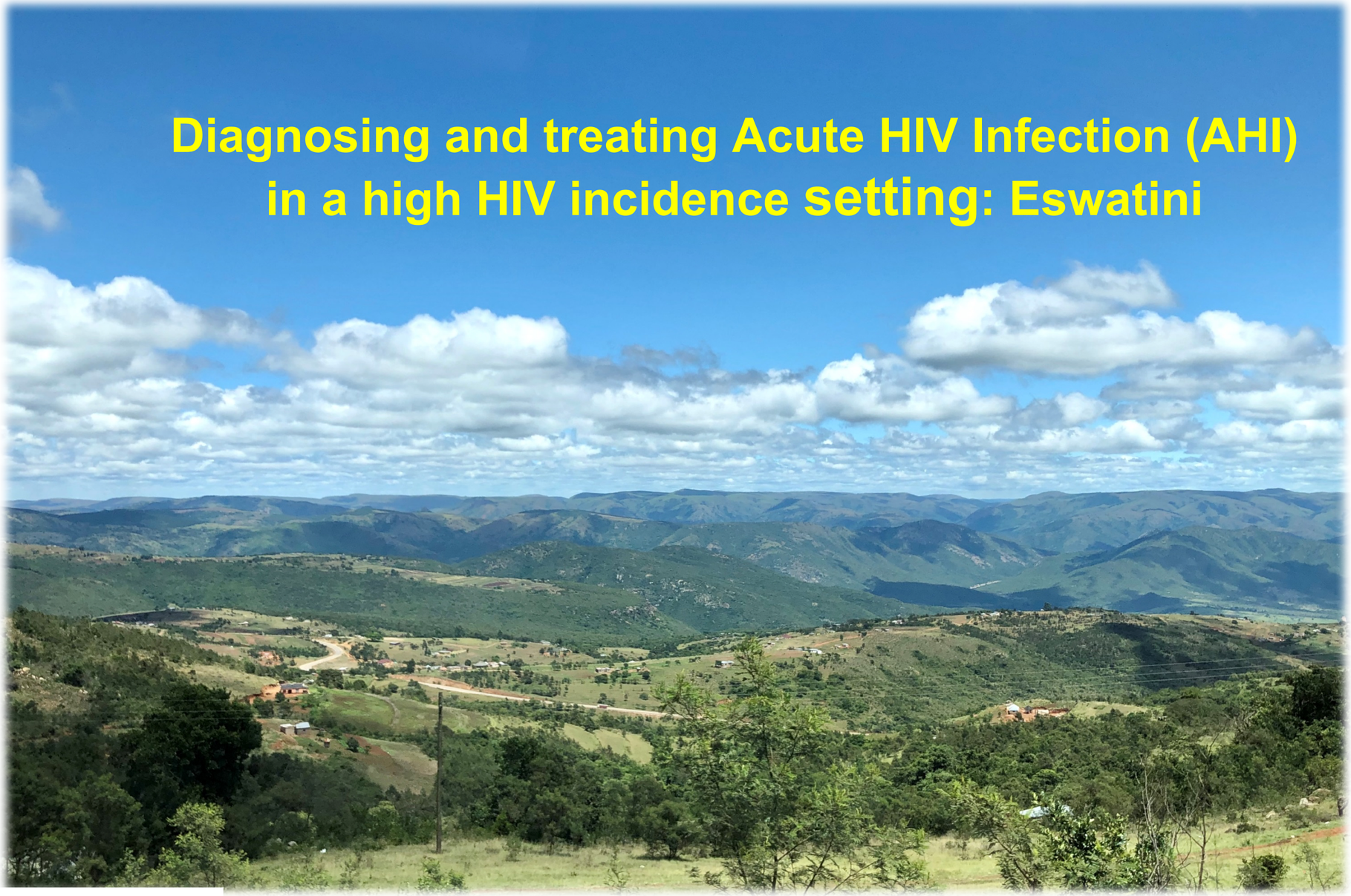
Conflict of Interest

The author has declared no conflict of interest.

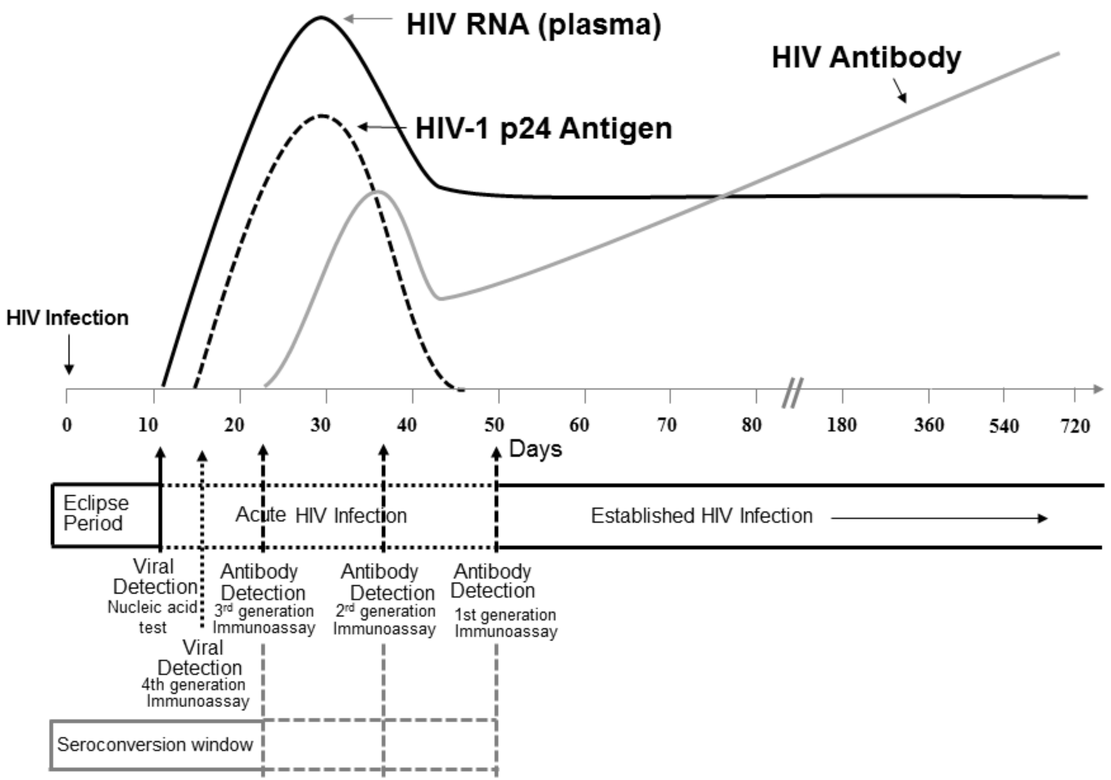
Diagnosing and treating Acute HIV Infection (AHI) in a high HIV incidence setting: Eswatini



MEDECINS SANS FRONTIERES
DOCTORS WITHOUT BORDERS

SCIENTIFIC DAYS

Background



* Laboratory Testing for the Diagnosis of HIV Infection: Centers for Disease Control and Prevention and Association of Public Health Laboratories.

- Acute HIV Infection (AHI) is characterised by high levels of plasma HIV RNA with non-specific clinical presentations.
- It cannot be diagnosed by routinely available point-of-care antibody tests.
- AHI enhances the risk of HIV transmission, specifically in high HIV incidence settings like Eswatini.
- Improving detection of AHI and rapid antiretroviral therapy (ART) initiation could contribute to HIV elimination goals.

