Social and Behavioral Research in HVTN

Michele P. Andrasik

The HVTN is supported through a cooperative agreement with the National Institute of Allergy and Infectious Diseases

HVTN MISSION

To fully characterize the safety, immunogenicity and efficacy of HIV vaccine candidates with the goal of developing, as rapidly as possible, a safe, effective vaccine for prevention of HIV infection globally.

HVTN AIMS

1. To design and conduct phase 1 and 2 clinical trials.
2. To determine which candidates/ combinations of immunogens, immunoprophylactic agents, and reagents (e.g., adjuvants) are worthy of efficacy testing and to optimize the schedule and route of administration of the selected combinations.
3. To design and conduct phase 2b and phase 3 clinical trials that evaluate the efficacy of promising vaccine candidates. This includes statistical design, sequential monitoring, and analysis of study endpoints, which optimize ethics, scientific integrity, resources, and adaptability.

HVTN AIMS

4. To design and integrate biostatistics, bioinformatics, and computational biology to assess immune correlates of protection against HIV infection and disease progression for regimens showing efficacy

5. To explore, design, and conduct studies of vaccines in combination with other prevention modalities.

6. To engage in regular, active information exchange with basic sciences researchers, particularly in the non-human primates arena, so that insights gained in the clinical and basic science fields work synergistically to advance the field of HIV vaccine research and development.

HVTN
Social & Behavioral Science

- HVTN Lead Social Scientist – Michele Andrasik
- Social & Behavioral Working Group (SBWG) – Michele Andrasik & Beryl Koblin (co-chairs)
- SBWG Membership:

Amina Alio	Amina_Alio@urmc.rochester.edu	University of Rochester
Annette Davis-Vogel	advogel@mail.med.upenn.edu	University of Pennsylvania
Barb Metch	bmetch@scharp.org	SCHARP
Carrie Sopher	csopher@fhcrc.org	HVTN Core
Catherine Bunce	Catherine_Bunce@URMC.Rochester.edu	University of Rochester
Charlene Harichund	harichundc@ukzn.ac.za	eThekwini
Danna Flood	dflood@fhcrc.org	HVTN Core
Gary Daffin	gdaffin@mac-boston.org	MAC Boston
Genevieve Meyer	gmeyer@fhcrc.org	HVTN Core
Glenda Gray	gray@pixie.co.za	Soweto PHRU
Jim Kublin	jkublin@fhcrc.org	HVTN Core
Janan Dietrich	dietrichj@phru.co.za	Soweto PHRU
Janet Frohlich	frohlichj@ukzn.ac.za	eThekwini
Katlego Nkala	nkalak@phru.co.za	Soweto PHRU
Ken Mayer	mayer@fenwayhealth.org	Fenway Community Health
Magda Sobieszczyk	mes52@mail.cumc.columbia.edu	Columbia University
Mellissa Wallace	Melissa.Wallace@hiv-research.org.za	Desmond Tutu HIV Center
Michael Stirratt	stirrattm@mail.nih.gov	NIMH
Michael Keefer	Michael_Keefer@URMC.Rochester.edu	University of Rochester
Ntando Yola	Nntando.Yola@hiv-research.org.za	Desmond Tutu HIV Center
Renee Rivers	rdelong@fhcrc.org	HVTN Core
Shelly Karuna	mkaruna@fhcrc.org	HVTN Core
Susan Buchbinder	Susan.Buchbinder@sfdph.org	San Francisco Dept. of Public Health
Tania Adonis	tadonis@auruminstitute.org	Aurum-Klerksdorp

SBWG Purpose

- To support the mission and goals of the HIV Vaccine Trials Network (HVTN)
- Address social and behavioral science scientific questions which have an impact on the design, implementation and interpretation of vaccine trials.
- Identify social and behavioral science research priorities within the network to facilitate the integration of behavioral and social science work into existing and future HVTN efforts.

