

# ALVAC<sup>®</sup>-HIV and AIDSVAX<sup>®</sup> B/E Prime-Boost HIV-1 Preventive Vaccine Regimen

## Final Results of the Phase III Community-based Trial in Thailand

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for the MOPH-TAVEG Collaboration



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Vaccination with ALVAC and AIDSVAX to Prevent HIV-1  
Infection in Thailand

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# RV 144

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- Trial Objectives and Design
- Demographics
- Results

# Trial Objectives

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## Primary

- To determine whether immunization with ALVAC<sup>®</sup>-HIV (vCP1521) boosted by AIDSVAX<sup>®</sup> B/E gp120 B/E protects Thai volunteers from HIV infection.
- To determine effect of immunization on viral load after inter-current infection.

## Secondary

- To determine effect of immunization on CD4 cell count after inter-current infection.
- To confirm the safety of this vaccine combination.
- To evaluate whether participation is associated with behavior change increasing risk of HIV infection.

# Co-primary Endpoints

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- Acquisition Endpoint
  - ~50% reduction in the relative risk of infection
  
- Viral Load Endpoint or early Viremia
  - 0.4-log HIV RNA reduction

# Study Vaccines

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## ALVAC<sup>®</sup>-HIV (vCP1521)

- Recombinant canarypox vector vaccine genetically engineered to express **HIV-1 gp120 (subtype E: 92TH023)** linked to the transmembrane anchoring portion of **gp41 (subtype B: LAI)**, and **HIV-1 gag and protease (subtype B: LAI)**.

## AIDSVAX<sup>®</sup> B/E

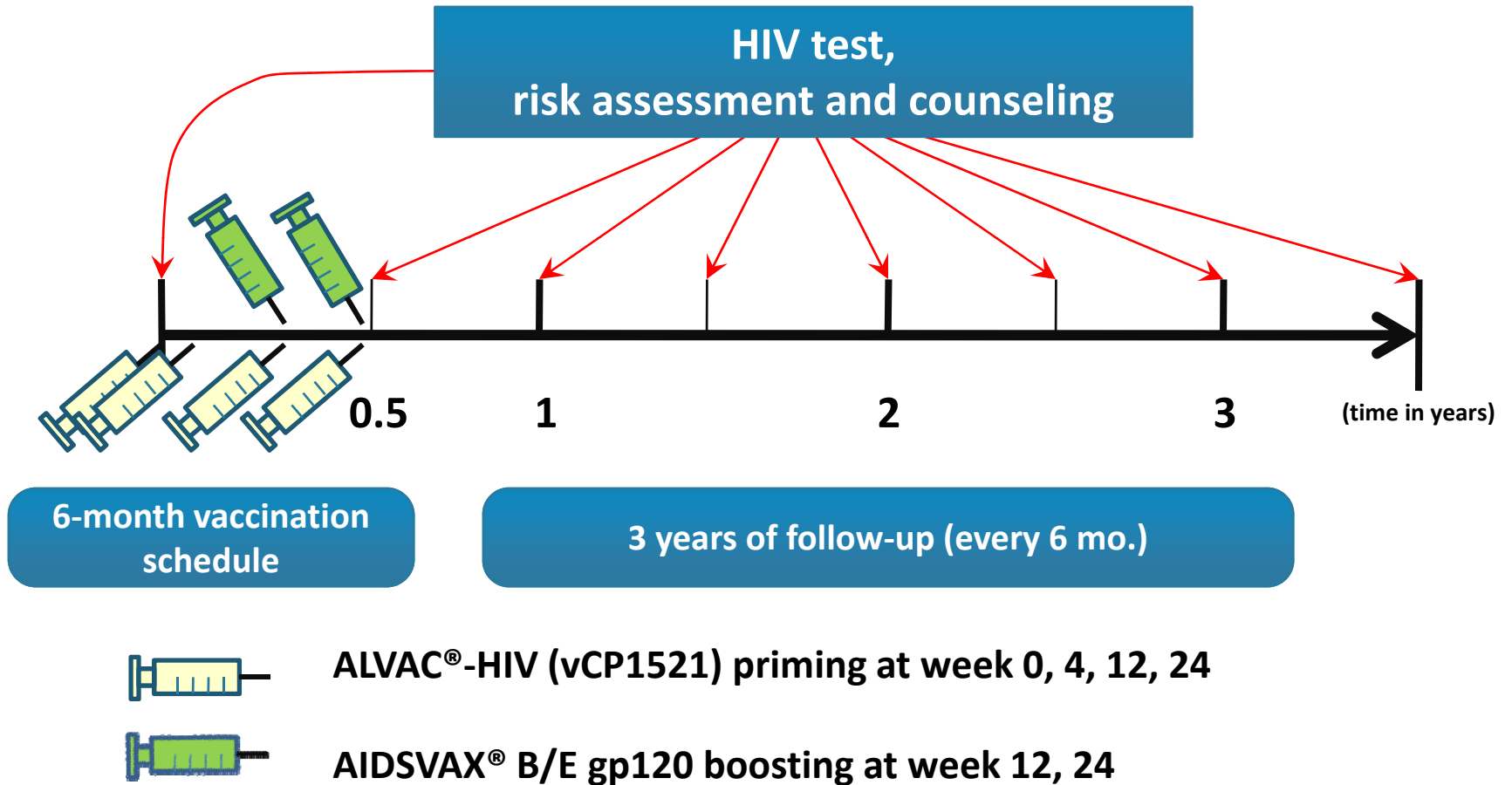
- Bivalent HIV gp120 envelope glycoprotein vaccine containing a **subtype E** envelope from the HIV-1 strain **CM244** and a **subtype B** envelope from the HIV-1 strain **MN**.