Methodology

- **Objective:** Assess the burden of AHI and feasibility of diagnosing and treating AHI in a resource limited setting

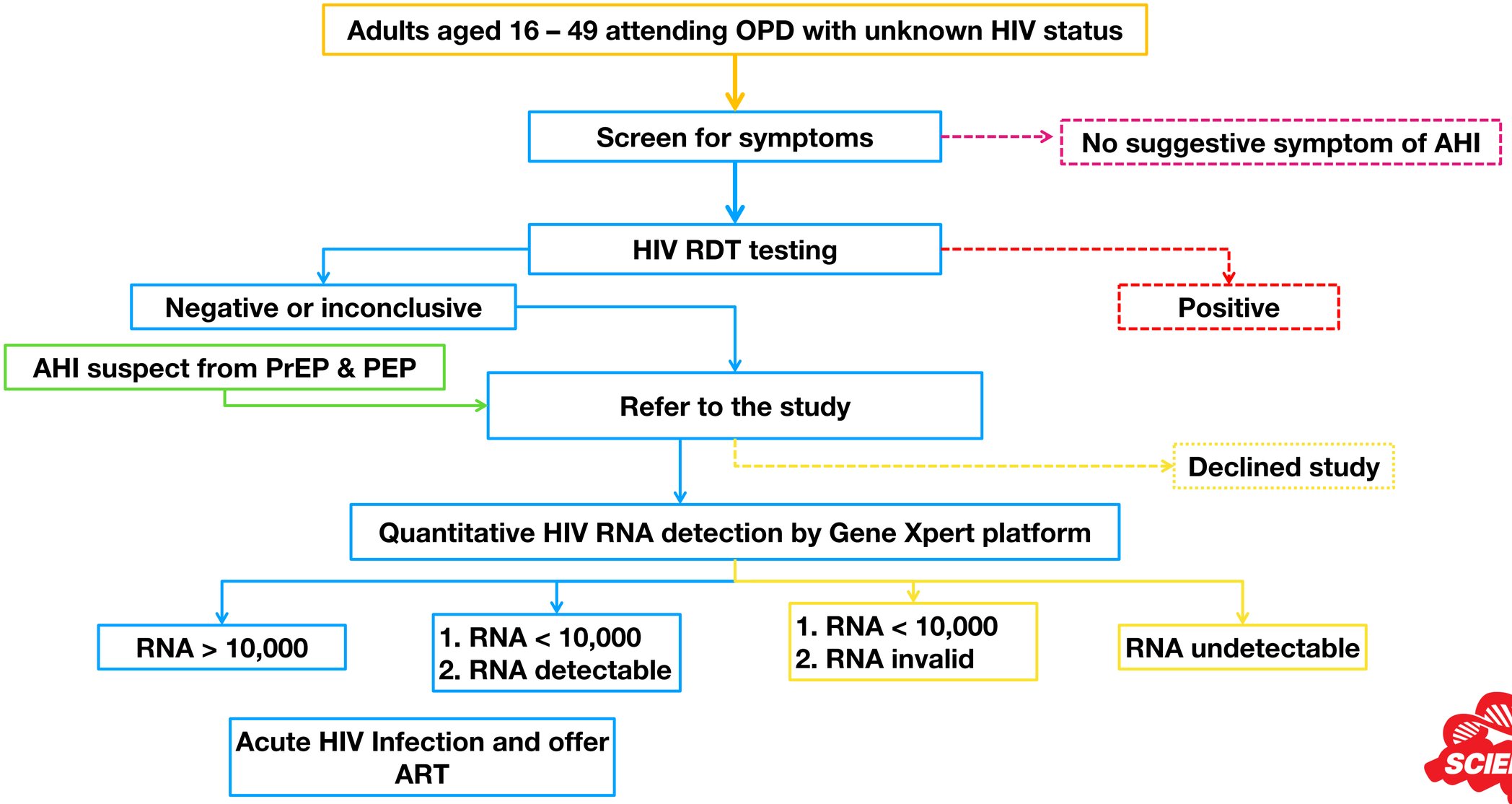
- **Study setting:** Outpatient department (OPD) in Nhlangano secondary health facility

- **Study eligibility:** Adults 16 – 49 years old *AND*
  - HIV rapid diagnostic test (RDT: Determine – Unigold) negative AND symptoms suggestive of AHI (fever/ sore throat/ symptoms of sexually transmitted infection)
  - *OR* inconclusive HIV RDT
  - *OR* referred from the PrEP and PEP (pre- and post-exposure prophylaxis) programme

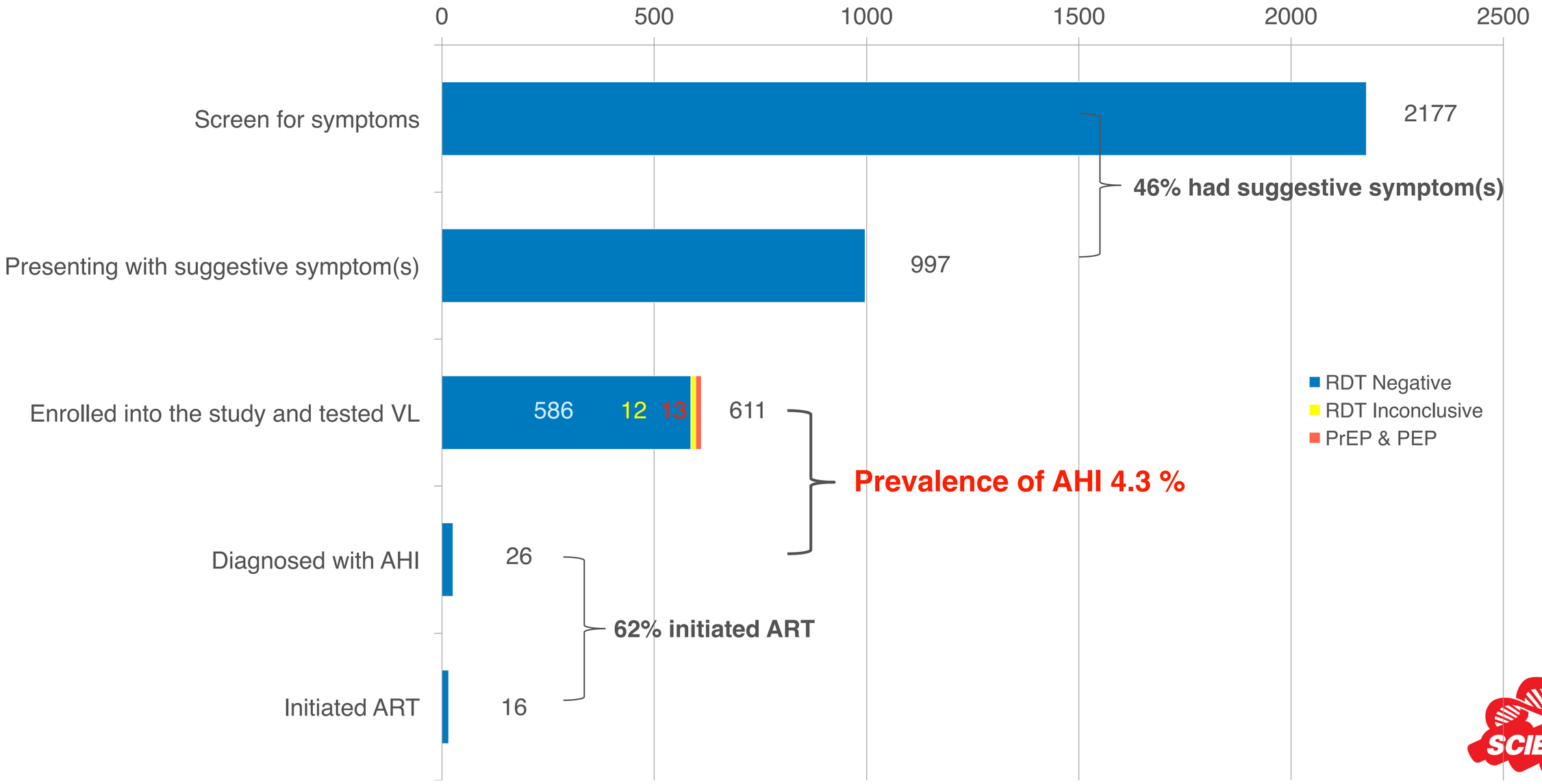
- **Diagnosis:** Quantitative HIV RNA detection by Gene Xpert platform:

- Definition of AHI: One viral load (VL) >10,000 copies/mL or 2 VLs >40 copies/mL

Flow diagram



Overview of AHI cascade



Characteristics of patients

		No AHI (n=585)	AHI (n=26)	P Value /%
Age	Median (IQR)	26.6 (23.5 - 30.9)	26.7 (24.2 - 29.7)	
Gender	Male	254	5	**0.015**
	Female	331	**21**	
Number of Partner(s)	No Partner	31	0	0.912
	One Partner	362	17	
	Two Partners	107	6	
	Three/more Partners	68	3	
Presenting complaints	Fever	261	9	0.311
	Sorethroat	211	9	0.875
	Headache	219	8	0.487
	General fatigue	98	7	0.180
	Lower abdominal pain	130	7	0.577
	Genital itchiness	163	6	0.590
	Red eye and itchiness of eyes	59	5	0.137
	General body pain/ache	78	4	0.768
	Swollen glands	23	4	**0.023**
Clinical Observations	Genital discharge	153	9	0.342
	Genital ulcers	65	3	1.000
	Oral ulcer	6	3	**0.005**
	Pharyngitis	26	3	0.120
	Temp >37.5'C	56	3	0.731
ART initiation	Immediate		12	75%
	Within one week		4	25%

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SCIENTIFIC DAYS

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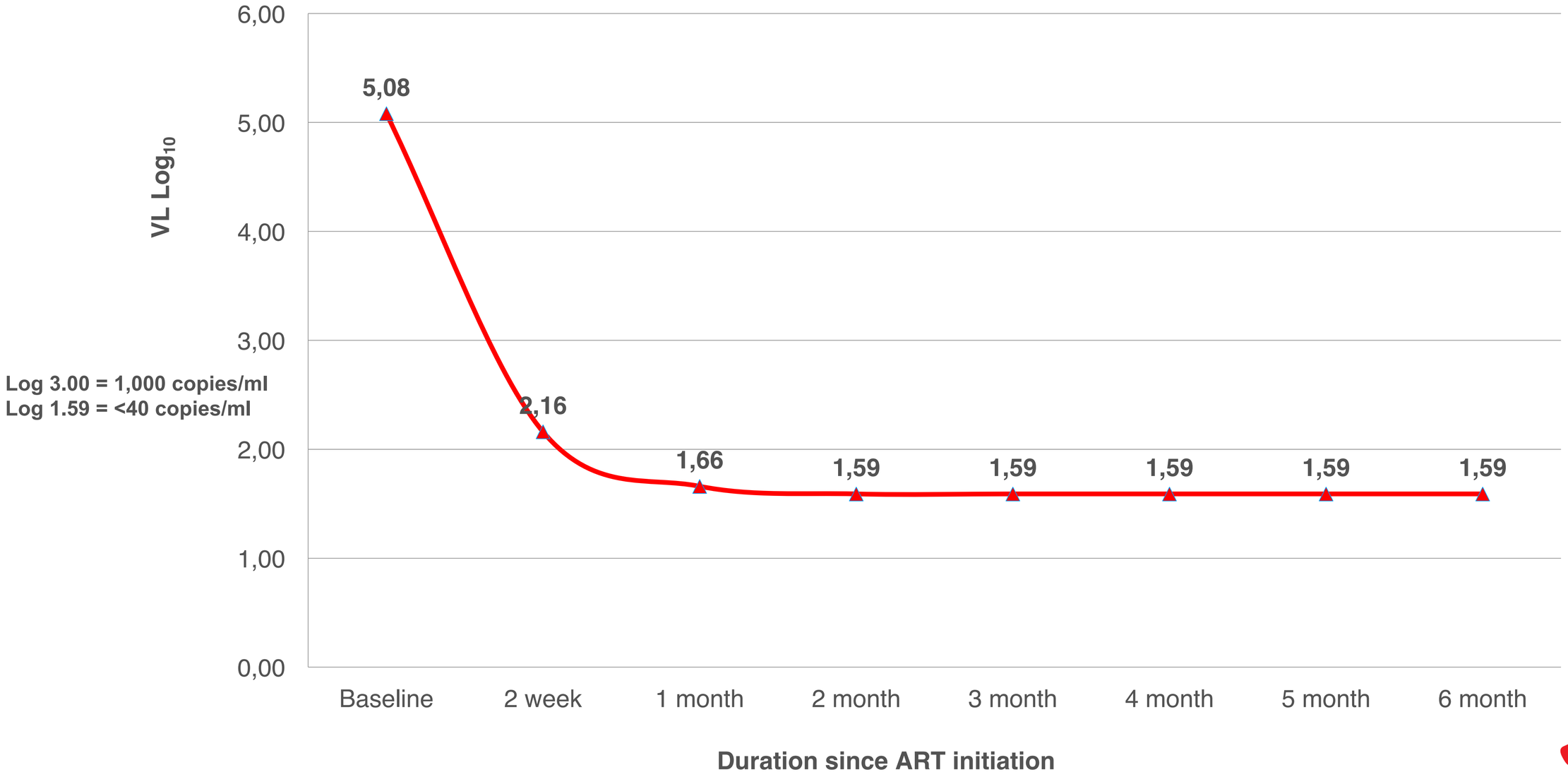
Changes in median viral RNA (VL log_{10})