Primary Areas of Focus

1. Improve the integration of social and behavioral science in trials of biomedical HIV prevention interventions
2. Examine biomarkers of sexual exposure
3. Evaluate the success of recruitment and retention strategies in diverse samples of vaccine trial participants
    a. Identify and address disparities in enrollment
    b. Identify strategies to improve recruitment and retention of participants from diverse populations
4. Provide behavioral and social science expertise to the conduct of new protocols
    a. Articulate the role of behavioral and social science in HIV vaccine trials
    b. Examining the interface of different strategies for prevention (gels, PrEP, vaccines to address acceptability, adherence and risk behaviors
5. Develop new approaches to informed consent assessment and assessment of understanding
6. Develop core measures for risk behaviors
7. Evaluate the risk factors for HIV infection in different populations
8. Identify groups of substance users as potential trial participants
9. Increase awareness of diversity and difference and how it affects researchers, staff and trial participants across the network

Improving integration of social & behavioral science

- Dissemination of information regarding the importance of social and behavioral science and biomedical science integration.
- Michele: member of the NIMH-funded HANC Behavioral Science Advisory Group
- Beryl and Michele: participants in NIAID-led effort to develop best practices and recommendations for integration of behavioral and social science into NIAID-funded networks
  - Michele - lead on the behavioral risk assessment group
  - Beryl - member of behavioral risk assessment group and has provided peer review of the document

Publications

- Andrasik MP, Karuna S, Nebergall M, Koblin B, & Kublin J. The challenges and rewards of behavioral risk assessment in HIV vaccine clinical trials. (in press). *Vaccine*
- Koblin BA, Andrasik M, & Austin J. Preparing for the unexpected: The pivotal role of social and behavioral sciences in trials of biomedical HIV prevention interventions. (2013). *JAIDS*, 63(Suppl 2): S183-S186.

Improving integration of social & behavioral science

- Behavioral Scientist included in all protocol development teams
  - In 095 and 915: behavioral scientist assisted in efforts to measure adherence and develop appropriate behavioral risk measures
  - Involved in efforts to define low risk guidelines in Peru
  - Assisting with identifying risk guidelines for participants who identify as transgender

