

# Uptake and outcomes of tenofovir alafenamide fumarate based therapy in children and young people living with HIV in the European Pregnancy and Paediatric Infections Cohort Collaboration

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on behalf of the European Pregnancy and Paediatric Infections Cohort Collaboration (EPPICC)

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## Background

- Tenofovir alafenamide fumarate (TAF) was originally approved in Europe for children and young people living with HIV aged  $\geq 6$  years in 2016, initially as part of fixed-dose combinations (approvals of some TAF-containing products were extended to age  $\geq 2$  years in 2022).
- Data are limited on TAF uptake and outcomes among children and young people in HIV care in Europe.

## Methods

**Data source:** Individual level data of children/ young people in HIV care in cohorts participating in the EPPICC data merger in 2021 (data-cut-offs differed by cohort between 12/2019-05/2021), includes all visits in paediatric care, some cohorts include follow-up time after transition to adult care.

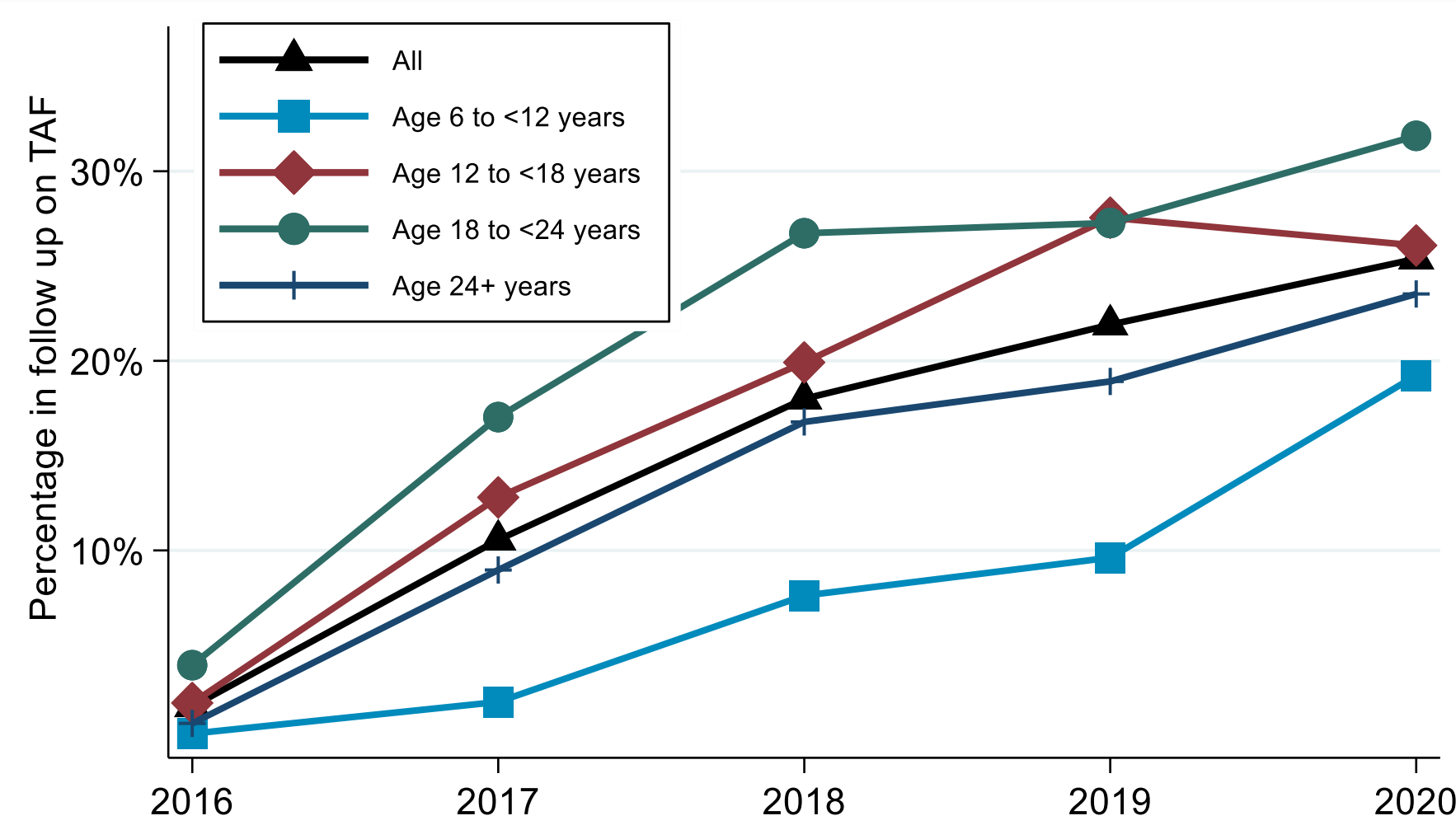
**Inclusion criteria for this analysis:** Children and young people living with HIV, aged  $<18$  years at HIV diagnosis and followed in participating cohorts in Europe with at least 1 participant ever on TAF (11 cohorts across 11 countries).