Log 3.00 = 1,000 copies/ml
Log 1.59 = <40 copies/ml

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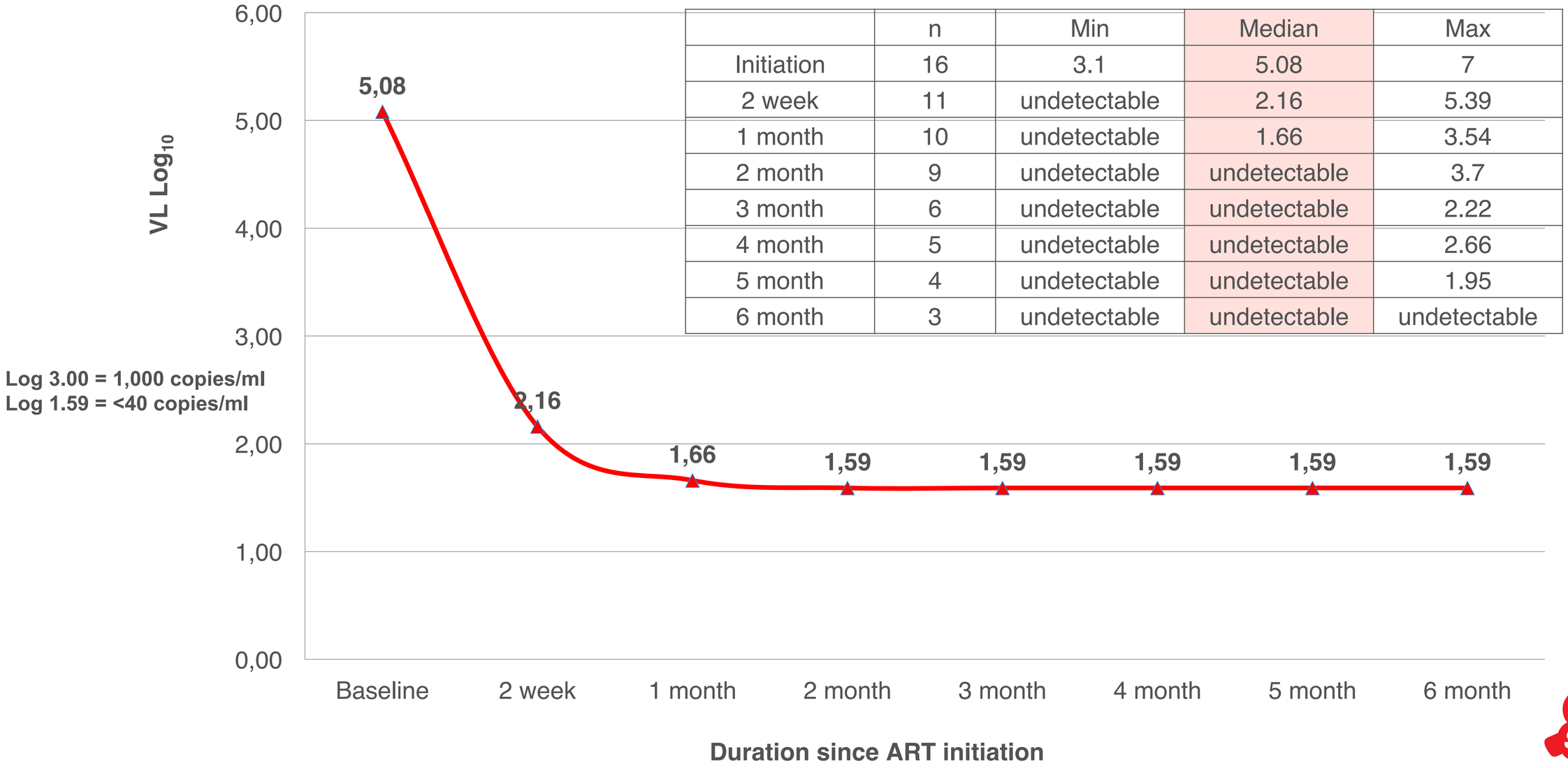

	n	Min	Median	Max
Initiation	16	3.1	5.08	7
2 week	11	undetectable	2.16	5.39
1 month	10	undetectable	1.66	3.54
2 month	9	undetectable	undetectable	3.7
3 month	6	undetectable	undetectable	2.22
4 month	5	undetectable	undetectable	2.66
5 month	4	undetectable	undetectable	1.95
6 month	3	undetectable	undetectable	undetectable

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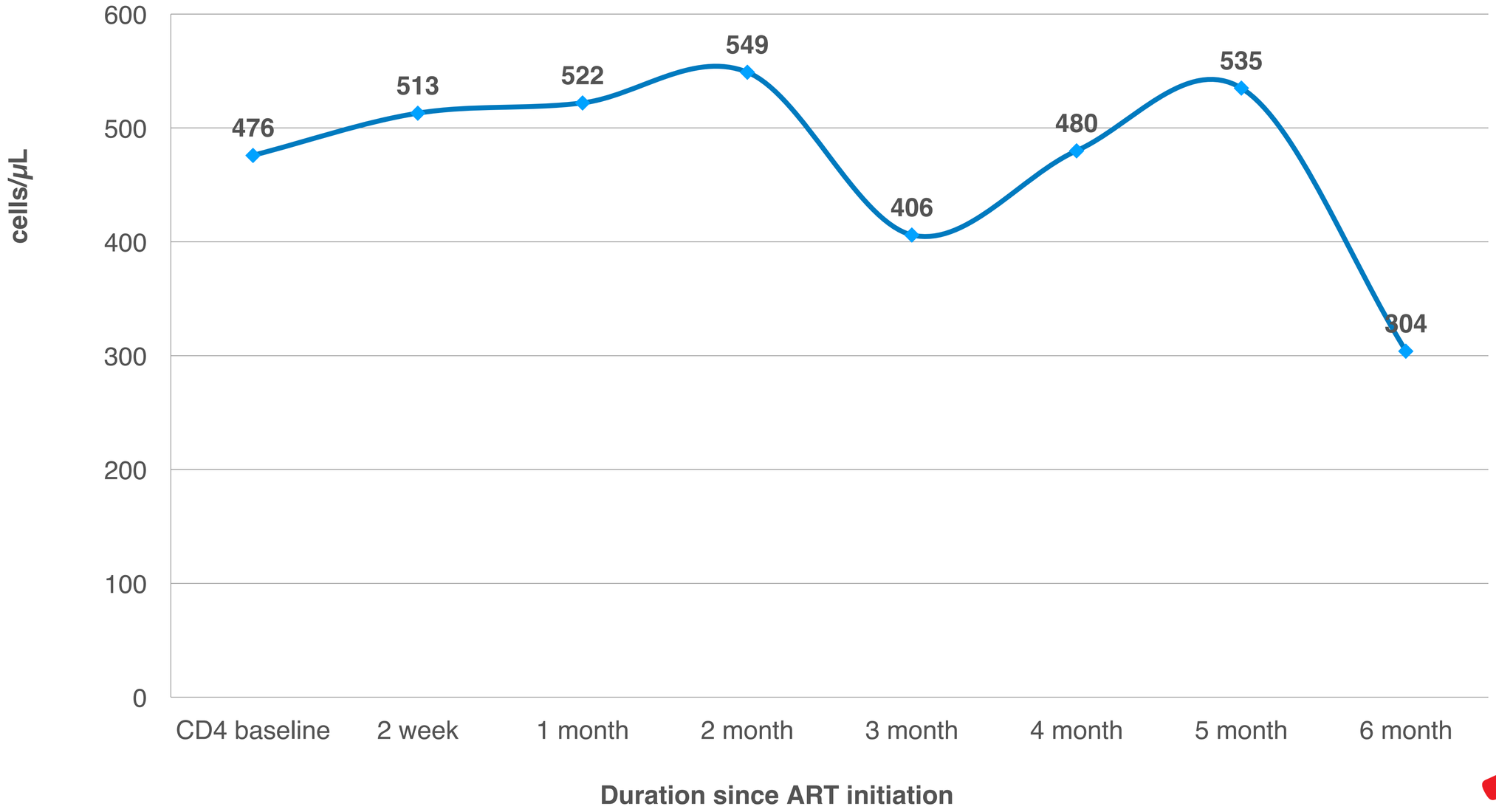
Changes in median CD4 count



