

Description of the Viral Load cascade of ART patients using SAMBA, a Point-of-care Viral Load testing method in Chiradzulu district, Malawi

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1. Introduction

- Viral load (VL) is key information for timely provision of intensive adherence counselling or switching treatment regimen for suspect failures.
- From August 2013, MSF with UNITAID-cofunding and in collaboration with the Ministry of Health implemented SAMBA, a simplified point-of-care (POC) device for semi-quantitative VL testing (1000 copies/mL threshold) in Chiradzulu district.
- The protocol recommends 2 follow-up tests after a high VL (≥ 1000 copies/mL) before a change in ART regimen for those remaining with a high VL.
- The objective is to review the VL cascade and identify challenges with VL monitoring.

2. Methods

Study design and Population

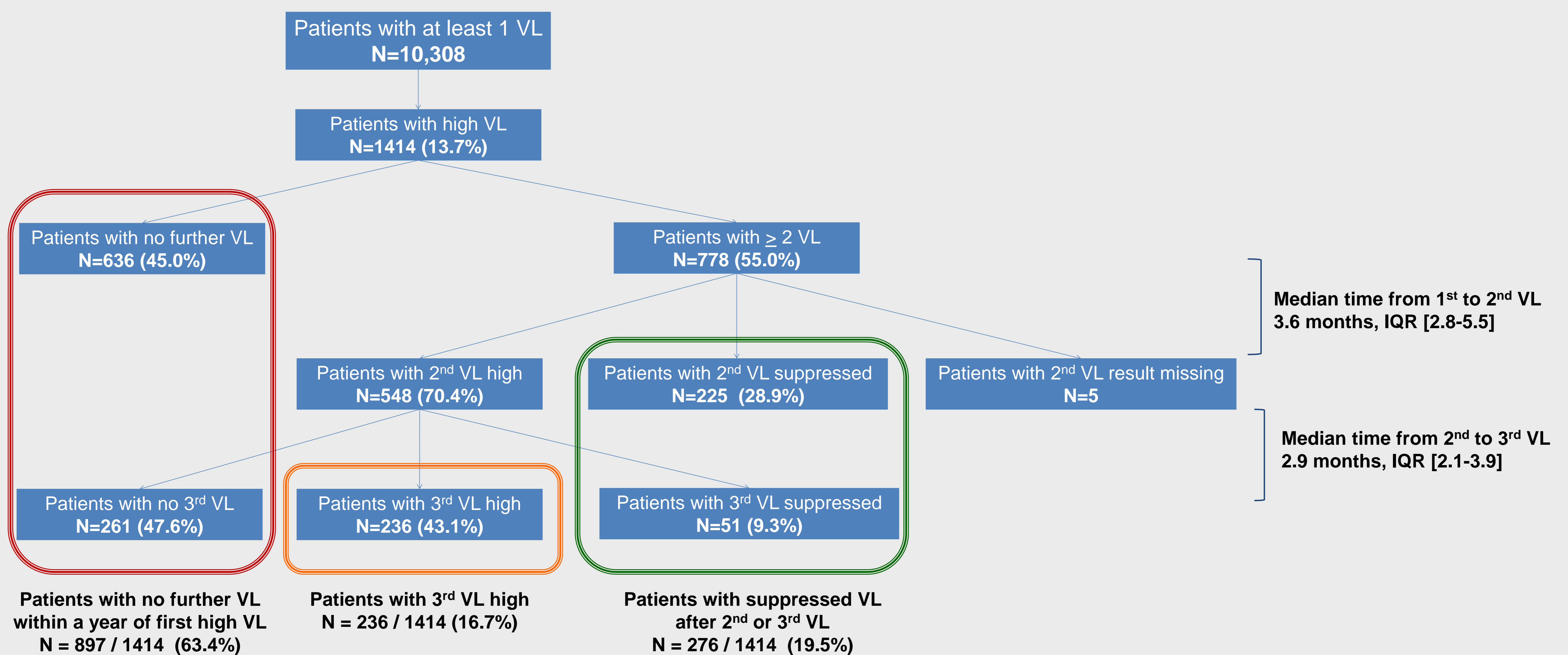
- We describe the sequence of VL tests performed between **August 2013** and **June 2015** in 3 treatment sites equipped with SAMBA, in Chiradzulu district.
- ART patients with at least 1 VL test are analysed up-to 1 year after the first high VL.
- Data was collected routinely and prospectively and entered in a dedicated POC database by MSF program staff

Descriptive analysis

- Number of patients with at least 1 VL test by POC
- Number & % of patients with at least 1 high VL test by POC
- Sequence and timing of tests (median time in months, IQR) of VL tests after the first high VL
- Clinical decision (%) when VL remains high