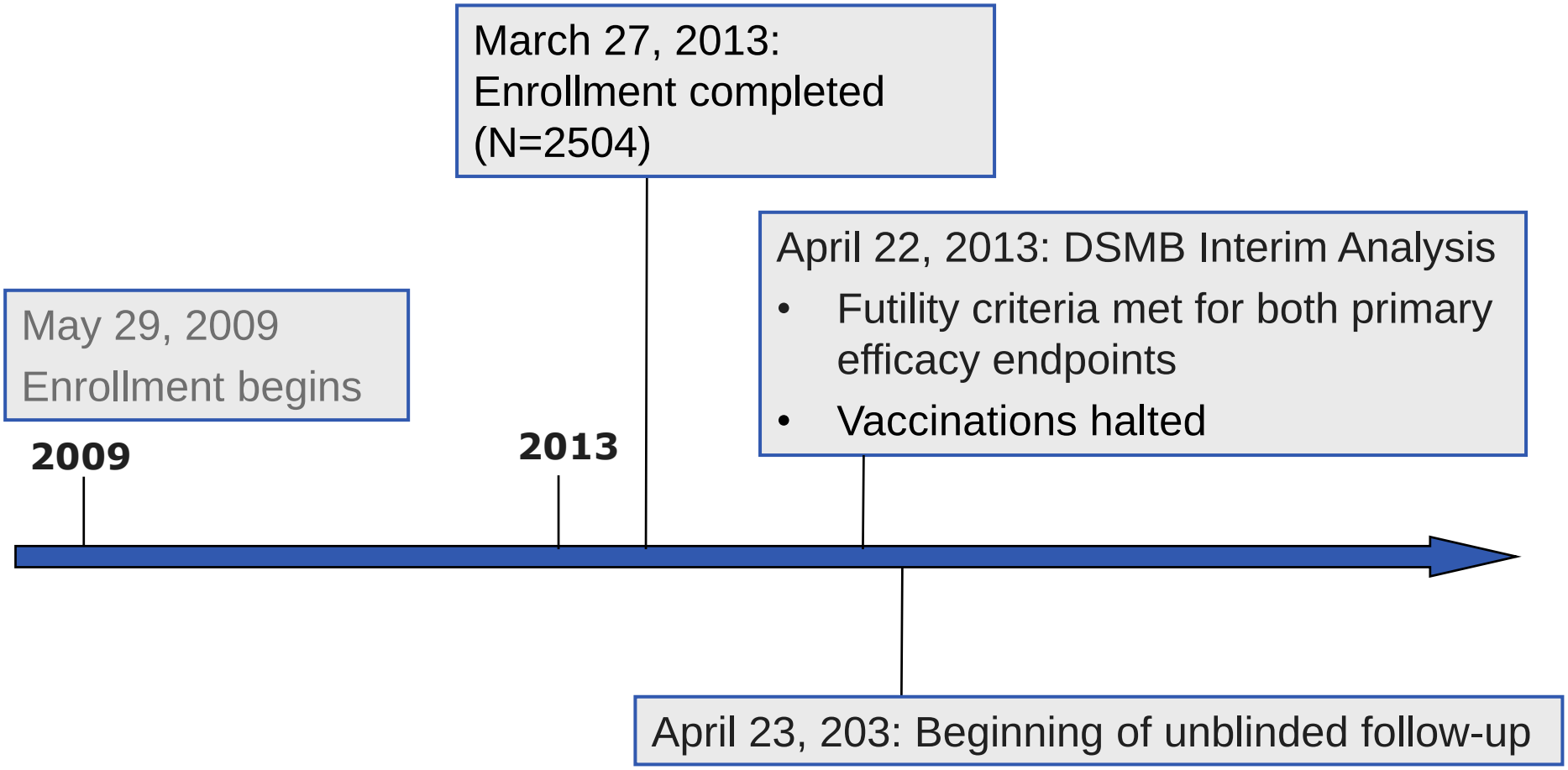
HVTN 915

- A prospective study evaluating the use of self-collected vaginal swabs to measure HIV-1 exposure rates among women in Soweto
- 50 Women will collect self-administered vaginal swabs every morning upon awakening for 3 months

HVTN 915

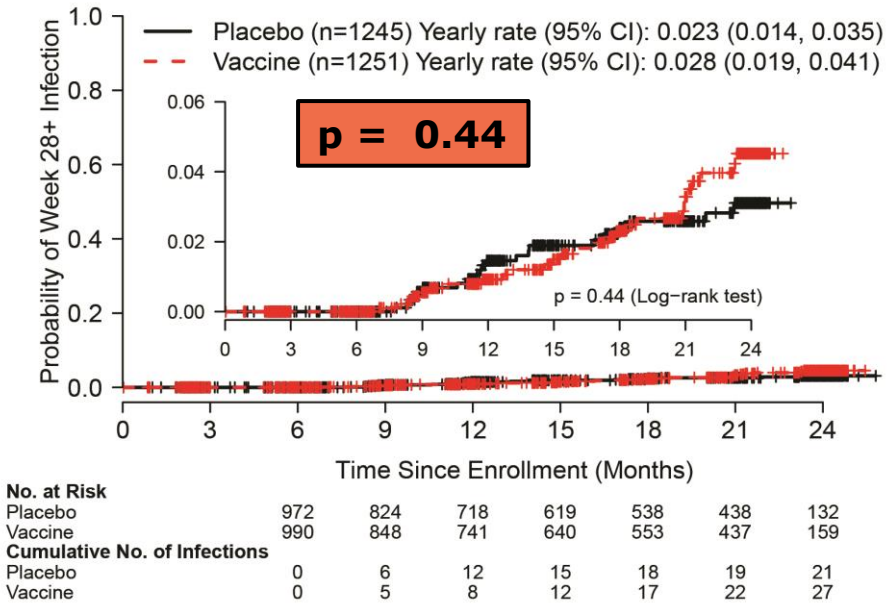
- *Objectives:*
  - To evaluate the use of self-administered vaginal swabs for the detection of HIV-1 virions transferred through a sexual act
  - To determine whether women will adhere to the use of self-administered vaginal swabs

