

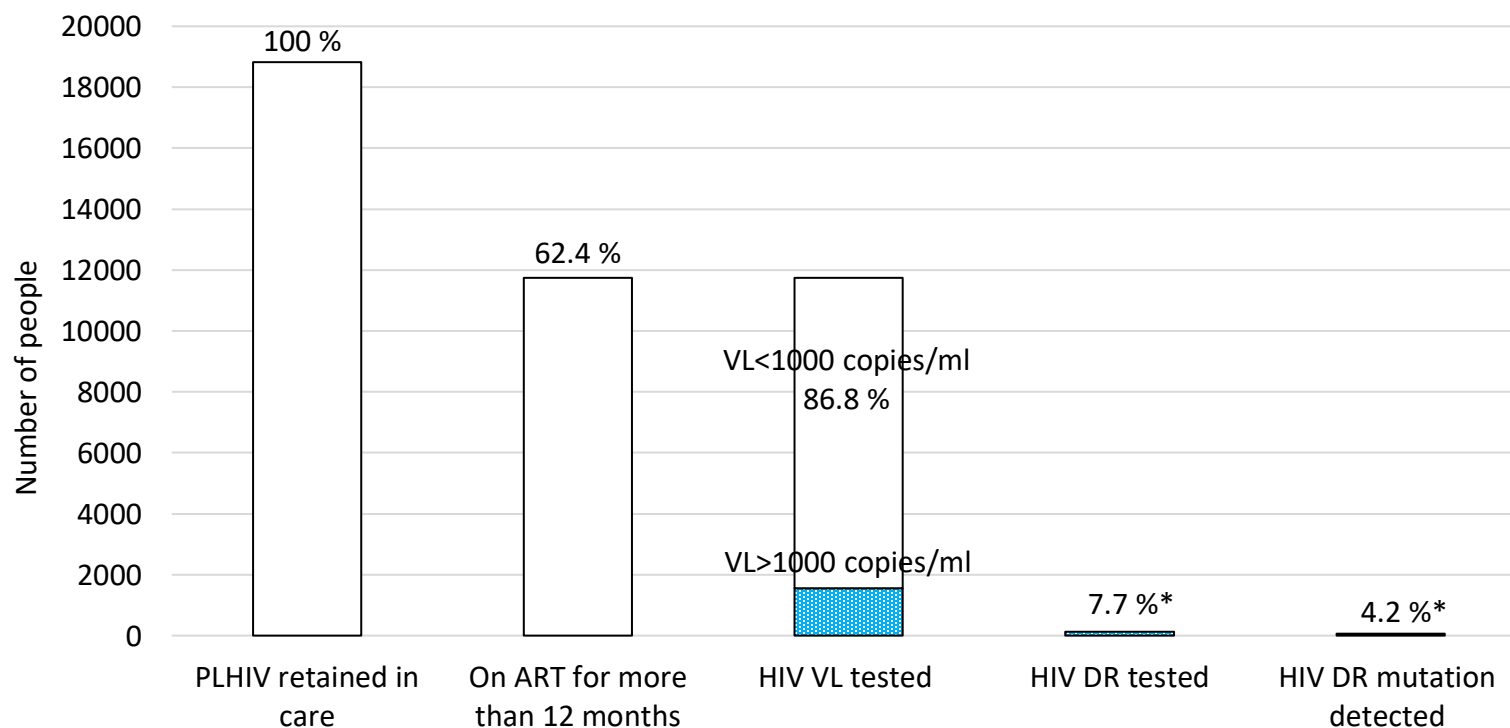
PILOT MODEL OF THE HIV DRUG RESISTANCE TESTING COVERAGE CASCADE

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Background: The effectiveness of antiretroviral therapy (ART) and achievement target indicator of the HIV care cascade depends on various factors, including HIV resistance to ART. Prompt HIV viral load testing, detection of virus mutations and appropriate modification of ART regimens are factors for successful HIV treatment and prevention. However, countries with large population of people living with HIV (PLHIV) and countries with limited resources recommend HIV drug resistance testing only in cases of virologic failure. The purpose of the study was to test the methodology of the HIV drug resistance testing coverage cascade.

Materials and Methods: We analyzed data from one of the Russian regional HIV/AIDS centers through the year 2021. The data included the number of PLHIV in clinic; number of patients on ART for >12 months; number of patients on ART for >12 months who had HIV viral load (VL) test during the year; number of patients on ART for >12 months with VL<1000 copies/ml at last follow-up; number of patients on ART for >12 months with VL>1000 copies/ml tested for HIV drug resistance (DR); number of patients on ART for >12 months who were tested for HIV DR and had at least one of major HIV DR mutation; number of patients who switched ART regiment during the year due to virologic failure.

Results: 18,835 PLHIV were retained in HIV care in clinic. 11,749 (62.4%) received ART for >12 months and all of them had VL testing during the year. Among these patients 10,200 (86.8%) had virological response (VL<1000 copies/ml). Out of 1,549 patients who had VL>1000 copies/ml, 120 (7.7%) were tested for HIV DR. At least one major HIV DR mutation was found in 66 patients (55% of patients who were tested for HIV DR and 4.2% of patients with VL>1000 copies/ml). Switching of ART regiment due to virologic failure during the year were in 483 patients (4.1% of patients on ART for >12 months, 31.2% of patients with VL>1000 copies/ml).



*Proportion calculated from patients with VL >1000 copies/ml

CONCLUSION

Surveillance of HIV drug resistance among PLHIV could supplement the classic HIV care cascade and serve as a new tool for epidemiological surveillance.