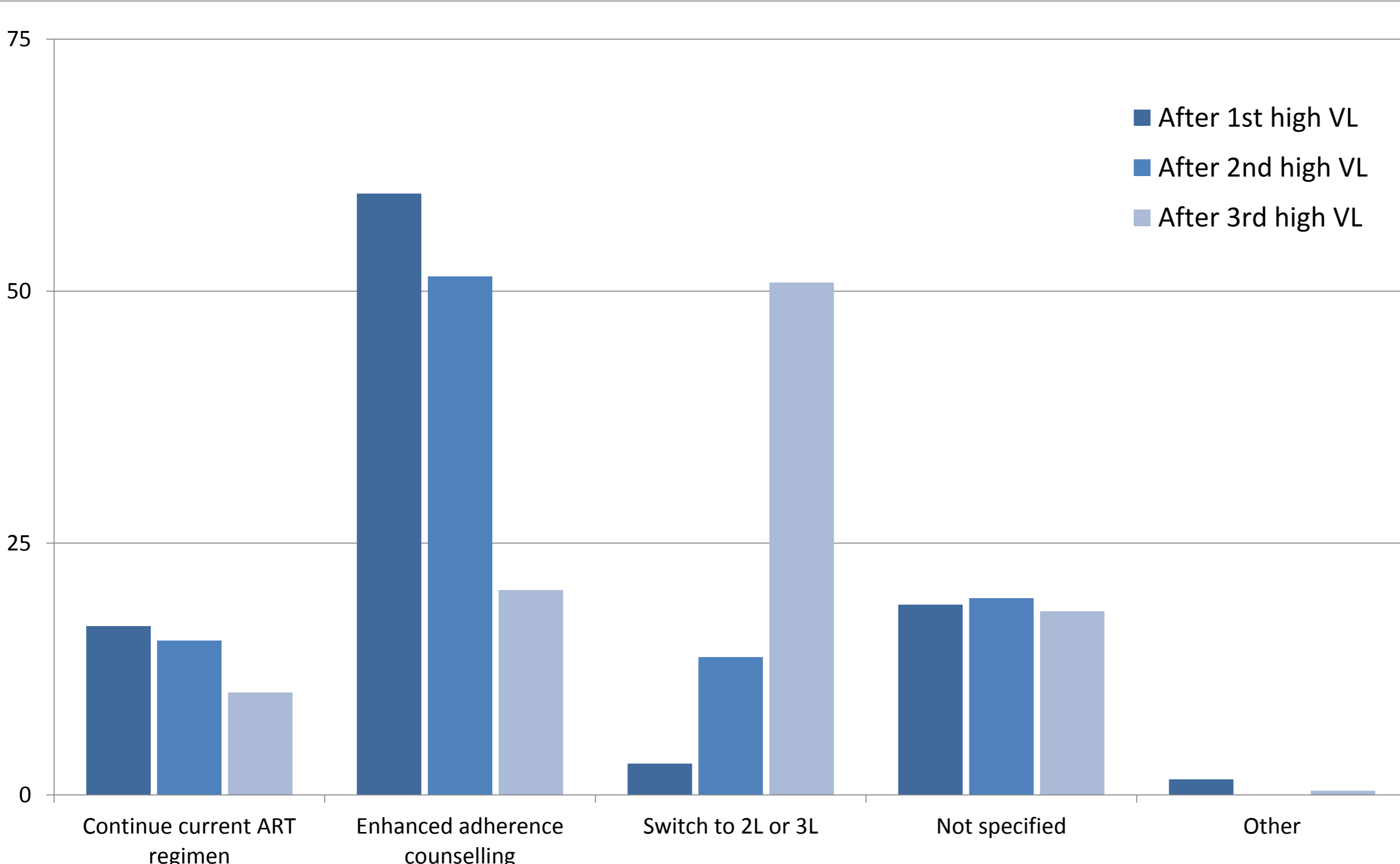
3. Results

VL cascade: number and proportion of patients, timing in months between subsequent tests (median, IQR)