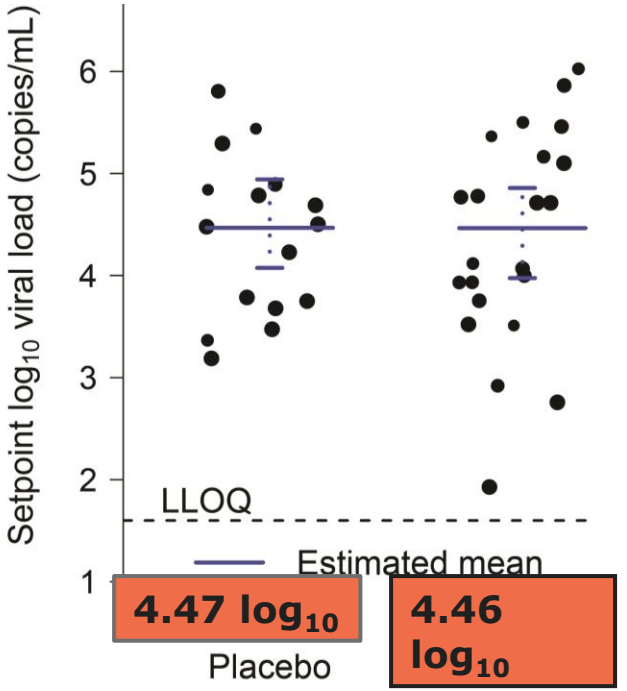
Evolution of HVTN 505: Study Landmarks



Co-Primary Efficacy Endpoints: HIV Acquisition & Viral Load Setpoint*

Blinded Follow-up: Data through April 22, 2013





No statistically significant difference in the rate of HIV infection between treatment arms

Desire to monitor infection rates carefully in the unblinded phase to rule out a potential increased number of HIV infections in the vaccine arm

*week 28+ Infections

Hammer SM, Sobieszczyk ME, Janes H. et al, NEJM, 2013

Potential Factors Influencing the Comparison of HIV Incidence between Vaccine and Placebo Recipients

- PrEP and PEP use
- Differential loss to follow-up
- Behavioral trends and risk behavior post unblinding

505 Behavioral Data Analysis

- **Risk Compensation**
  - Examination of risk behaviors by arm
  - Accounting for perceptions of txt assignment
  - Pre and Post unblinding comparisons
- **Retention Analysis**
  - Social impacts
  - Social Support variables
  - HIV testing outside study (incl. home testing)
  - Different rates of dropout pre vs. post unblinding

505 Behavioral Data Analysis

- PrEP [and PEP issues]
  - PrEP initiation impact on behaviors
  - Descriptive analysis of PrEP use and trends in use over time
- Measurement
  - Number of acts vs. number of partners in prediction of infection

Improving recruitment & retention

- Use of survey and qualitative data collected through the NIMH funded 505 supplement
- Successfully identified barriers and facilitators to participation in vaccine research among men who have sex with men (MSM) and male to female (MtF) transgender women
- Developed recruitment strategies and recommendations for community engagement for MSM and MtF communities

Publications:

- Andrasik MP, Chandler C, Humes D, Powell B, Wakefield S, Kripke K, & Eckstein D. Bridging the Divide: HIV prevention research and Black men who have sex with men. (in press). *AJPH*
- Andrasik MP, Chandler C, Humes D, Powell B, Wakefield S, Kripke K, & Eckstein D. Bridging the Divide: HIV Prevention Research and Black Men Who Have Sex With Men. American Journal of Public Health, 104(4): 708-714, 2014 NIHMSID: NIHMS455230

Updated Phase I Behavioral Risk Assessment (BRA)

1. Partner Sexual Behavior Questions
2. Addition of Sex Practices Section (with South Africa focus)
3. Main Partner focus
4. Condom explanation added
5. 7-day recall period added to improve accuracy of recall

Phase I BRA: Question Reduction

Previous Version

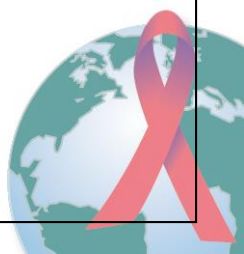
- 5 Women Only Sexual partner Questions:
- 6 Male Only Sexual partner Questions
- 4 HIV/AIDS Questions
- 4 Partner Sexual Behavior Questions
- 9 Participant Sexual Behavior Questions
- 3 STI history Questions
- 1 Sexual Behavior Past 7 Days Question
- 1 Last Vaginal/Anal sex Question

