individuals initiating ART at any HIV-RNA or changing ART at HIV-RNA ≥500 copies/mL within 4 months of current HIV-RNA were excluded.
- The primary outcome measure was the UNAIDS/WHO target of viral suppression in 90% of a defined population
- Fisher's exact test was used to test for regional differences in the number of countries reaching this goal
- In primary analysis, viral suppression was defined as current HIV-RNA <500 copies/mL as not all sites had access to assays with a sensitivity of <50 copies/mL.

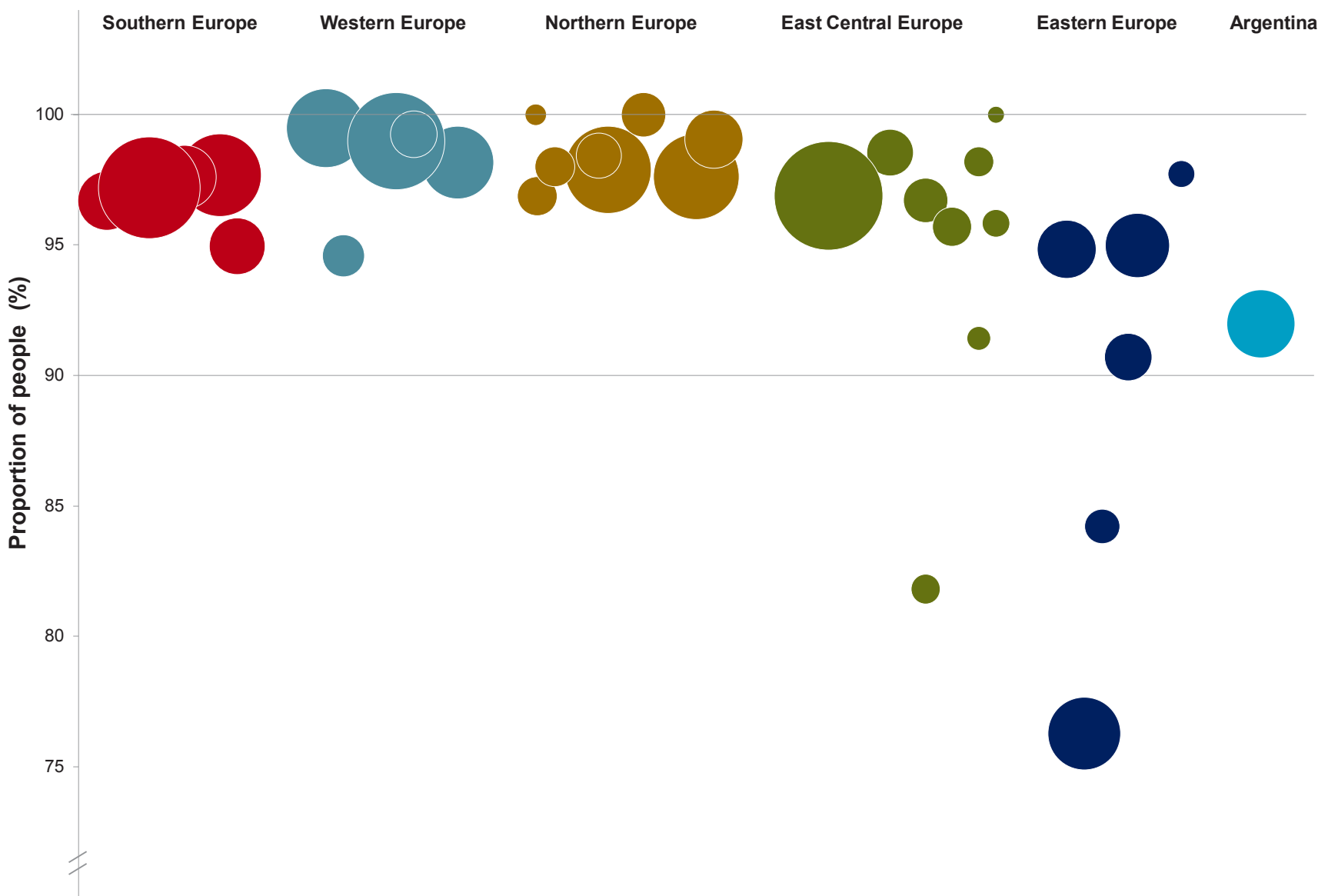
## RESULTS

- We included 7,561 people from 94 clinics in: Eastern (n=1,065), East Central (n=1,301), Northern (n=1,623), Southern (n=1,734), Western Europe (n=1,551), and Argentina (n=287).
- The median [IQR] number of patients included per clinic was 71.5 [44, 113] and per country 139 [93, 327].
- Overall, 96% of those on ART had viral suppression, but the proportion of people with viral suppression varied by country from 76% to 100% (**Figure 1, Table**).