**Uptake of TAF:** proportion of participants in follow up for  $>6$  months in a calendar year who were on TAF at any point in that year, overall and by current age at end of the calendar year (6 to  $<12$  y, 12 to  $<18$  y, 18 to  $<24$  y and  $\geq 24$  y). Proportion ever of TAF among all those in follow up since 2016 was also described.

**Characteristics at TAF start:** participant characteristics and regimen were described, including antiretroviral treatment (ART) and viral load (VL) status at TAF start ("ART-naïve", "ART-experienced/suppressed" (VL $<50$ c/ml), "ART-experienced/unsuppressed" (VL $\geq 50$ c/ml), and "ART-experienced/VL unknown" (no VL available 3 months before to 1 week after TAF start)).

**Viral suppression on TAF:** among those remaining on TAF, percentage (95% CI) virally suppressed (VL $<50$ c/ml) at 6, 12 and 18 months (+/- 3 months), overall and by ART/VL status at TAF start.

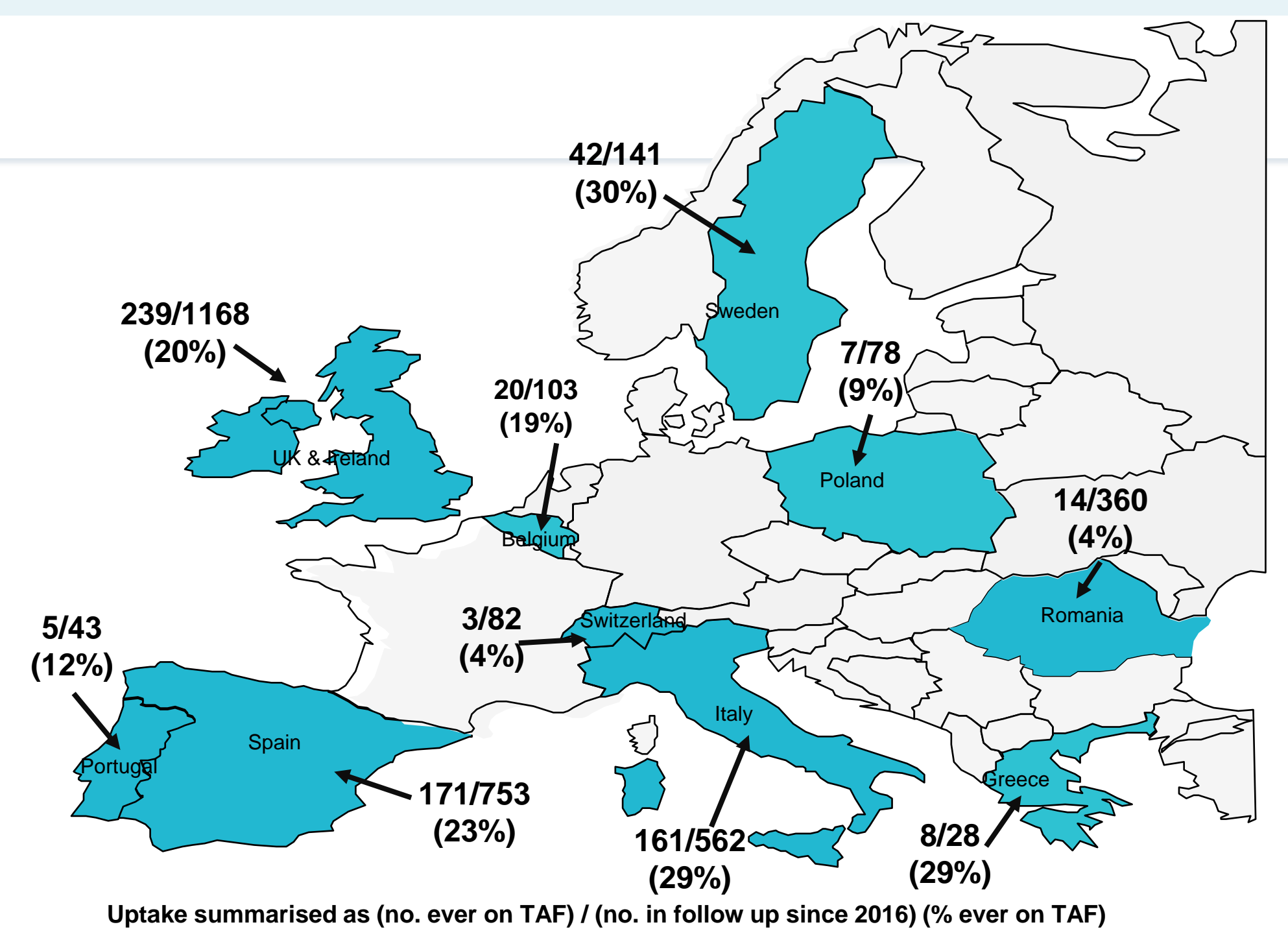
