



HIV-1 VACCINE TRIALS IN SUB-SAHARAN AFRICA.

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THE GLOBAL HIV EPIDEMIC

**THE GLOBAL IMPACT
OF HIV & AIDS**



**Approximately 38 million
people worldwide** have
HIV or AIDS.



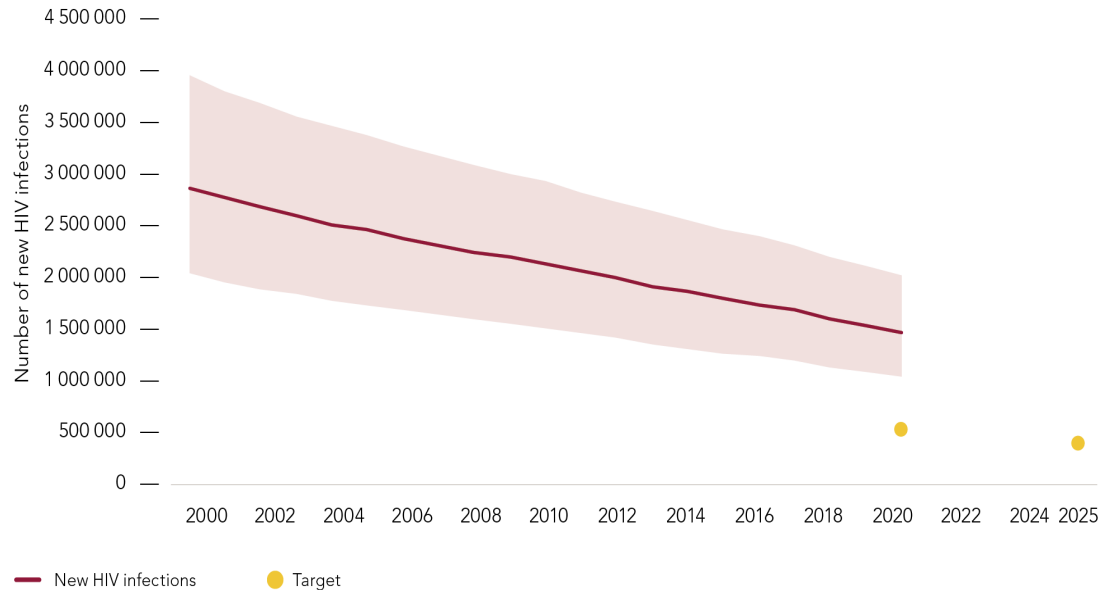
In 2021;

- 85% were aware of their HIV positive status
- 88% were on treatment
- 92% were virally suppressed
- Reduction in AIDS-related deaths by 52% since 2010

Source: UNAIDS Data 2022

NEW HIV INFECTIONS

New HIV infections, global, 2000–2025, and 2020 and 2025 targets



Source: UNAIDS epidemiological estimates, 2021 (<https://aidsinfo.unaids.org/>).

In 2021;

- 1.5 million people globally
- 51% of new HIV infections in sub-Saharan Africa
- Women and young girls -63%
- Demonstrating the need for an effective vaccine against HIV-1 subtype C

Source: UNAIDS Data 2022

AIM OF THE STUDY

- We reviewed HIV vaccine clinical trials conducted in sub-Saharan Africa to highlight the progress made in the search for a sustained control of the epidemic in the region.