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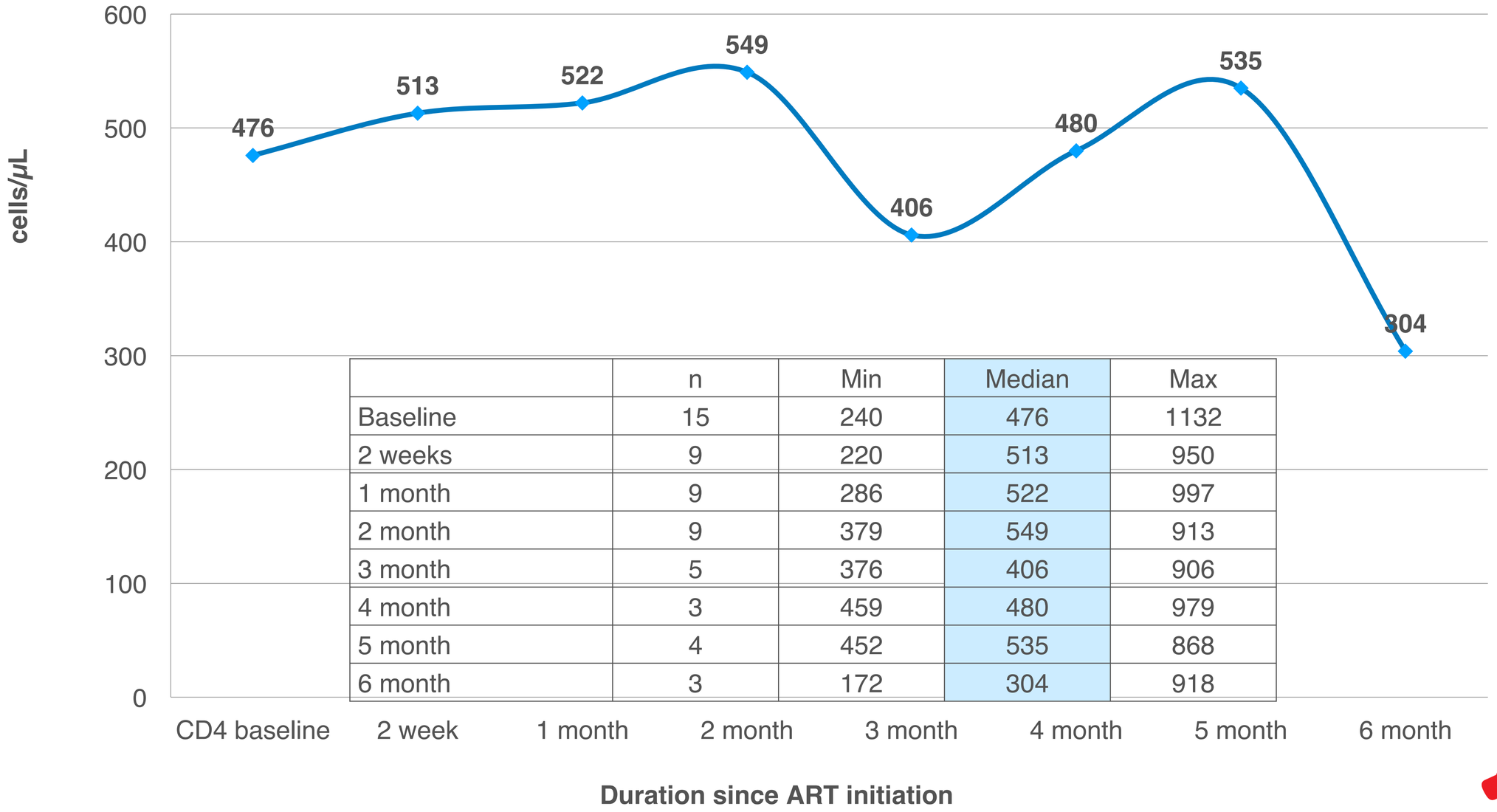

	n	Min	Median	Max
Baseline	15	240	476	1132
2 weeks	9	220	513	950
1 month	9	286	522	997
2 month	9	379	549	913
3 month	5	376	406	906
4 month	3	459	480	979
5 month	4	452	535	868
6 month	3	172	304	918

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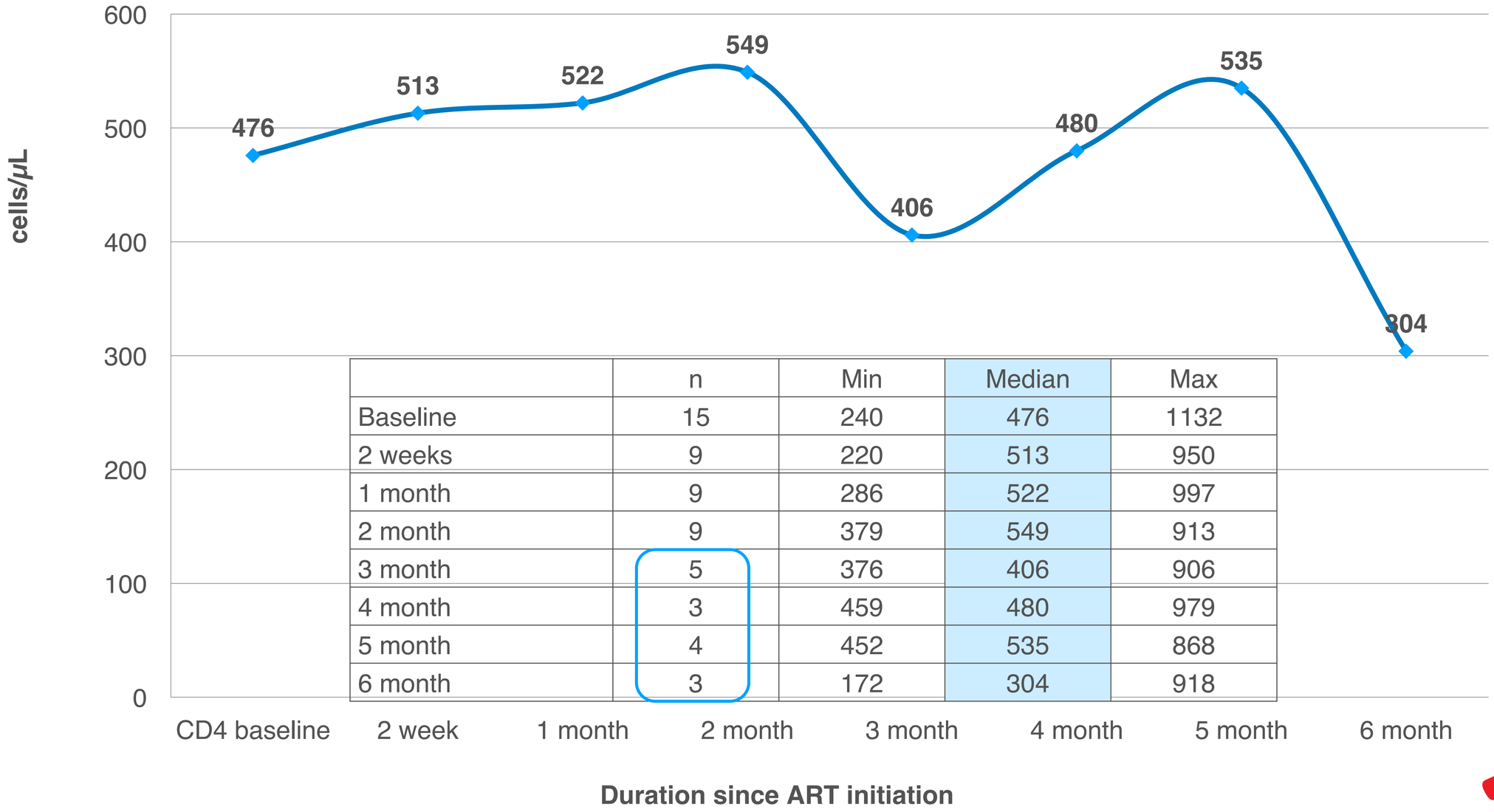