- In 2/6 (33%) countries in Eastern Europe less than 90% of the population had HIV-RNA <500 copies/mL, compared with 1/9 (11%) East Central, 0/8 (0%) Northern, 0/5 (0%) Western, 0/5 (0%) Southern European countries, and 0/1 (0%) countries in Argentina (p=0.28 for difference between regions).
- Intra-regional variability was more pronounced in Eastern and East Central Europe (**Figures 1-2**).
- Those who were not virally suppressed were equally distributed between high HIV-RNA >10,000 copies/mL and intermediate HIV-RNA 500-9,999 copies/mL (**Figure 2**)
- Results were similar using a cut-off <50copies/mL.

## CONCLUSIONS

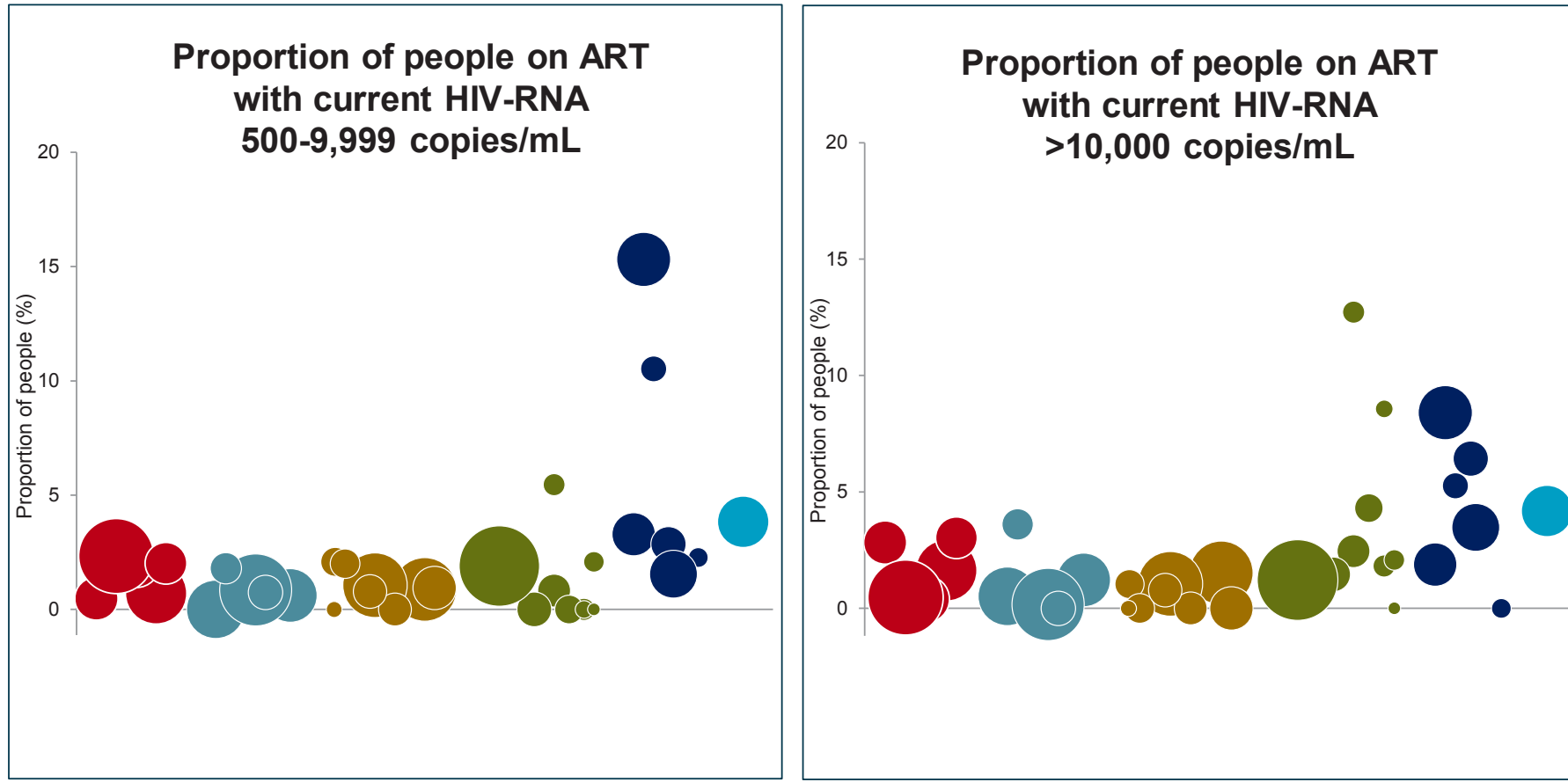
- Although clinics participating in EuroSIDA are not necessarily representative of clinical management in the whole country, we found that most countries fulfilled the UNAIDS/WHO target of ≥90% viral suppression among those on ART
- The predominant exception from this was some – but not all - countries in the Eastern part of Europe.
- Factors differentiating countries' ability to reach this target is under investigation, in order to elucidate factors associated with state-of-the-art performance of national treatment programs in the European region.