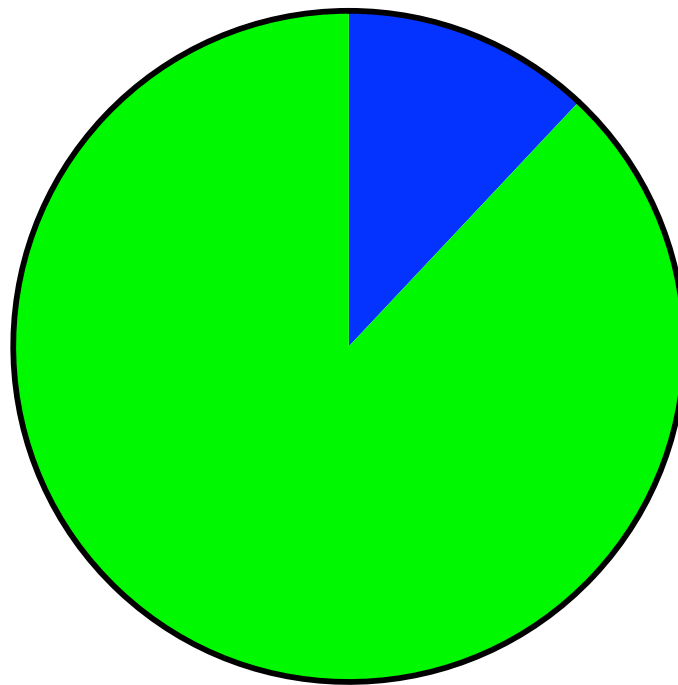


METHODS

- We searched for clinical trials using “HIV” as the condition of interest
- Interventional trials using the study type identifier field.
- The safety, immunogenicity and efficacy of HIV vaccine candidates in healthy and HIV infected individuals were retained.
- 383 HIV vaccine trials were retrieved.

The screenshot shows the ClinicalTrials.gov website interface. At the top, it displays the NIH logo and the text "U.S. National Library of Medicine" followed by the "ClinicalTrials.gov" logo. Navigation links for "Find Studies", "About Studies", and "Submit Studies" are visible. A blue banner below the header states: "ClinicalTrials.gov is a database of privately and publicly funded clinical studies conducted around the world." Below this, a section titled "Explore 262,768 research studies in all 50 states and in 201 countries." provides information about the database's scope. An "IMPORTANT" notice states: "Listing a study does not mean it has been evaluated by the U.S. Federal Government. Read our disclaimer for details." On the right side, a search filter panel titled "Find a study (all fields optional)" is shown. It includes a "Recruitment status" section with two radio button options: "Recruiting and not yet recruiting studies" (unselected) and "All studies" (selected). Below this is a "Condition or disease" section with a text input field containing "(For example: breast cancer)".

PROPORTION OF HIV VACCINE TRIALS CONDUCTED IN SUB-SAHARAN AFRICA



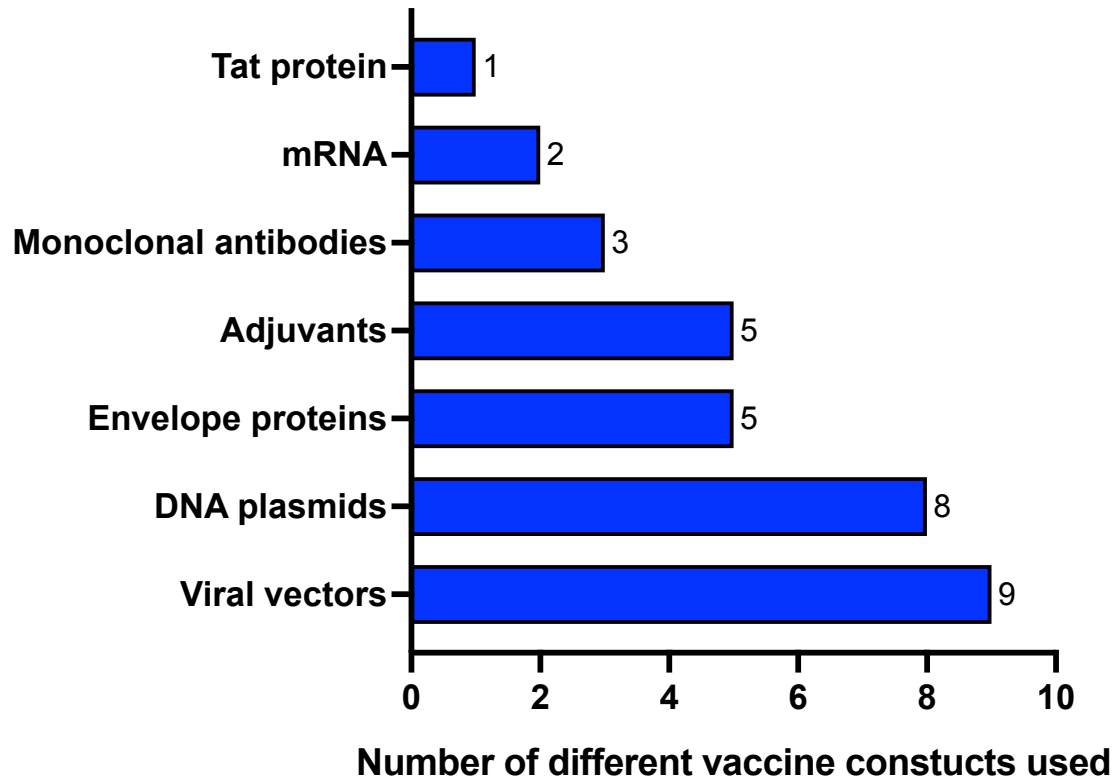
■ sub-Saharan Africa (12%, 46/383)