# Design

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- Community-based, randomized, double-blind, placebo-controlled trial (vaccine: placebo 1:1)
- Volunteers: HIV negative, 18-30 years of age
- Excluded: chronic disease, pregnancy or breastfeeding
- 6-month period of study vaccinations
- HIV testing every 6 months for 3 years post-vaccination

# Vaccination and Follow-up Schedule





# Important Milestones

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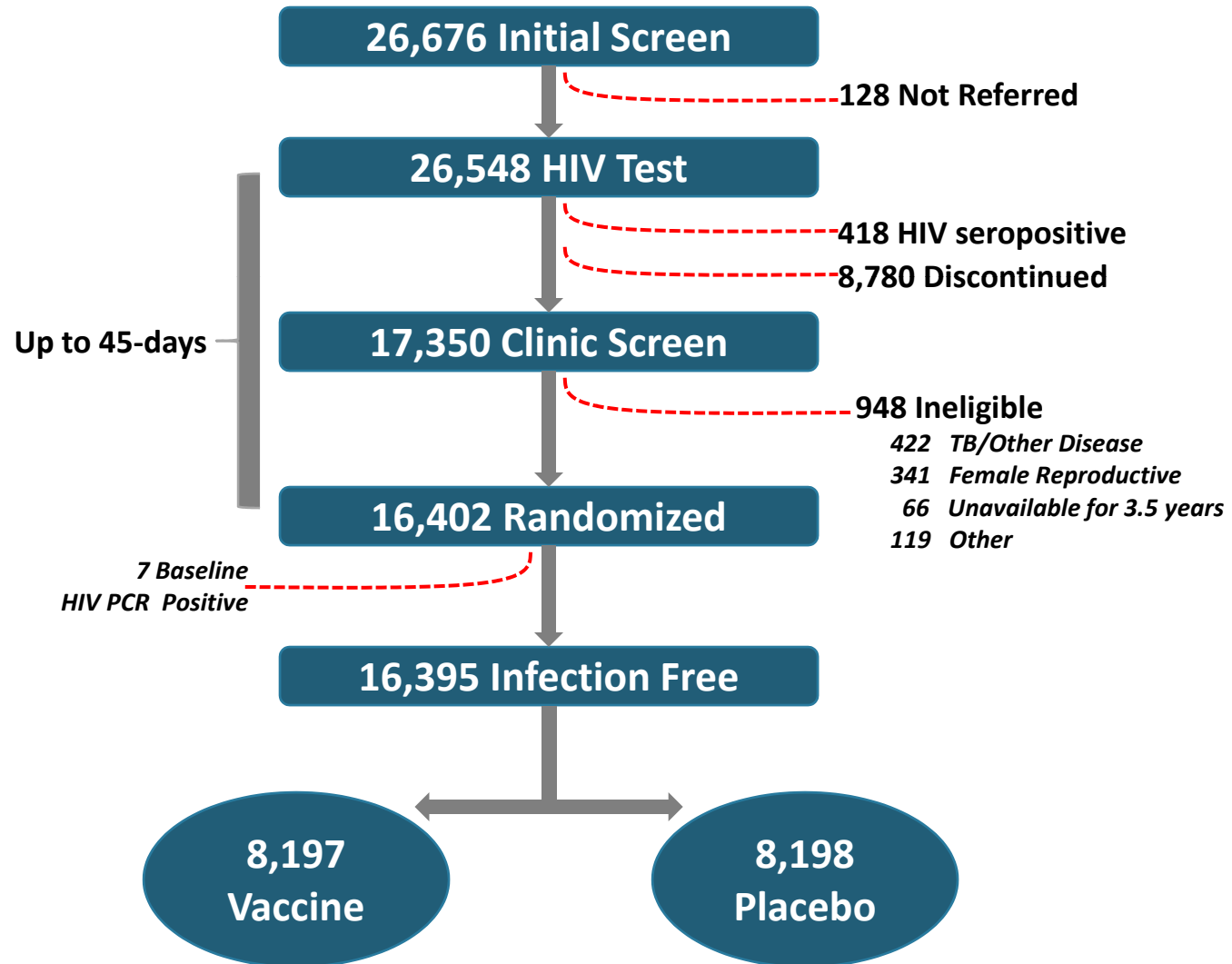
24 September 2003	<b>Screening began</b>
20 October 2003	<b>First vaccination</b>
30 December 2005	<b>Enrollment completed</b>
31 July 2006	<b>Vaccination completed</b>
July 2007	<b>DSMB Interim Analysis (based on mITT statistical plan)</b>
Spring 2009	<b>Communication Plan finalized</b> <i>Commitment to ensuring that the Thai people would be the first to learn the outcome irrespective of the final result</i>
June 2009	<b>Study Follow-up Complete</b>

