CHANGES IN THE ART COVERAGE AND VIRAL SUPPRESSION FROM 2020 TO 2022 IN KYIV, UKRAINE

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BACKGROUND

- Ukraine has made vast progress in HIV management in recent years[1], but both the COVID pandemic and then the Russian invasion may have substantially impacted this.
- Use of new-line ART regimens started in Ukraine later than in Western Europe, and many people living with HIV who switched treatment in 2020 or later need post-switch HIV RNA monitoring, but provision of such tests might be complicated by COVID and then the war.

OBJECTIVES

- To describe the right-hand part of the HIV cascade of care (CoC) per calendar year from 2020 to 2022 in two HIV clinics in Ukraine and assess factors associated with viral suppression.
- To describe factors associated with being lost to follow-up (LTFU)
- To estimate the proportion of treatment switches and post-switch HIV RNA measurements during the study years.

METHODS

- PWH from the CARE East cohort enrolled in HIV/AIDS clinical sites in Kyiv City and Kyiv Region, Ukraine[2], who were under prospective follow-up (FU) in a given calendar year (2020-2022) were included in the analysis.
- The HIV CoC was constructed to compare percentages of PWH **on ART** among those under FU, and with **virological suppression** (HIV RNA≤200 copies/mL) among those on ART at each year overall and by site.
- We assessed factors associated with **loss to follow-up** and with **unsuppressed viral load** using logistic regression. For the latter, people with missing HIV-RNA were excluded from the analysis.
- We also described the proportion of **treatment switches and post-switch HIV RNA measurements** for all study years.

RESULTS

Among 1808 people with HIV under FU in 2020, the median age was 40 years, 63.1% were male, and 49.0% reported injection drug use (IDU) as HIV acquisition risk, followed by heterosexual acquisition mode in 42.8%.

While the number of persons under FU decreased by 17% to 1504 in 2022, the distribution of gender and transmission modes did not change substantially, and the proportion of deaths was consistent across years (1%-2%).

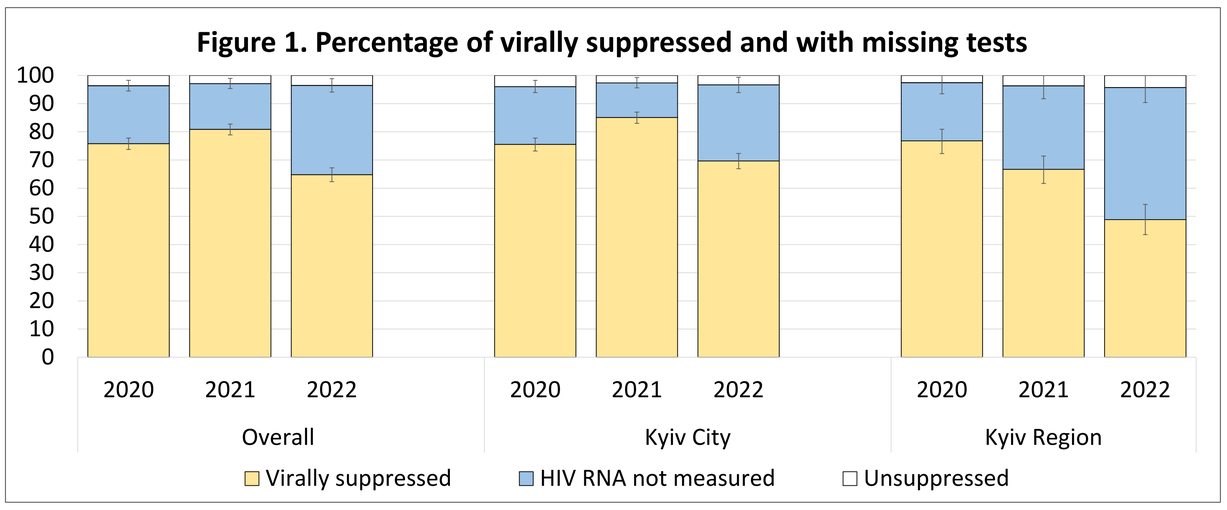
A large proportion of individuals switched ART in 2020 (36.8%) and 2021 (32.4%), the majority to tenofovir/lamivudine/dolutegravir, compared with 7.5% switching in 2022.