■ Others (88%, 337/383)

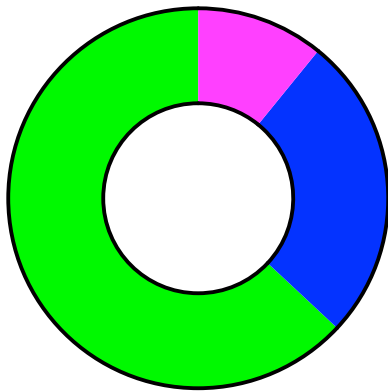
N = 383



EVALUATED VACCINE CONSTRUCTS

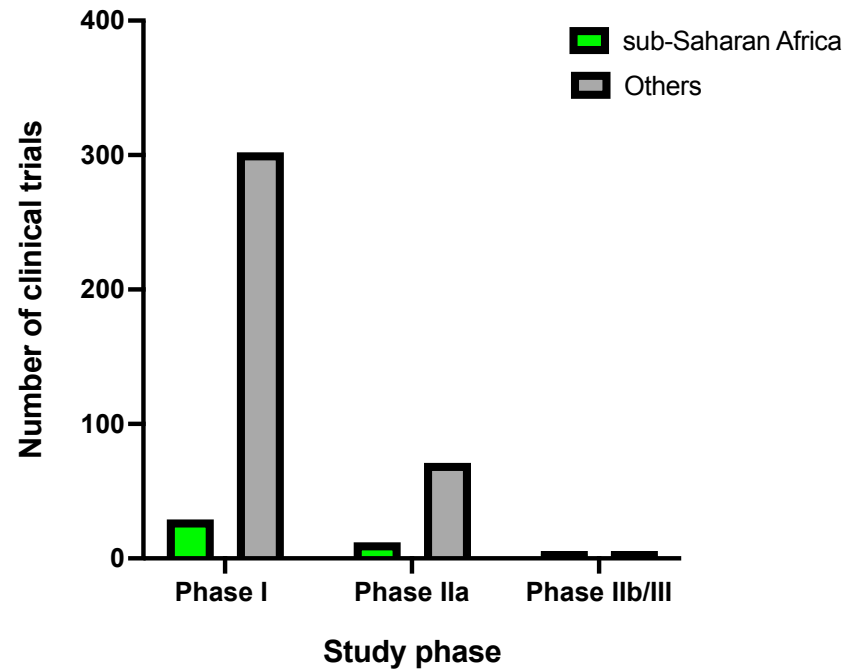


STUDY PHASES



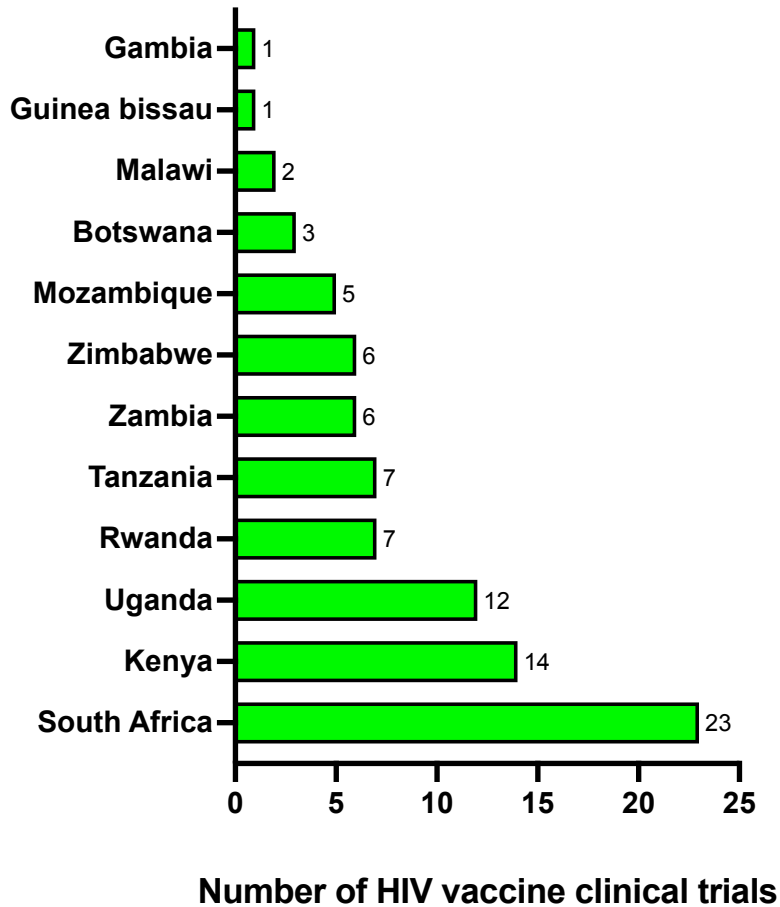
N = 46

- Phase I (63%)
- Phase IIa (26.1%)
- Phase IIb/III (10.9%)



Trial acronym	Immunogen	Cohort	Country	Comment
HVTN 503 (Phambili)	MRKAd5 HIV-1 gag/pol/nef B	Heterosexual men and women	South Africa	Halted for lack of efficacy.
HVTN 702 (Uhambo)	ALVAC-HIV (vCP2438) + Bivalent Subtype C gp120/MF59	At risk Men and women	South Africa	Halted for lack of efficacy.
HVTN 705/ HPX2008 (Imbokodo)	Ad26.Mos4.HIV + Clade C gp140	Women	South Africa	Interrupted for non - efficacy
PrEPVacc	DNA/AIDS VAX and DNA/CN54gp140 + MVA/CN54gp140 with PrEP	Men and women	South Africa, Tanzania and Uganda	Ongoing
HVTN 703/HPTN 081	Monoclonal antibody (mAb) VRC01	Heterosexual women	Botswana, Kenya, Malawi, Mozambique, South Africa, Tanzania, and Zimbabwe	Overall, VRC01 did not prevent HIV-1 acquisition

HIV VACCINE TESTING BY COUNTRY



- 11 African countries
- Multicenter studies
- South Africa- 50%

POINTS OF PERSPECTIVE

Increased efforts are needed to conduct more phase I and II HIV vaccine studies in sub-Saharan Africa

- Build local scientific capacity and hasten the development of efficacious HIV-1 subtype C immunogens
- Increase acceptability of the vaccine to the target population

Clinical trials investigating the effectiveness of broadly neutralizing monoclonal antibodies in preventing HIV infection should be increased.



HOPE FROM RV144 TRIAL

- The Thai phase III HIV vaccine efficacy trial
 - Priming with pox virus (ALVAC-HIV) followed by a protein boost (AIDSVAX B/E gp120)
- The first trial to demonstrate HIV vaccine efficacy
 - 31.2% against HIV infection after 42 months
 - 59.9% at 12 months post initial vaccination
- Source: Rerks-Ngarm S, et al. 2009



THANK YOU FOR YOUR ATTENTION