Figure 1 Proportion of people on ART with current HIV-RNA <500copies/mL



Southern Europe		Western Europe		Northern Europe		East Central Europe		Eastern Europe		Argentina	
Proportion	People (n)	Proportion	People (n)	Proportion	People (n)	Proportion	People (n)	Proportion	People (n)	Proportion	People (n)
Total per region											
97.1%	1,734	98.6%	1,551	98.2%	1,623	96.2%	1,301	87.9%	1,065	92.0%	287
Country-specific											
97.7%	429	99.6%	389	100%	123	100%	18	97.7%	44	92.0%	287
97.6%	252	99.3%	134	100%	29	98.5%	137	95.0%	259		
97.2%	643	99.0%	590	99.1%	213	98.2%	55	94.8%	213		
96.7%	212	98.2%	327	98.4%	128	96.9%	738	90.7%	140		
94.9%	198	94.6%	111	98.0%	100	96.7%	122	84.2%	76		
				97.9%	474	95.8%	48	76.3%	333		
				97.6%	460	95.7%	93				
				96.9%	96	91.4%	35				
						81.8%	55				

Figure 2



### FIGURES AND TABLE

- The figures show the proportion of people on ART with current HIV-RNA <500copies/mL (**FIGURE 1**), 500-9,999 copies/mL and >10,000 copies/mL (**FIGURE 2**), respectively, by country and region.

- The center of each circle on the vertical axis indicates the proportion of people with a given viral load. The area of each circle is proportional to the number of people included in each country.

- The **TABLE** indicates the exact proportions of people with HIV-RNA <500copies/mL and the total number of people included by country and region.

### REGIONS

- For all analyses countries were grouped into regions as follows: **SOUTHERN EUROPE**: Greece, Israel, Italy, Portugal, Spain. **WESTERN EUROPE**: Austria, Belgium, France, Germany, Luxembourg. **NORTHERN EUROPE**: Denmark, Finland, Iceland, Ireland, Netherlands, Norway, Sweden, United Kingdom. **EAST CENTRAL EUROPE**: Bosnia and Herzegovina, Croatia, Czech Republic, Hungary, Poland, Romania, Serbia, Slovakia, Slovenia. **EASTERN EUROPE**: Estonia, Latvia, Lithuania, Russian Federation, Ukraine. **ARGENTINA**: Argentina.

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