ART UPTAKE AND VIRAL SUPPRESSION IN 2020-2022

The percentage of people with HIV on ART was >98% for all three years. The proportion on ART who were virally suppressed increased from 75.9% in 2020 to 80.9% 2021, then dropped to 64.8% in 2022, largely due to an increase in missing HIV-RNA from 20.5% in 2020 to 31.7% in 2022 (**Figure 1**).

[1] within 10% of meeting the second UNAIDS target and met the third UNAIDS target, ECDC 2020 progress report
[2] More details on the CARE cohort in Ukraine in: Fursa et al, JIAS 2023

Figure 1. Percentage of virally suppressed and with missing tests



Of those with treatment switch in 2020 and 2021, 34.9% and 35.6%, respectively, had missing HIV RNA measurement within the next 12 months, whereas only 2.6% and 2.0%, respectively, had their post-switch HIV RNA ≥200 copies/mL.

FACTORS ASSOCIATED WITH UNSUPPRESSED VIRAL LOAD AND WITH LOSS TO FOLLOW-UP

IDU mode of HIV acquisition, calendar year 2022, enrolment in Kyiv Region, and PI-based or other* ART were associated with higher odds of being unsuppressed (**Figure 2a**). Younger age, IDU as HIV acquisition risk, enrolment in Kyiv City and CD4 count <350 cells/mm^3 or unknown CD4 count were associated with higher likelihood of loss to follow-up (**Figure 2b**).

**not falling into the three main categories defined as INSTI-based (one INSTI+ 1 or 2 NRTI), NNRTI-based (one NNRTI+2 NRTI) or PI-based (one PI+2 NRTI)*

Figure 2a. Factors associated with unsuppressed viral load

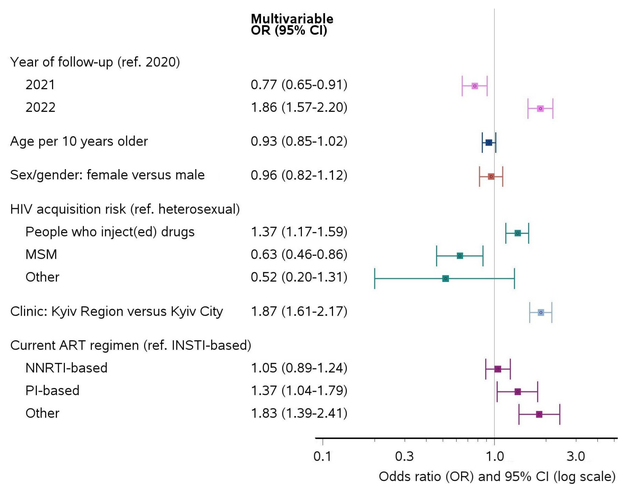
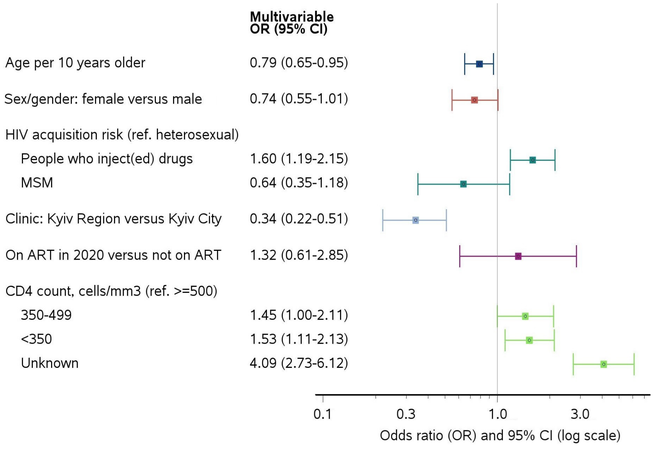


Figure 2b. Factors associated with loss to follow-up



LIMITATIONS

Due to the time collection window, data on post-switch HIV RNA measurements for those who switched ART in 2022, were not available at the time of this analysis.

CONCLUSIONS

- ART coverage remained very high among those under follow-up despite COVID-19 pandemic and then the war, and the proportion of virally suppressed decreased in 2022, mostly due to HIV-RNA tests not being performed.
- The odds of being unsuppressed as well as being LTFU differed between the two sites and were associated with HIV acquisition mode.

ACKNOWLEDGEMENTS
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Information about CARE can be found at: https://chip.dk/Research/Studies/CARE