# RV 144

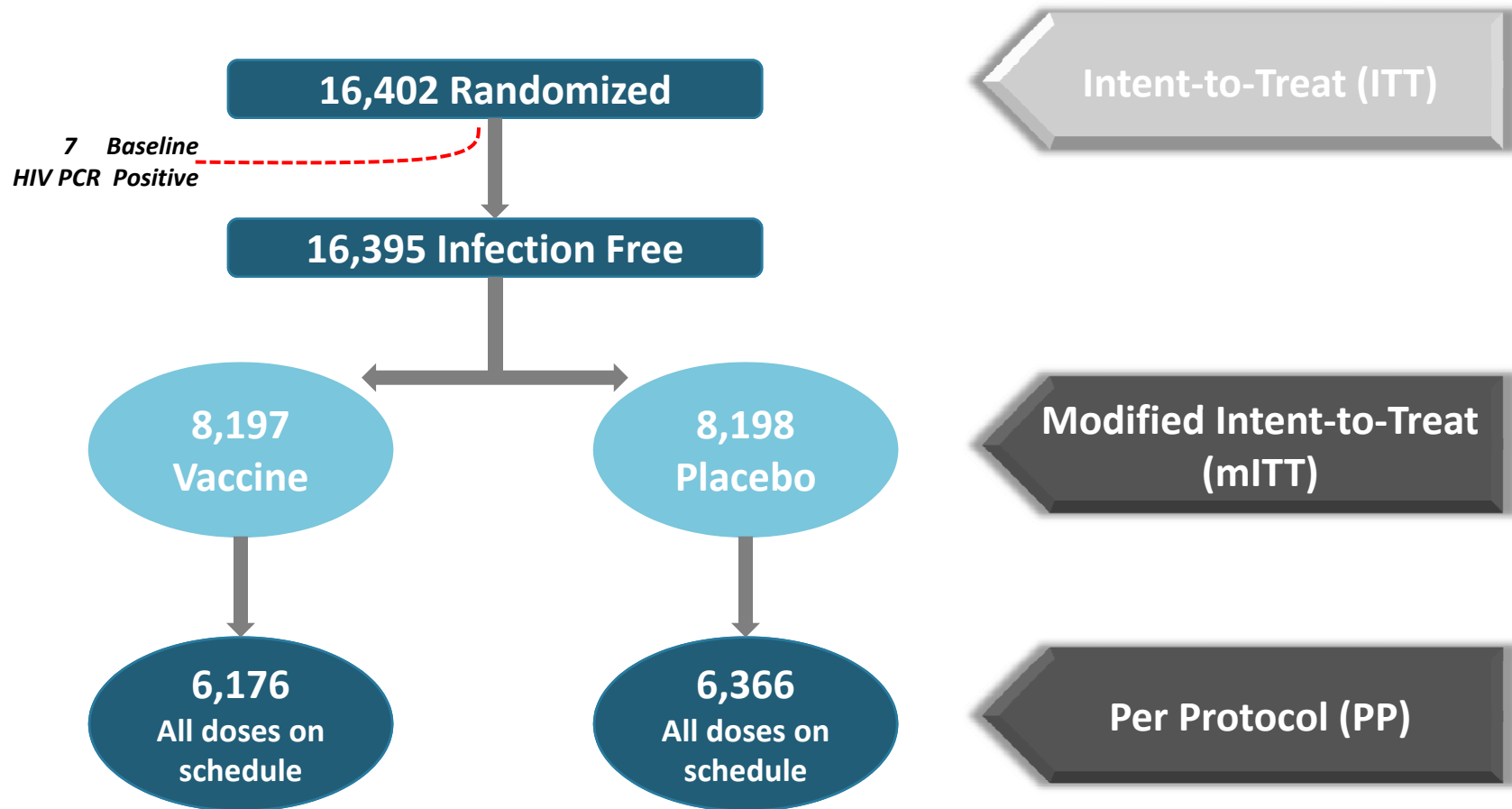
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# From Screening to Vaccination