## Results: Uptake of TAF



NB: Data from adult care were not available from all cohorts. Patients from Romania, made up a larger proportion of the age 24+ year group than in the younger age groups and few in Romania received TAF. When Romania is excluded from the figure above, uptake in 24+ years is similar to the 18 to 24 year age group.

**Figure 1:** Uptake of TAF among children and young people living with HIV in EPPICC

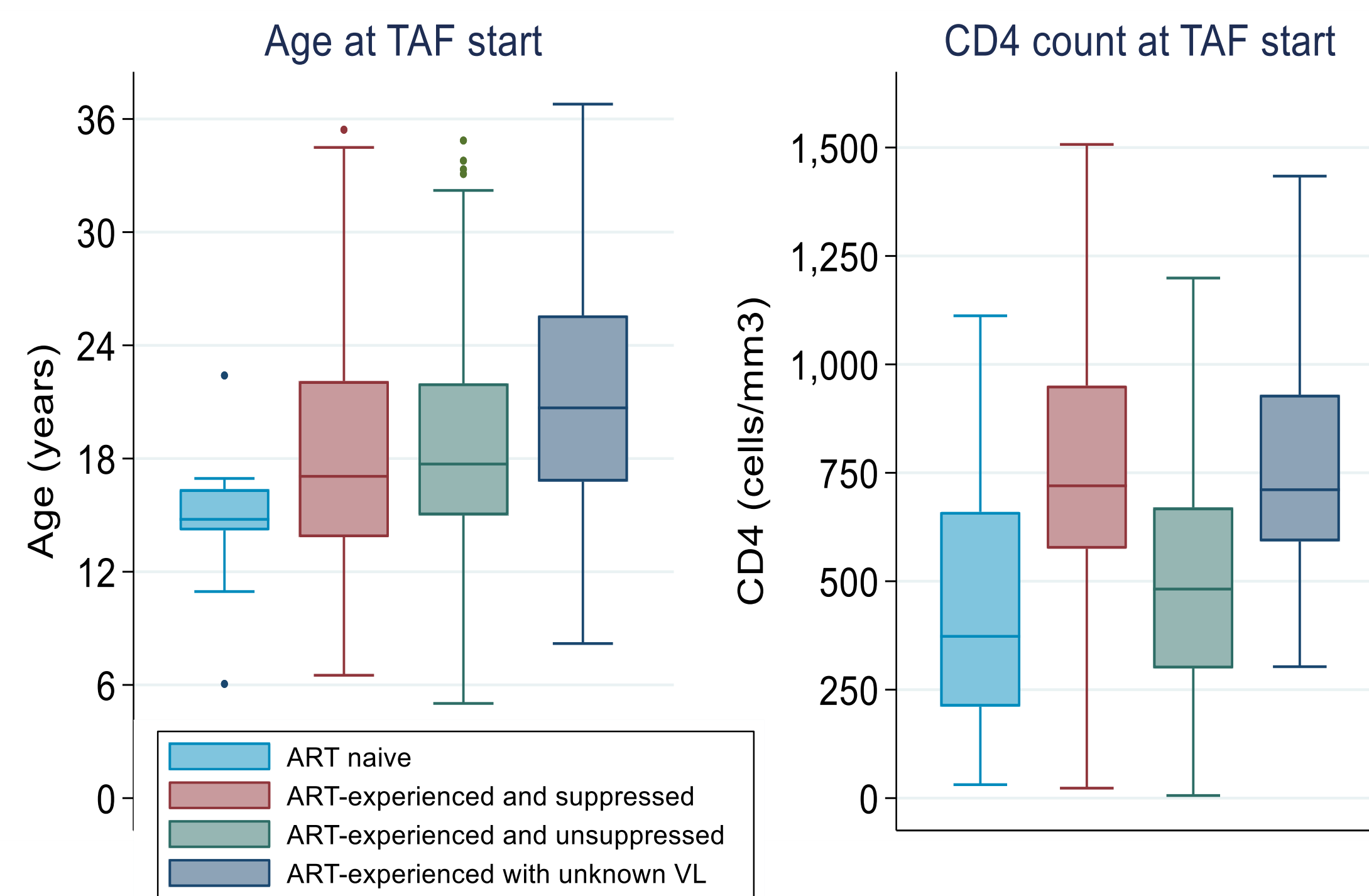
- Of 3,318 children and young people in follow-up since 2016, 670 (20%) ever received TAF.
- Among 984 in follow-up at the start of 2020, 6% were age  $<6$  years, 16% 6 to  $<12$ , 40% 12 to  $<18$ , 19% 18 to  $<24$  and 19% 24+ years.
- Uptake was slowest in the 6 to  $<12$ -year age group, but by 2020 just under 20% were on TAF (Figure 1).
- Uptake was highest in Sweden, Italy and Greece (Figure 2).
- Median duration on TAF was 1.2 [IQR 0.6,2.0] years.