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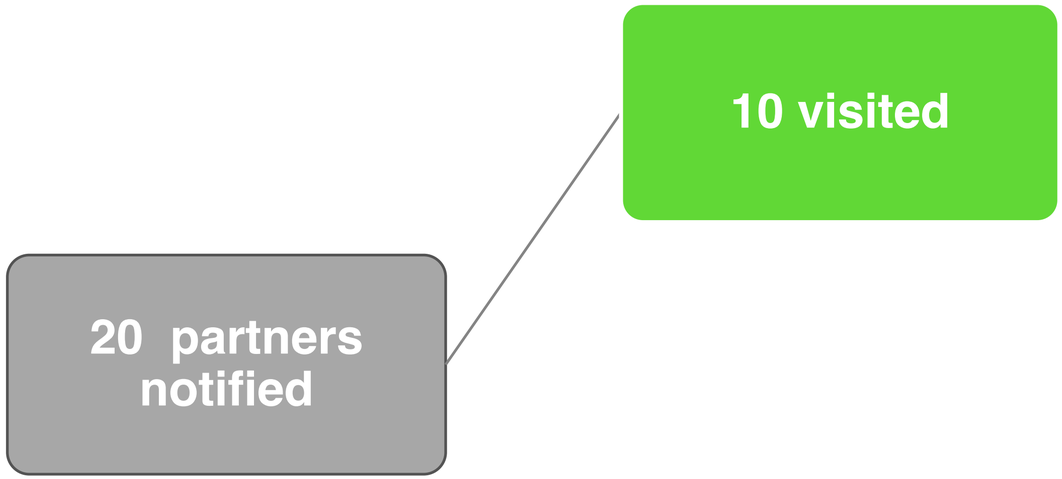
Partner notification

20 partners notified

Partner notification



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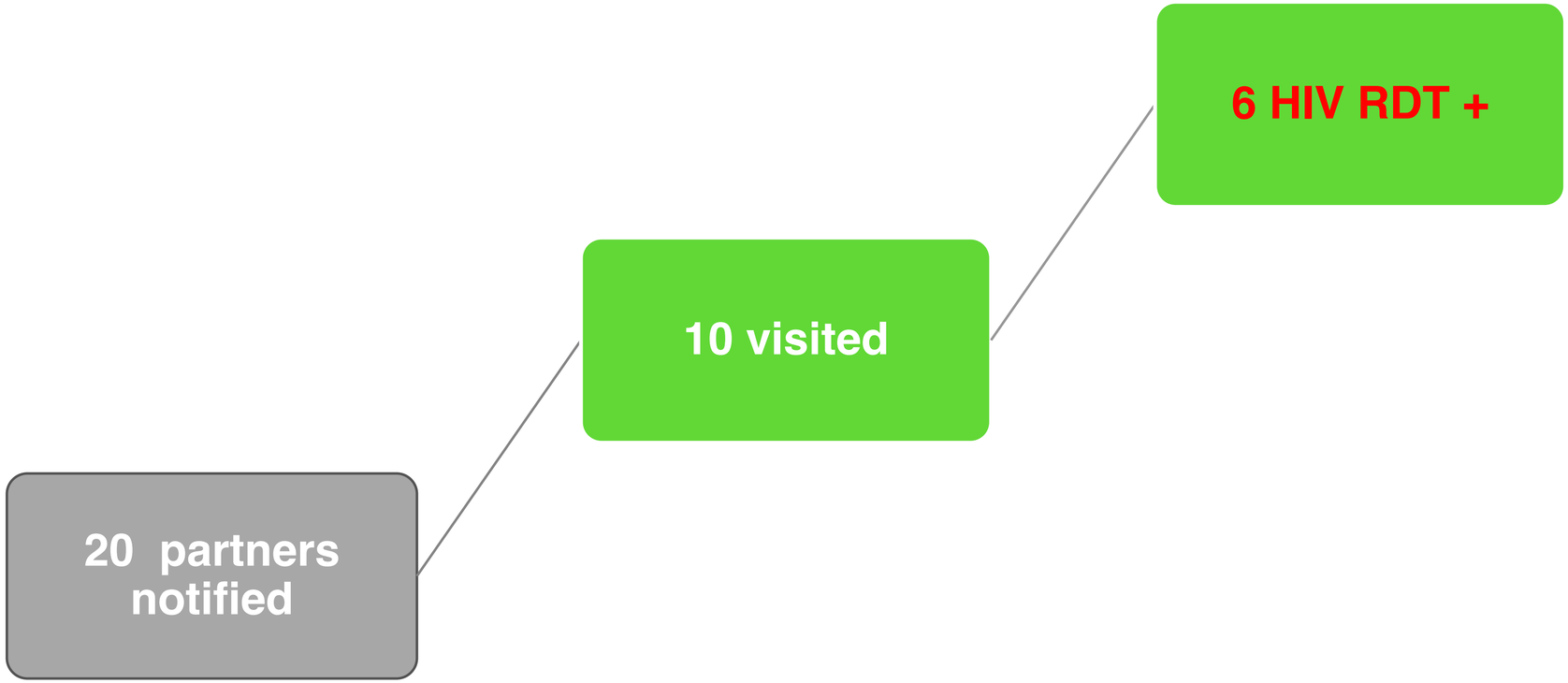

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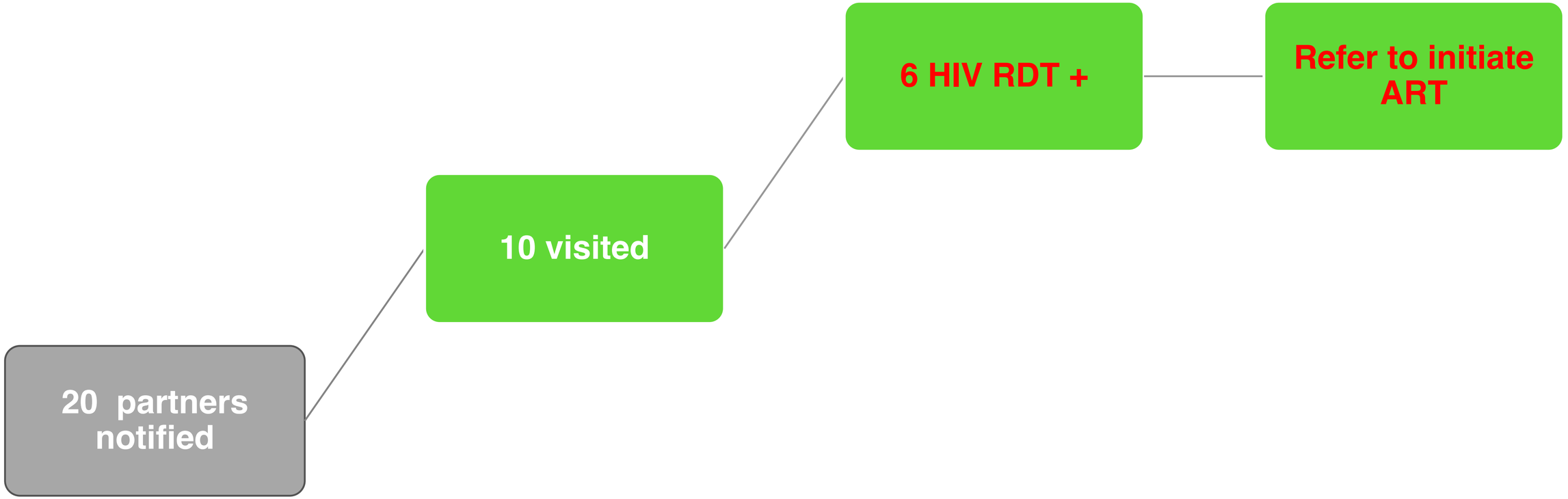