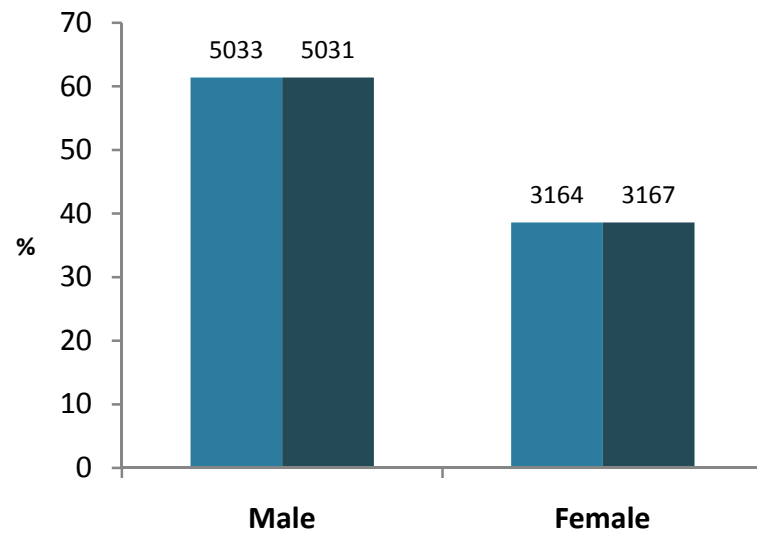


# Definition of Analytical Methods

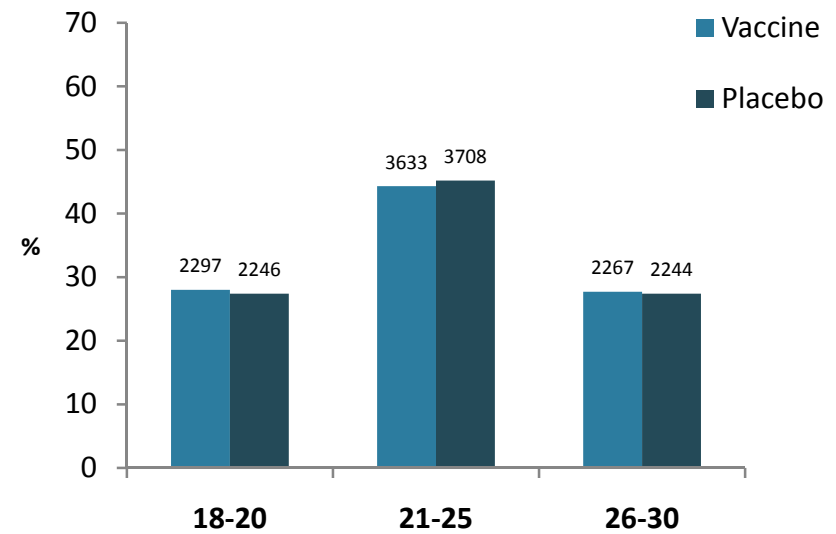


# Baseline Demographics

## Gender

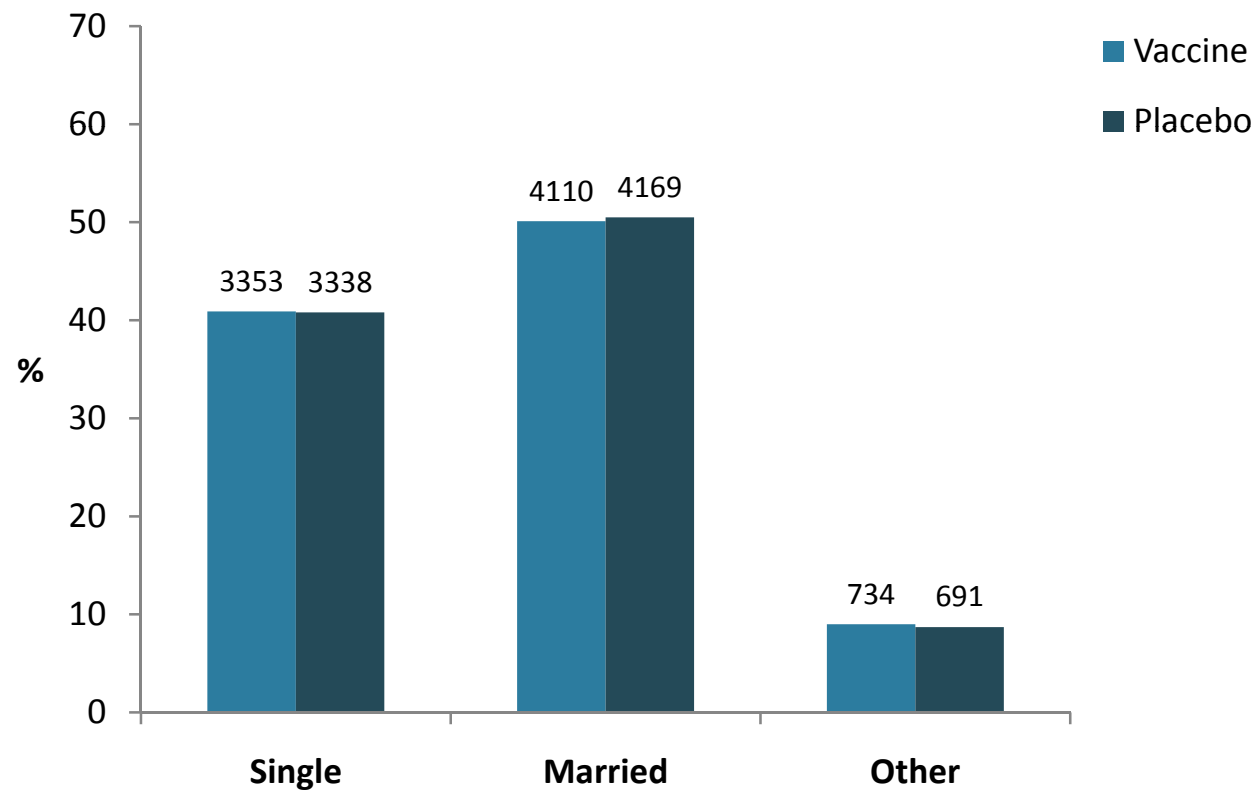


## Age



# Baseline Demographics

## Marital Status



*Other: Widowed, Separated, Divorced*

# Definition of Risk Behavior

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- High Risk: Self-assessment as high risk OR self-report of one or more high-risk behavior(s) in the previous six months
  - Needle-sharing
  - STI symptoms
  - Sex with HIV-positive partner
  - No condom use during high-risk encounters
  - Occupation entertainment
  - Occupation CSW
  - Jail drug injection
  - Multiple sex partners