**Figure 2:** Uptake of TAF among children and young people in EPPICC by country of residence

## Results: Characteristics at start of TAF

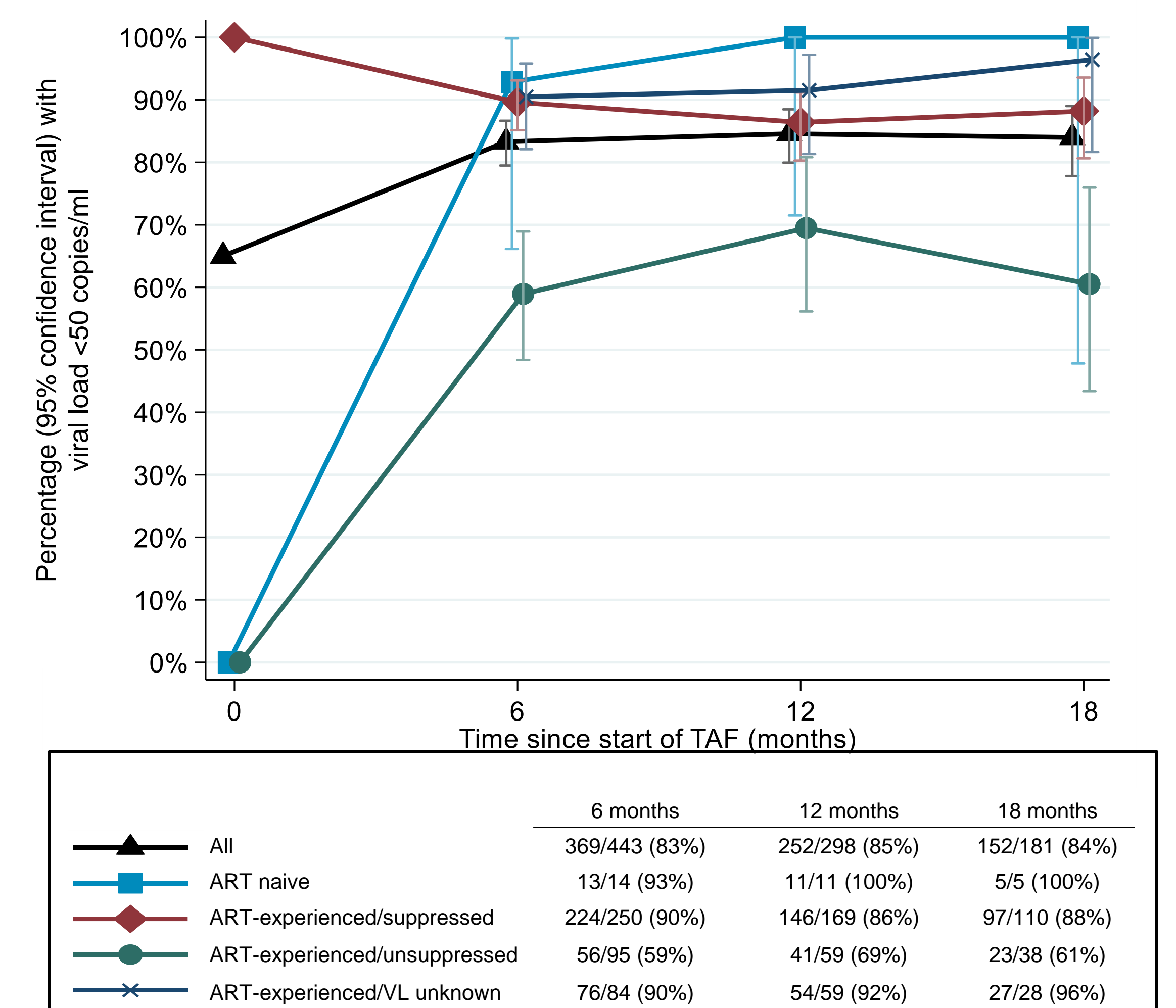
- 95% of 670 children and young people ever on TAF had perinatally acquired HIV or were aged  $<10$  years at diagnosis or entry to HIV care; 56% were female; median age at ART initiation was 3.5 [0.6, 8.8] years.
- At start of TAF:
  - median age was 17.6 [14.6, 22.9] years;  $<1\%$  age  $<6$  years, 10% 6 to  $<12$  years, 42% 12 to  $<18$  years, 27% 18 to  $<24$  years and 20%  $\geq 24$  years.
  - 48% started TAF as part of an integrase inhibitor-based regimen, 31% protease inhibitor, 13% Non-Nucleoside Reverse Transcriptase Inhibitor and 7% other/multiple classes; 66% previously used tenofovir disoproxil fumarate (TDF).
  - 3% were ART naïve, 49% ART-experienced and suppressed, 23% ART-experienced and unsuppressed, 24% ART-experienced.
  - among those who were ART-experienced median time since ART start was 13.9 [9.0, 19.4] years.
  - age and CD4 count at TAF start by ART/VL status are shown in Figure 3; those who were ART-experienced and unsuppressed or were ART naïve at TAF start had the lowest CD4 counts.



**Figure 3:** Age and CD4 at start of TAF by treatment/viral load status at TAF start

## Results: Viral suppression on TAF

- At 6, 12 and 18 months on TAF, overall viral suppression was  $>80\%$  and was lowest at all timepoints among those who were treatment-experienced and unsuppressed at TAF start (Fig. 4).