  - TOTAL Male Participants: 28
  - TOTAL US Female Participants: 27

Current Version

- 3 Sexual Partner Questions
- 3 Female Only Questions
- 5 Male Only Questions
- 6 Partner Sexual Behavior Questions
- 7 Participant Sexual Behavior Questions
- 3 STI history questions
- 2 RSA specific female sex practices questions

  - TOTAL Male Participants: 24
  - TOTAL US Female Participants:22
  - TOTAL RSA Female Participants: 24



Southern Africa Expansion

- Southern African SBWG
  - Identify Social & Behavioral Experts
    - Malawi
    - South Africa
    - Mozambique
  - Monthly Meetings
  - Potential F2F at R4P

Ongoing Projects

- Updating Demographics CRF
- Biomarkers of Sexual Exposure
- Expanding our Research and Mentorship Program (RAMP) for African American and Latino(a) Medical students
- Improving the Informed Consent Process and Assessment of Understanding

Protocol	Phase	Vaccine Regimen	Population	N	Sites	Status	Aims
HVTN 097	Ib	ALVAC-HIV multiclade AIDSVAX® B/E (Subtypes B, E gp120) with alum Tetavax®	Men/women	100	Cape Town; Klerksdorp; Soweto	Ongoing	A phase 1b randomized double blind placebo controlled clinical trial to evaluate the safety and immunogenicity of the vaccine regimen ALVAC-HIV (vCP1521) followed by AIDSVAX® B/E in healthy, HIV-1 uninfected adult participants in South Africa. An exploratory objective is to assess the association of immune responses to licensed vaccines compared to HIV vaccine induced immune responses
HVTN 100	I-II	ALVAC-HIV (vCP2438) [multiclade] Bivalent Subtype C gp120/MF59	Men/women	252	Cape Town; eThekwini; Isipingo; Klerksdorp or KOSH; Soshanguve; Soweto	Planned	A phase 1-2 randomized, double-blind, placebo-controlled clinical trial of clade C ALVAC-HIV (vCP2438) and Bivalent Subtype C gp120/MF59® in HIV-uninfected adults at low risk of HIV infection
HVTN 104	I	VRC-01 mAb	Men/Women	64	Brigham and Women's; Cleveland; Columbia; Fenway; NYBC; Philadelphia	Planned	A phase 1 clinical trial to evaluate the safety and drug levels of a human monoclonal antibody, VRC-HIVMAB060-00-AB (VRC01) administered in multiple doses intravenously and subcutaneously in different dosing schedules to healthy, HIV-uninfected adults
HVTN 105	Ib	DNA clade C AIDSVAX® B/E	Men/Women	104	Columbia; Nashville, NYBC; Philadelphia; Rochester; SFDPH; Seattle	Planned	A phase 1b clinical trial to evaluate the safety and immunogenicity of different combinations of DNAHIV-PT123 and AIDSVAX® B/E in healthy, HIV uninfected adult participants
HVTN 106	I	DNA multiclade MVA CRF01_AE	Men/Women	105		Planned	
HVTN 110	I	Ad4 multiclade AIDSVAX® B/E	Men/Women	60		Planned	

Protocol	Vaccine Regimen	N	Sites	Status	Aims
HVTN 205	DNA clade B MVA clade B	299	Atlanta; Birmingham; Boston; Iquitos; Lima; Nashville; New York; Rochester; Seattle; San Francisco	Ongoing	A phase 2 trial to evaluate the safety and immunogenicity of a prime-boost regimen of pGA2/JS7 DNA and MVA/HIV62 or MVA/HIV62 alone in healthy, HIV-1 uninfected, vaccinia-naïve individuals
HVTN 404/802	No Product	open	All Sites	Ongoing	Long-Term Follow-Up
HVTN 505	DNA multiclade rAd5 multiclade	2504	All US Sites	Ongoing	A phase 2b, randomized, placebo controlled, test-of-concept trial to evaluate the effect of the VRC DNA/rAd5 vaccine regimen on the rate of HIV-1 acquisition, and on HIV-1 viral load setpoint, compared to placebo participants who are diagnosed with HIV-1 infection at or after Day 196 post-enrollment through Month 24 visit, and to continue to evaluate the safety of the VRC DNA/rAd5 vaccine regimen.

Acknowledgements

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