# Baseline Demographics

	Vaccine n (%)	Placebo n (%)
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## *Sexual Partner Frequency*

0 Sex Partners	1864 (22.7)	1801 (22.0)
1 Sex Partner	5428 (66.2)	5495 (67.0)
>1 Sex Partners	619 (7.6)	620 (7.6)
No Answer	280 (3.4)	273 (3.3)
Missing Value	6 (0.1)	9 (0.1)

## *Other Risk Behaviors (from a list of 8 criteria)*

Same-gender partner	184 (2.2%)	182 (2.2%)
Needle-sharing	68 (0.8%)	65 (0.8%)



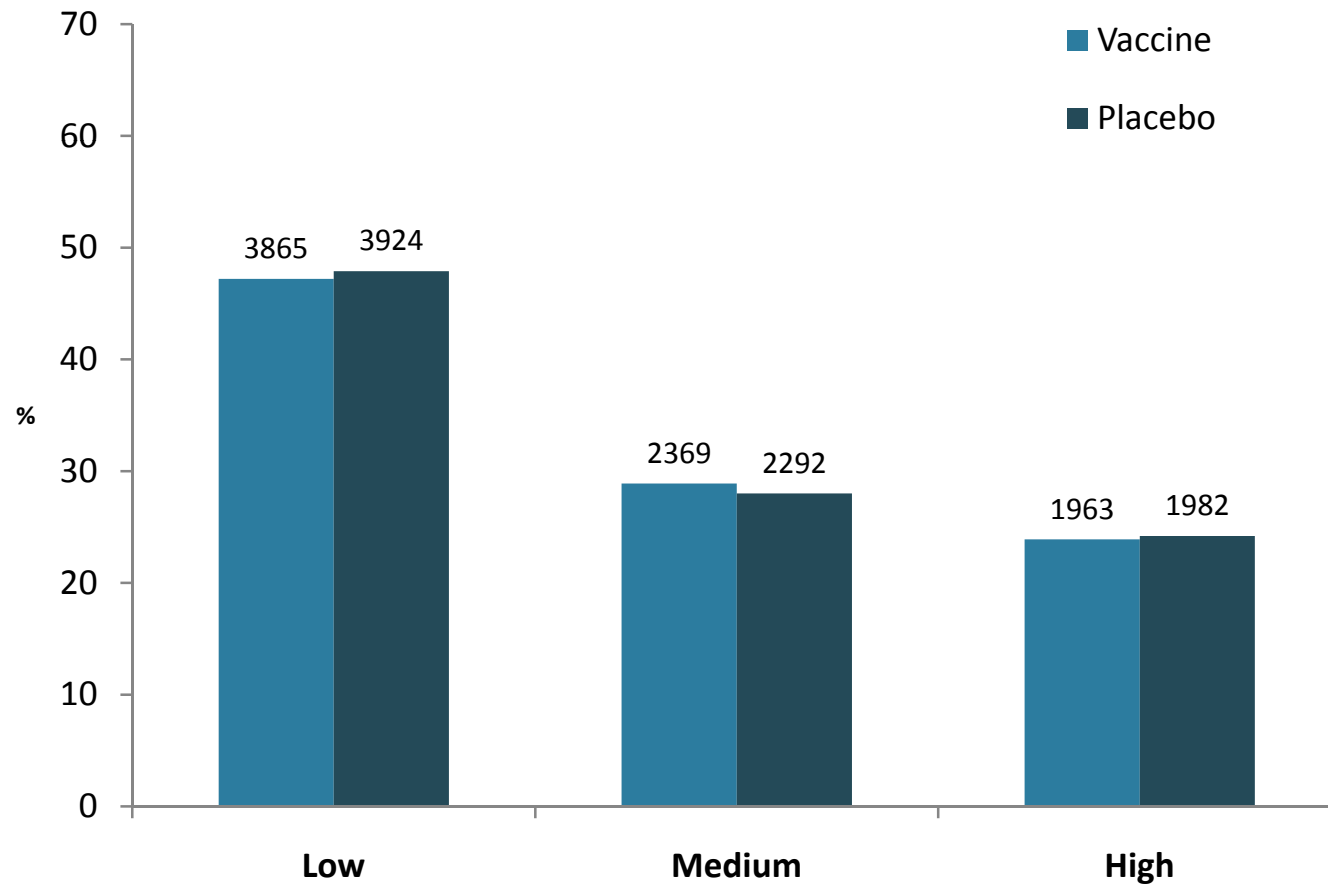
# Definition of Risk Behavior

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- Low Risk
  - Self-assessment as low risk AND self report of no high-risk behavior in the previous six months
  
- Medium Risk
  - Neither low risk nor high risk (as defined above)