**Figure 4:** Viral suppression at 6, 12 and 18 months after TAF start, by treatment/viral load status at TAF start.

## Summary

- One-fifth of children and young people in our pan-European cohort had received TAF, most were adolescents and young adults.
- Over 80% of those who were ART naïve or virally suppressed at TAF start maintained good levels of viral suppression, while two-thirds of those who were ART-experienced and unsuppressed at TAF start were virally suppressed at follow up.

## Acknowledgements

**Cohorts participating in EPPICC and included in this study:** Hospital St Pierre Cohort, Brussels, Belgium (T Goetghebuer); Greece Cohort, Greece (V Spoulou); Italian Register for HIV infection in children, Italy (E Chiappini, L Galli); Paediatric Cohort, Poland (M Marczynska); "Victor Babes" Hospital Cohort, Romania (L Ene); Centro Hospitalar do Porto, Portugal (L Marques); CoRISPE-cat, Catalonia, Spain (A Noguera Julian); CoRISPE, rest of Spain cohort, Spain (M Navarro); Karolinska University Hospital, Stockholm, Sweden (L Naver); Swiss Mother and Child HIV Cohort Study, Switzerland (C Kahler); Integrated Screening Outcome Surveillance Service, UK and Ireland (C Thorne); Collaborative HIV Paediatric Study, UK and Ireland (A Judd).

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