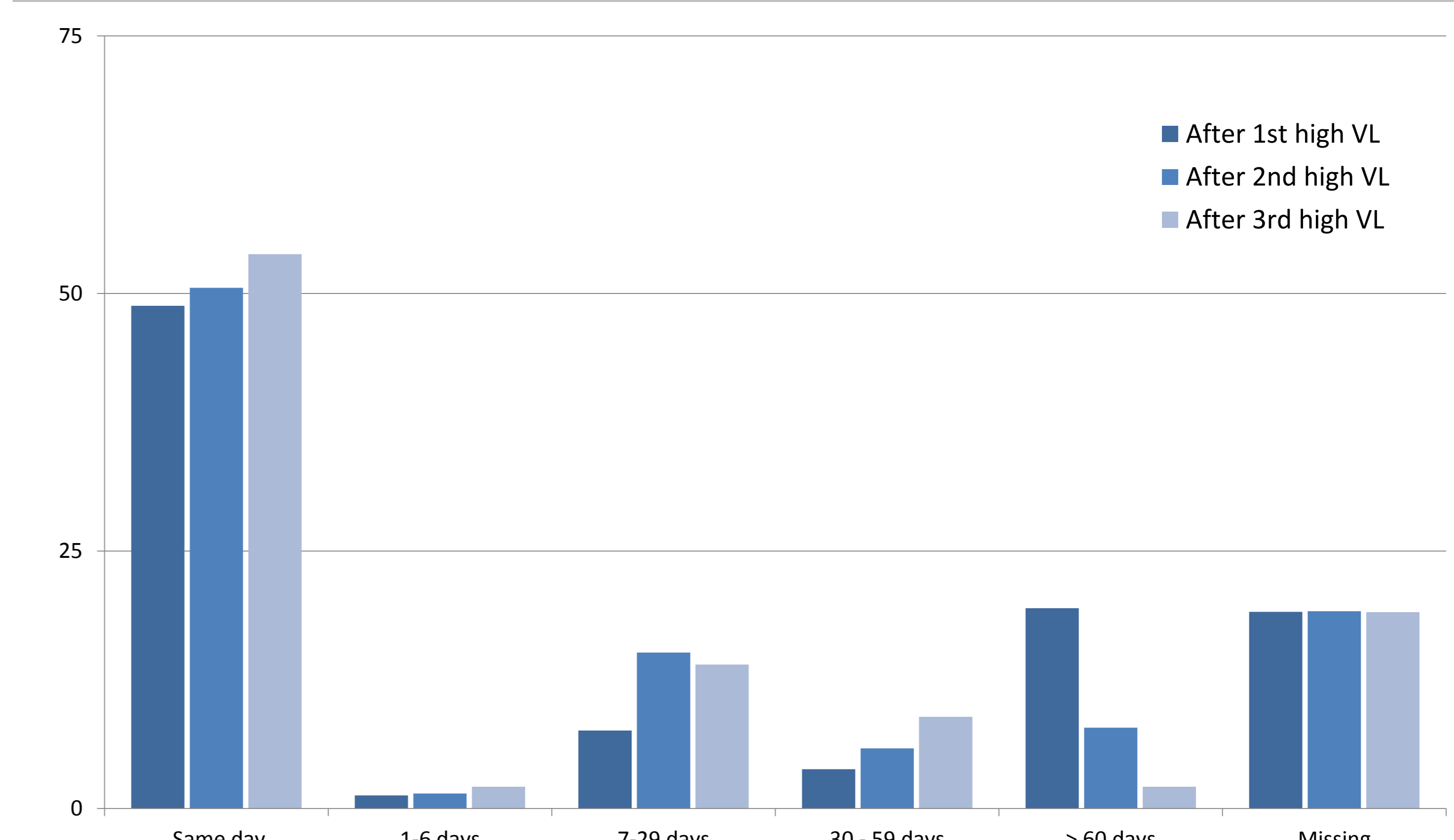


- A high proportion of patients (63.4%) with a high VL result did not have the follow-up VL tests.
- The absence of follow-up test may be associated with patient retention and must be accounted for and will be investigated in further analysis.
- Among the 512 patients for whom the protocol was followed (2nd VL after a 1st high result and 3rd VL after a 2nd high result), another 10.0%(51) suppressed at the 3rd test.
- VL coverage is estimated at 82%.

Clinical decision after 1st, 2nd and 3rd high VL results (%)



Delay between blood drawn and clinical decision for each high VL result (%)



- As recommended in the protocol, majority of clinical decisions were "Enhanced adherence counselling" after the 1st and the 2nd high VL and "Switch to 2L or 3L" after the 3rd high VL result.
- Around 20% tests have no clinical decisions recorded, meaning most probably the patient has not returned for the next consultation and / or the clinician has not reviewed the result.
- 50% of results have been reviewed on the day the blood was drawn, whether for the 1st, 2nd or 3rd high VL.
- Around 20% tests have no clinical review date, in line with the 20% tests with no clinical decision recorded.
- Restricting to the tests with a date of clinical review, 70 to 86 % tests are reviewed within the first month following the date of blood drawn.

4. Conclusion

- Following two years of POC-VL implementation, the programme attained high coverage for VL testing.
- However suppression at 2nd test was low at 28.9% and a third test offered a 10.0% marginal gain.
- The main bottleneck was the lack of follow-up tests after a high VL result.
- Clinical decisions recorded are in line with the protocol on VL monitoring for 50% of the test results.
- The Point of Care technology allows the review of results and communication to the patient within 1 month of test done for greater than 60% of patients.

5. Recommendations

- VL can be implemented at health-centre level and sufficiently service the population.
- Follow-up remains a major challenge which can be addressed by regular monitoring and evaluation of the VL cascade and increasing VL literacy amongst healthcare workers and PLHIV.

5. Acknowledgment

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