# Baseline Demographics

## Risk Behavior

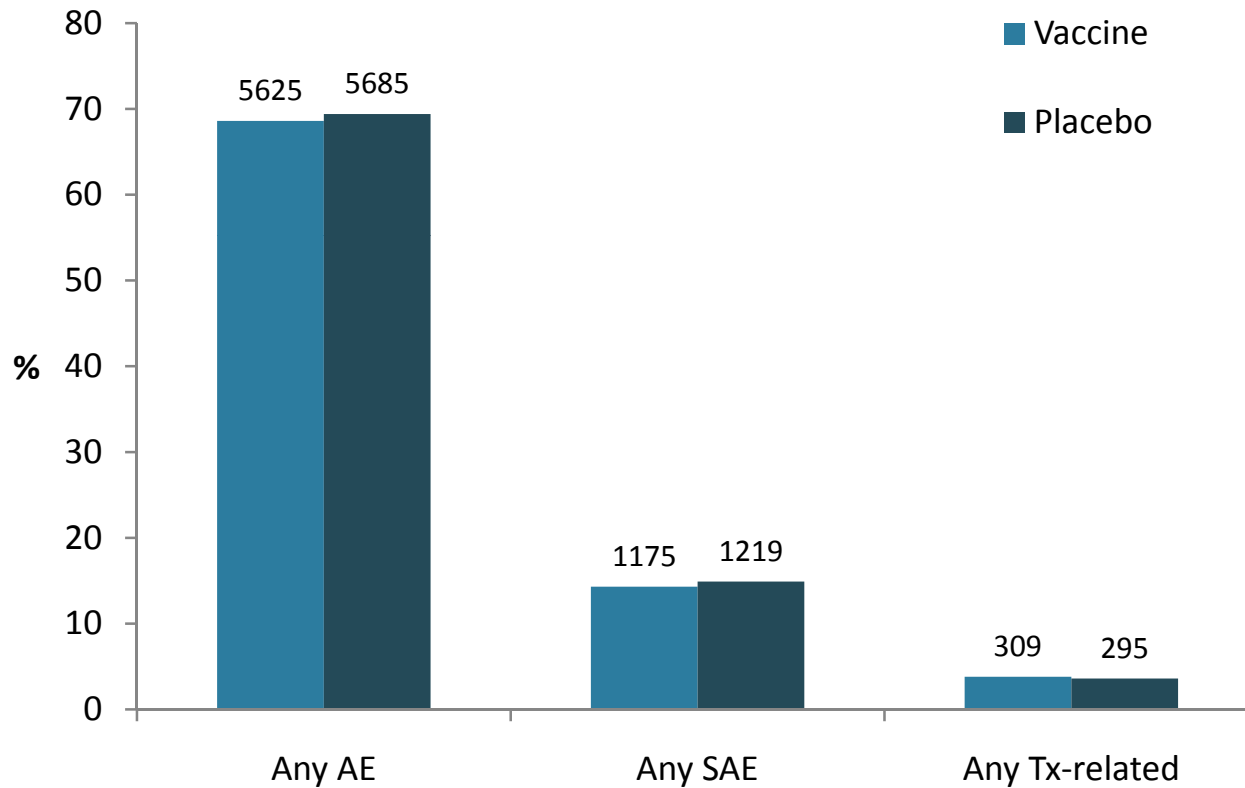


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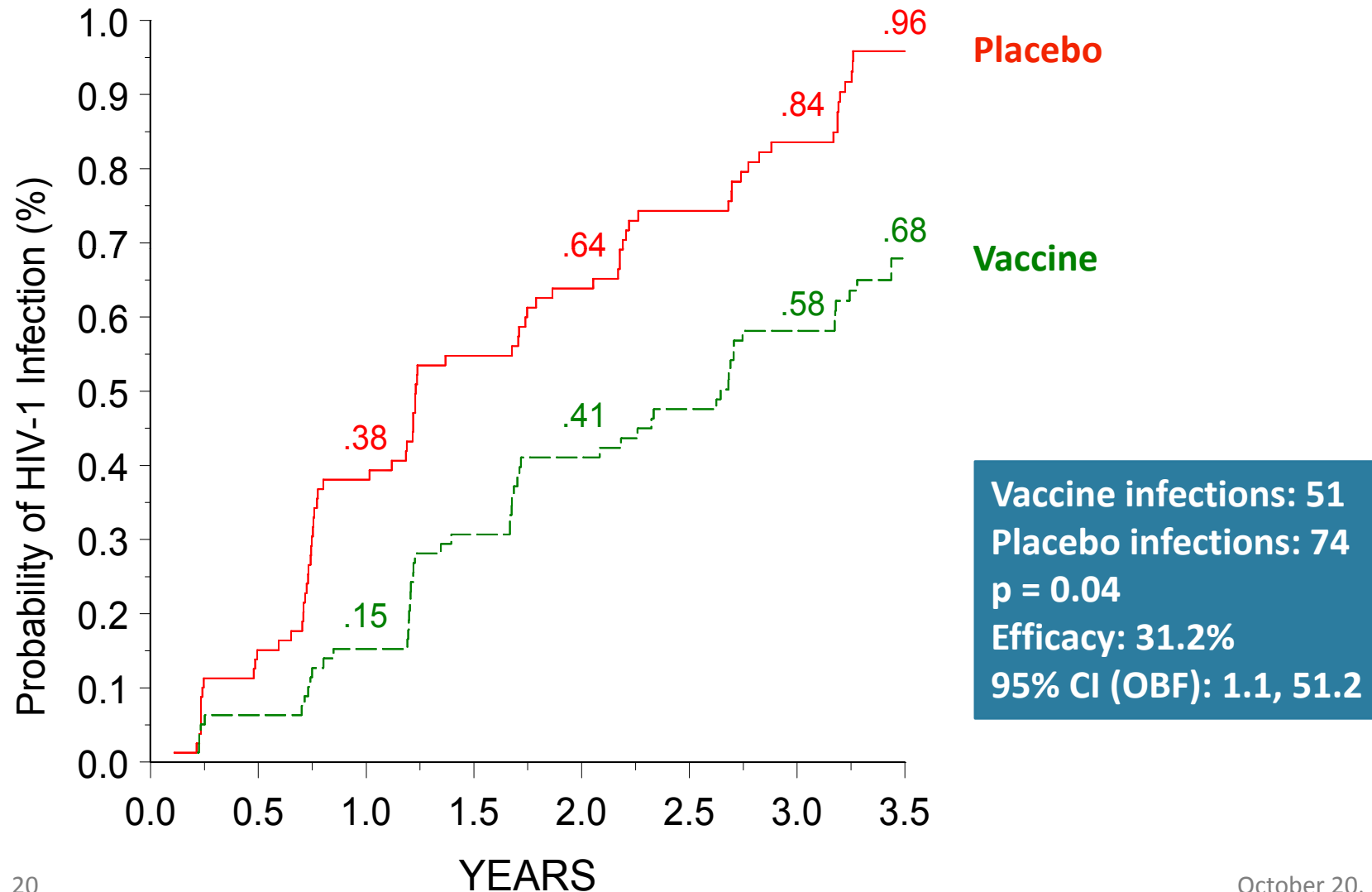
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# Safety and Reactogenicity