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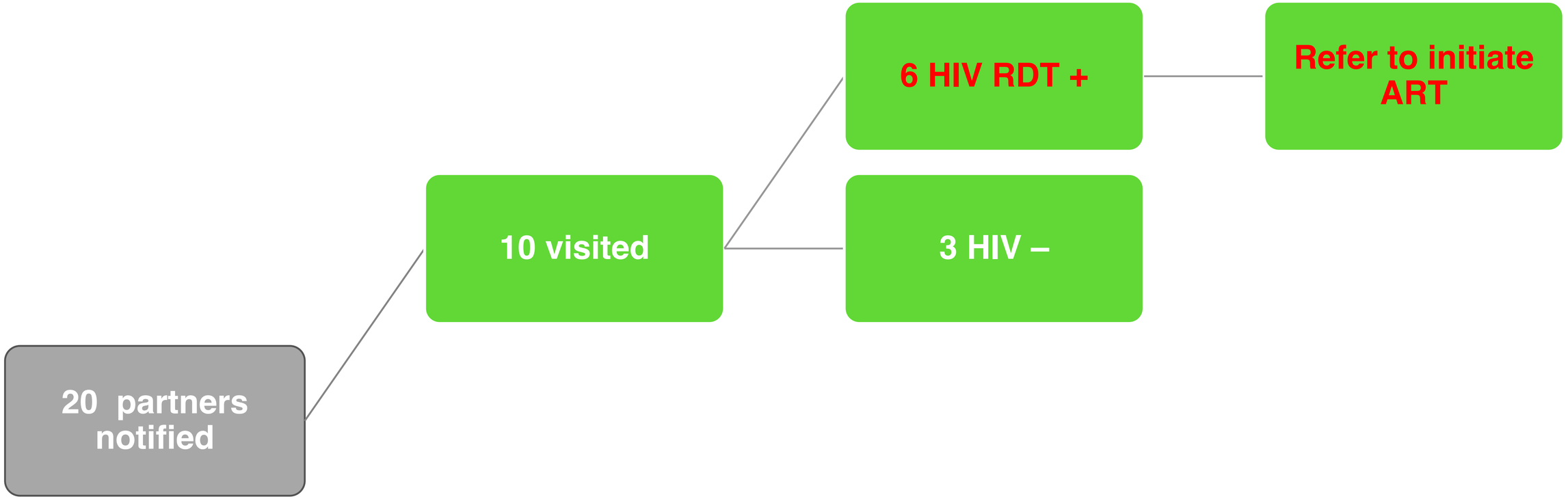

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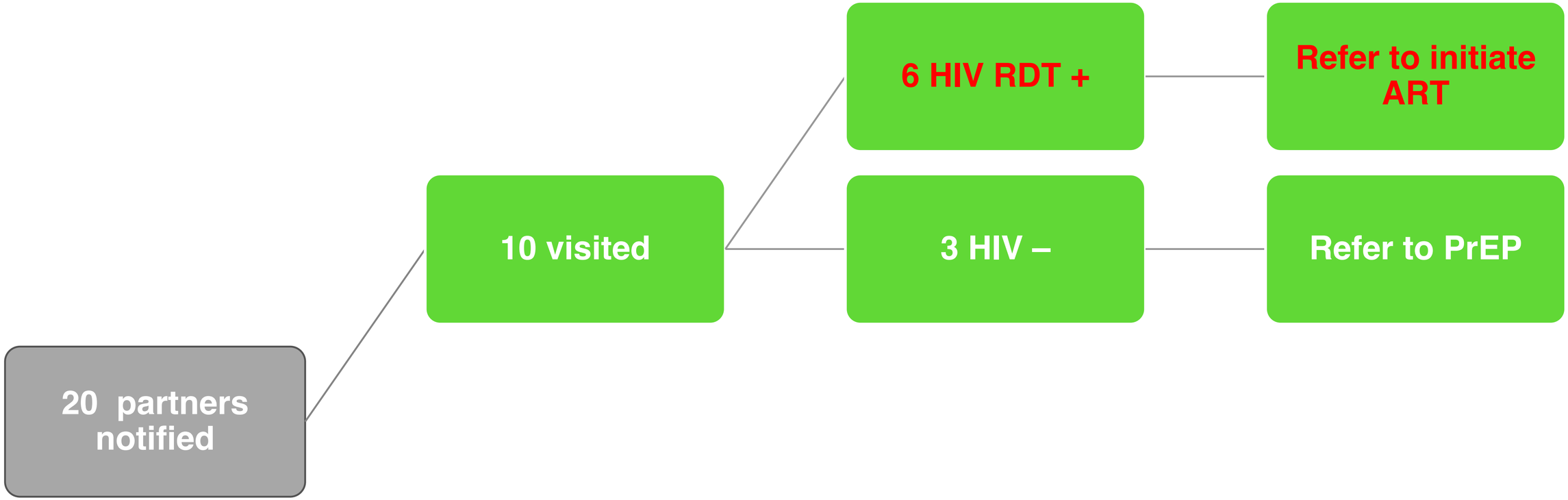

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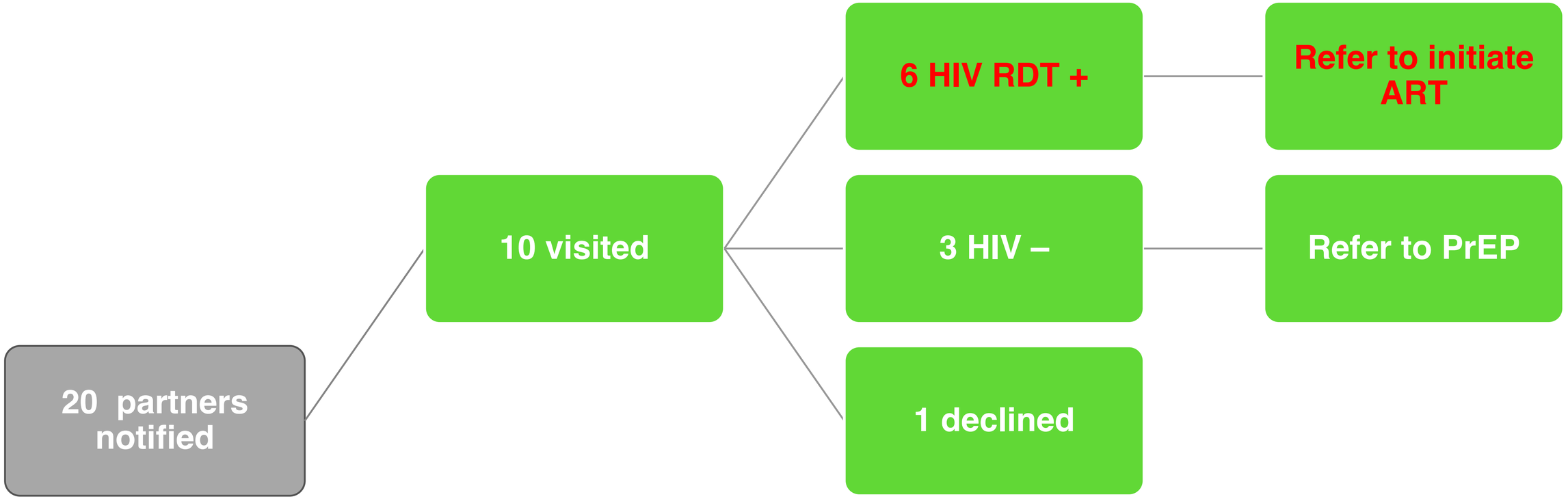