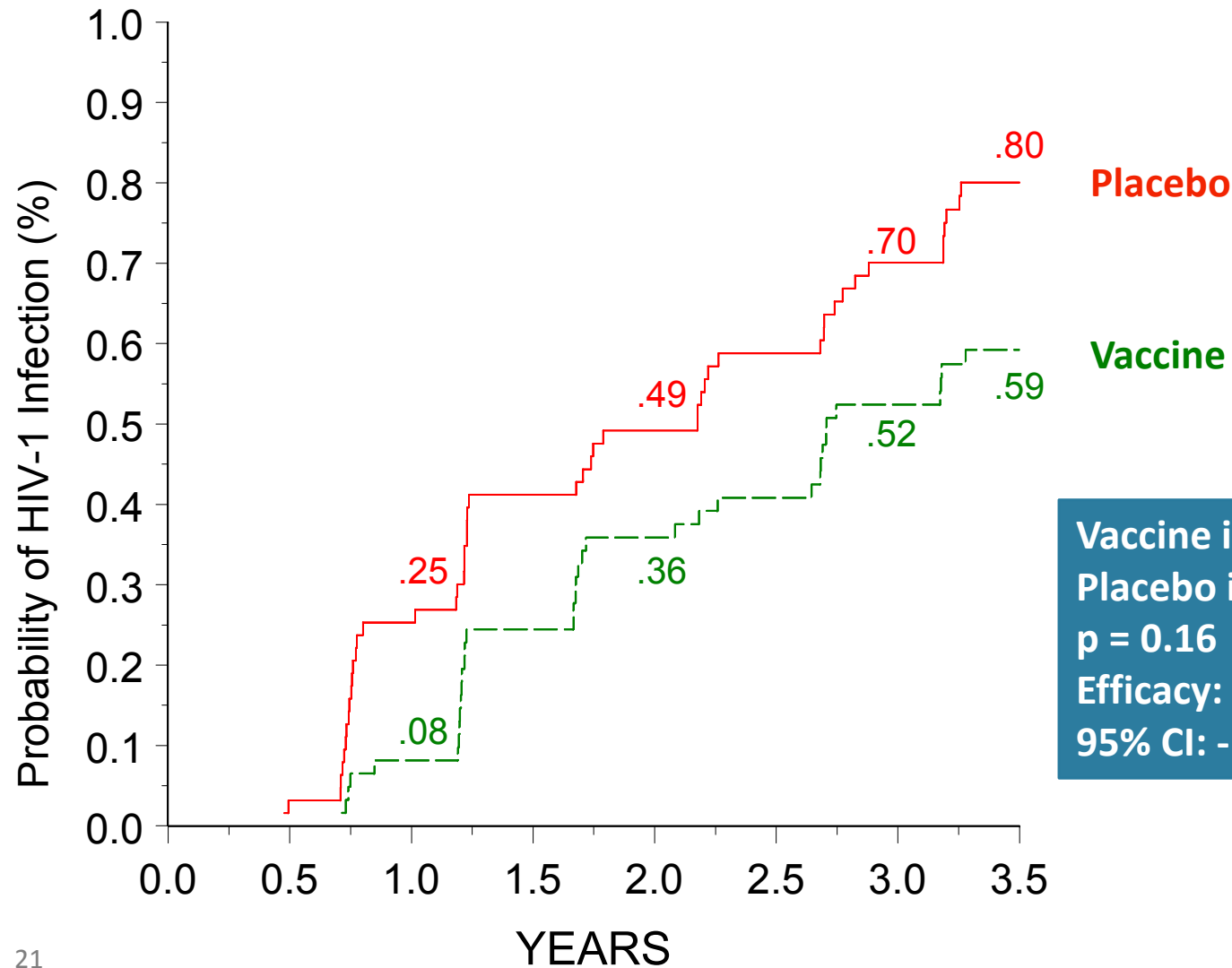


**The vaccine regimen was safe and well tolerated.**

# Acquisition Endpoint: Modified Intent-to-Treat (mITT)

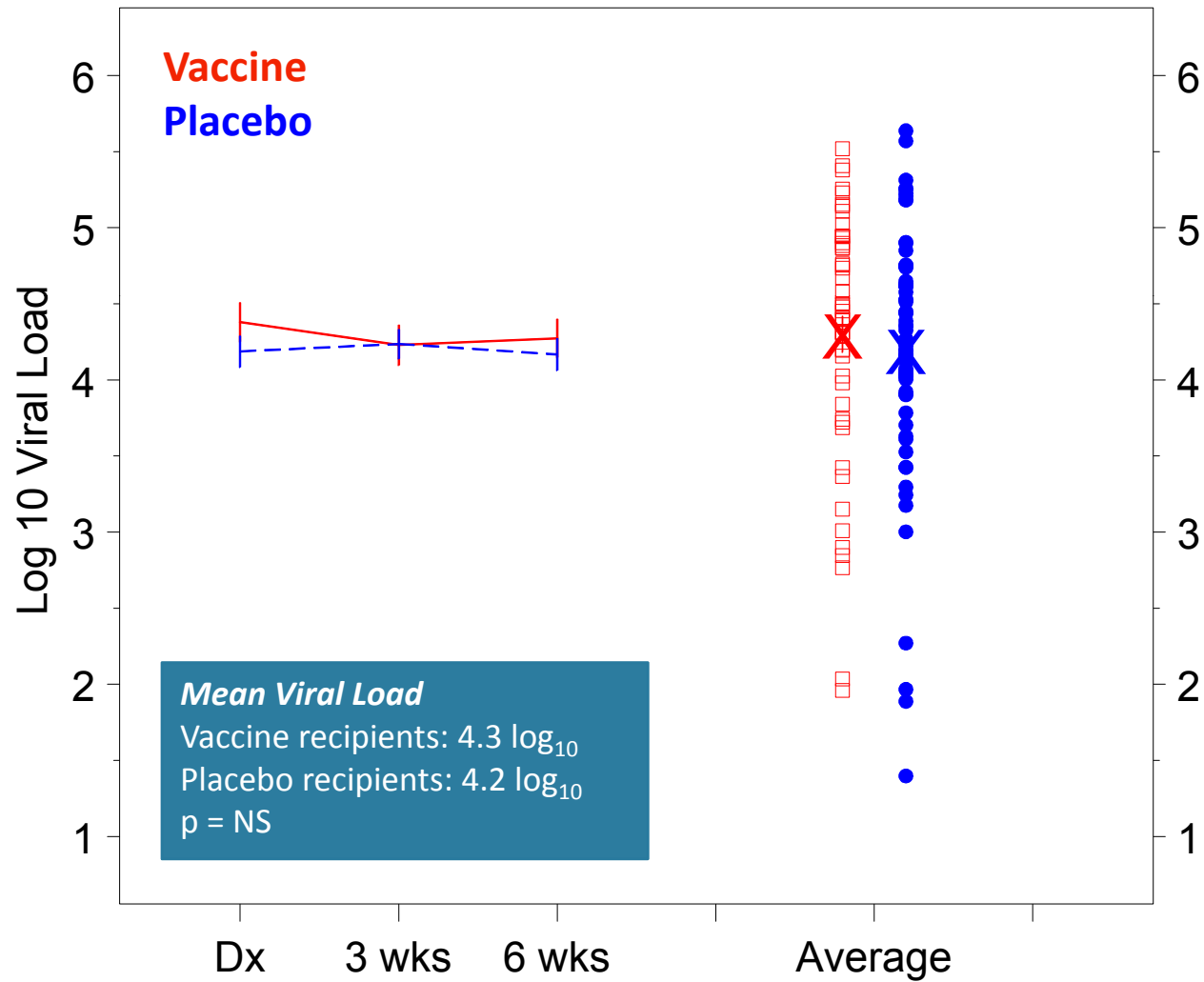


# Acquisition Endpoint: Per Protocol (PP)



Vaccine infections: 36  
Placebo infections: 50  
 $p = 0.16$   
Efficacy: 26.2%  
95% CI: -13.3, 51.9

# Early Viremia Endpoint



# Conclusions

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1. The observed vaccine efficacy in the mITT analysis was 31.2% [ $p = 0.04$ , 95% CI (OBF) 1.1, 52.1].
2. PP and mITT results were qualitatively consistent.
3. There is no difference in early viremia between vaccine and placebo recipients.
4. The vaccine regimen is safe and well tolerated.
5. Self-reported behavioral risk was the same in vaccine and placebo groups.



# Acknowledgements

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- **RV144 volunteers and community members**
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- Ministry of Public Health, Thailand
- sanofi pasteur
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