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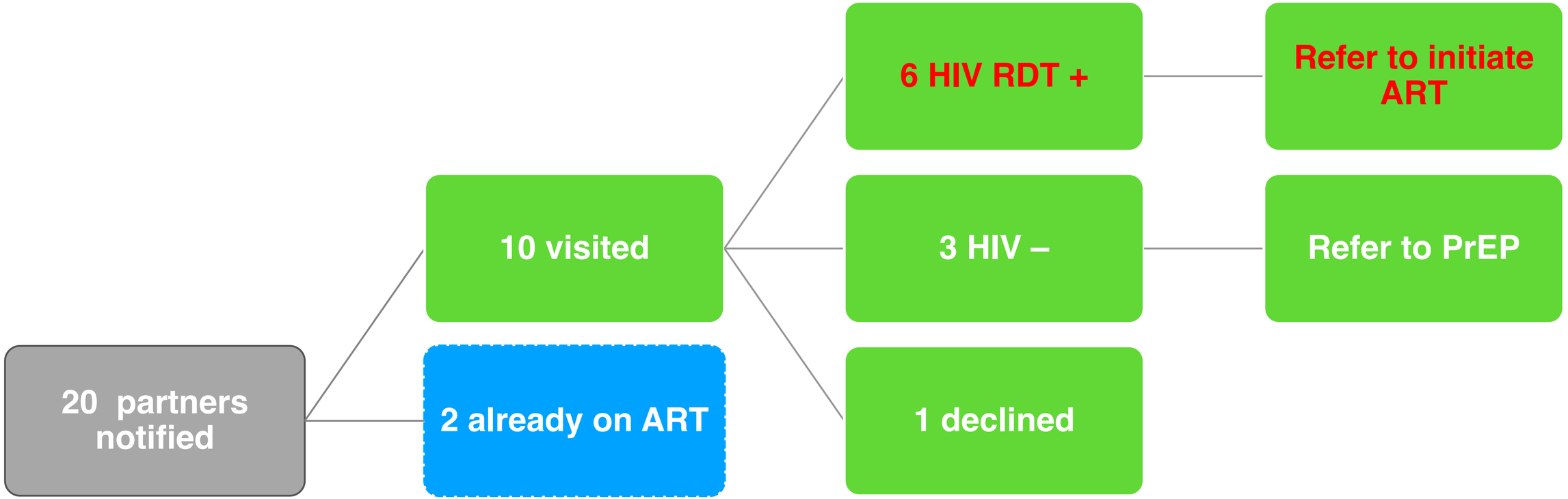

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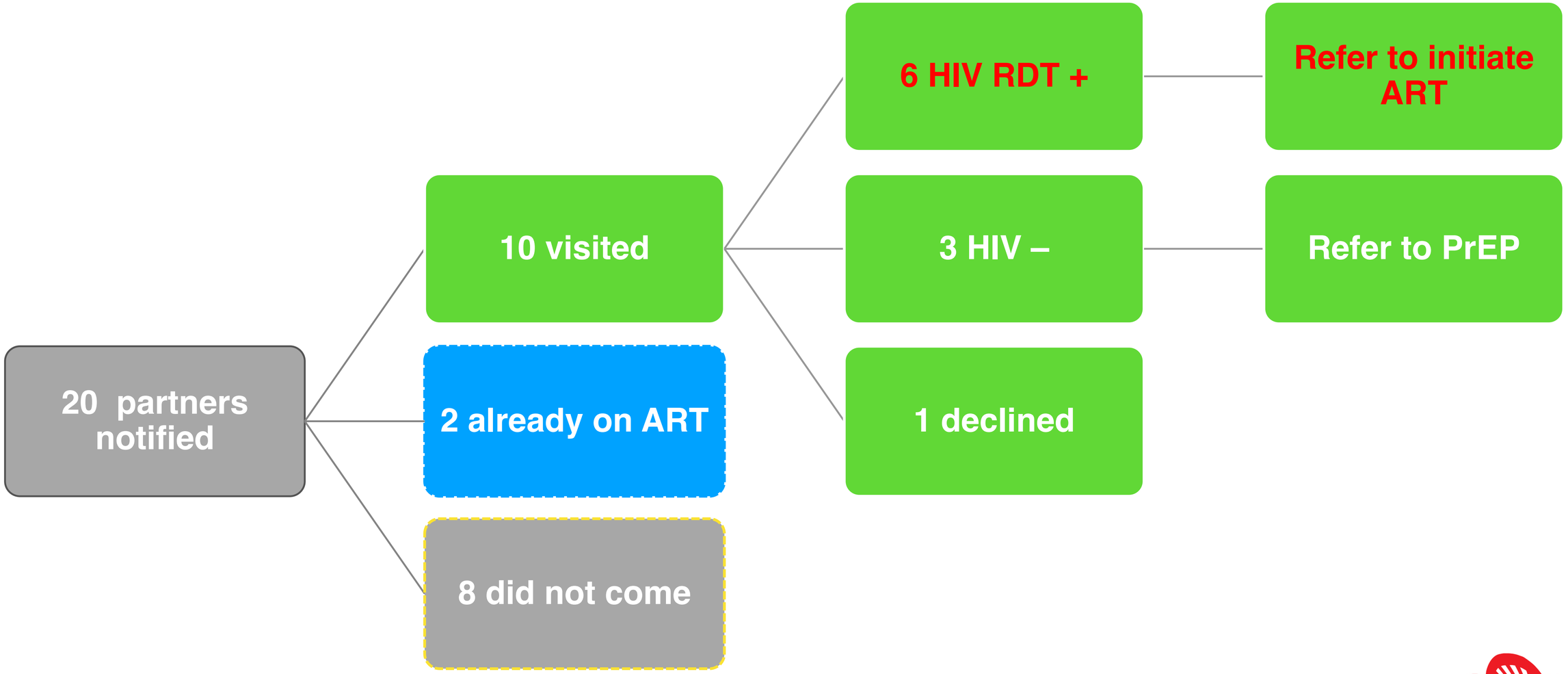

Conclusion

- Diagnosing and treating Acute HIV Infection (AHI) in a routine public sector OPD setting is feasible
- Rapid viral suppression was observed soon after ART initiation
- ART initiation is required to optimise for health benefit of patients and reduction of forward transmission (due to high VLs)
- Partner/contact tracing and rapid linkage to care are major challenges in the situation of recent infection

Acknowledgement

Thanks to the patients, healthcare workers of Nhlangano health centre, and MSF team.

Aung Aung [1], Charlie Mamba [1], Nombuso Ntshalintshali [1], Qhubekani Mpala [1], Simangele Mthethwa-Hleza [2], Dumile Sibandze [3], Gugu Maphalala [3], Lenhle Dube [2], Rufaro Kashangura [4], Marie Luce Tombo [1], Roberto de la Tour [5], Alex Telnov [5], Barbara Rusch [5], Alan Gonzalez [5], Iza Ciglenecki [5], Bernhard Kerschberger [1]

1. Medecins Sans Frontieres, Nhlangano, Eswatini, Eswatini
2. National AIDS Program, MoH, Mbabane, Eswatini,
3. National Reference Laboratory, MoH, Mbabane, Eswatini,
4. Nhlangano Health Center, MoH, Nhlangano, Eswatini,
5. Medecins Sans Frontieres, Geneva, Switzerland

The study received ethics approval from MSF Ethics Review Board and Eswatini National Health Research Review Board.

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Thank you

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