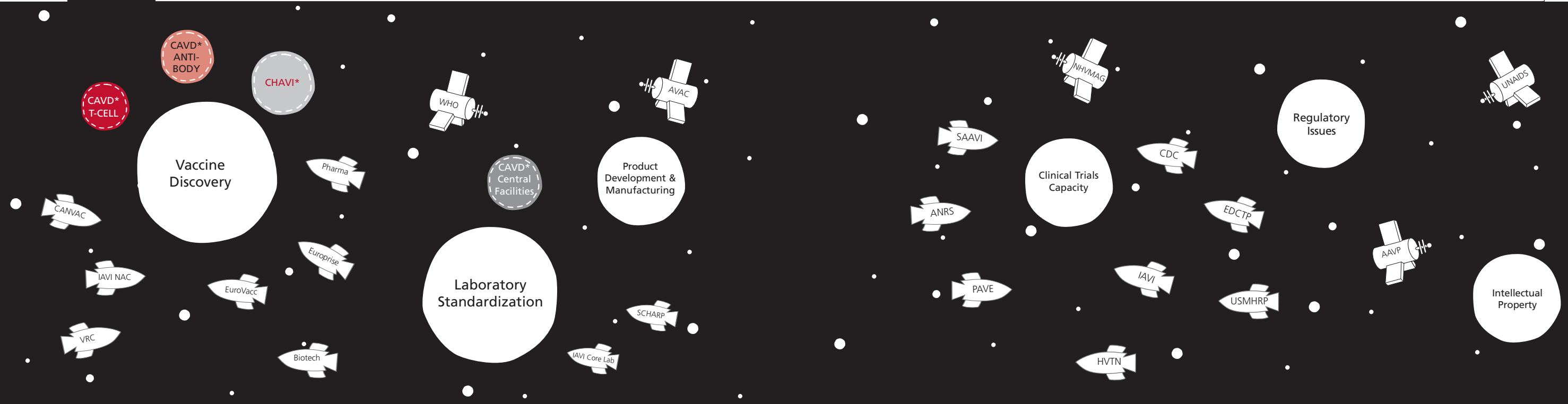


FIGURE 1 UNDERSTANDING THE COSMOLOGY OF THE GLOBAL HIV VACCINE ENTERPRISE



MAKING SENSE OF THE NEW ENTERPRISE "COSMOLOGY"

What's going on in this corner of the sky? The six "planets" in the graphic above are the focus areas identified in the Global HIV Vaccine Enterprise Scientific Strategic Plan. CHAVI and CAVD work plans are specifically linked to these areas. Since they are the first initiatives to be connected to the Enterprise from their inception, they are represented as moons in the orbit of the Enterprise.

But the universe did not begin with the Enterprise. A wide array of projects and initiatives has been launched over the past decade or more. We've highlighted some of these projects—represented as rocket ships—and show how their trajectories relate to the Enterprise focus areas. As busy as this graphic looks, there is still work to be done: clinical trials capacity, product development, manufacturing, regulatory issues and

intellectual property issues are still being addressed by individual entities, without the coordination that has been brought to bear on vaccine discovery and standardization.

It's also important to remember that there are other critical elements of the AIDS vaccine universe which do not feature in the Enterprise cosmology at all—including social and behavioral science, policy formulation, advocacy, strategic linkages with other prevention research arenas, preparing for future access and expanded community involvement. We've included some of the groups doing advocacy work in as satellites because these entities monitor, transmit information to multiple audiences, and have an important role to play in evaluating and informing the work of the Enterprise and the field at large.

KEY

*2005-2006 New funding

- AAVP African AIDS Vaccine Programme
- ANRS Agence Nationale de Recherches sur le SIDA
- AVAC AIDS Vaccine Advocacy Coalition
- CANVAC Canadian Network for Vaccines and Immunotherapeutics
- CAVD Collaboration for AIDS Vaccine Discovery
- CDC Centers for Disease Control
- CHAVI Center for HIV/AIDS Vaccine Immunology
- EDCTP European and Developing Countries Clinical Trials Partnership
- Europrise European Vaccine/Microbicide Enterprise
- EuroVacc European Vaccine Effort Against HIV/AIDS

- HVTN HIV Vaccine Trials Network
- IAVI International AIDS Vaccine Initiative
- NAC Neutralizing Antibody Consortium
- NHVMAG Nigerian HIV Vaccine and Microbicide Advocacy Group
- PAVE Partnership for AIDS Vaccine Evaluation
- SAAVI South African AIDS Vaccine Initiative
- SCHARP Statistical Center for HIV/AIDS Research and Prevention
- UNAIIDS Joint United Nations Programme on HIV/AIDS
- USMHRP US Military HIV Research Program
- VRC Vaccine Research Center
- WHO World Health Organization

NEW ENTERPRISE-RELATED FUNDING STREAMS

CENTER FOR HIV/AIDS VACCINE IMMUNOLOGY (CHAVI)
www.chavi.org

Vital statistics: Established in July 2005. US\$300 million over seven years from the US National Institutes of Health, support 80 investigators at 35 institutions worldwide in Year 2.

Overall goal: To define the enabling technology for HIV vaccine development by determining correlates of protective immunity at mucosal surfaces in acute HIV-infected (AHI), and exposed uninfected (EU) individuals.

Specific initial studies: (1) Determine the molecular and virologic characteristics of the transmitted virus; (2) Define the genes that determine viral load levels in AHI individuals; (3) Define the genes that determine protection; (4) Define the genes that determine protection in EU and AHI individuals; (5) Determine T cell, B cell and innate immune responses to the transmitted virus at the mucosal surface in AHI and EU individuals; (6) Develop vectors and adjuvants that are capable of inducing protective immune responses to the transmitted virus at mucosal surfaces. Use data from studies 1-6 to design and test novel immunogens for induction of optimal mucosal anti-HIV immune responses.

COLLABORATION FOR AIDS VACCINE DISCOVERY (CAVD)
www.cavd.org

Vital statistics: Launched in July 2006. US\$287 million over five years from the Bill & Melinda Gates Foundation. Funding will support 16 research consortia, with more than 165 investigators from 20 countries.

Overall goal: To overcome major scientific obstacles facing HIV vaccine research, and accelerate the development of an effective vaccine that could help bring the global AIDS epidemic under control.

Specific initial studies: The 16 grants are organized into eleven vaccine discovery consortia (five neutralizing antibodies discovery consortia and six cellular immunity discovery consortia) and five central laboratory and statistical service facilities. The neutralizing antibody consortia include grants for novel vaccine design using HIV-2, synthetic molecules incorporating key regions of HIV into protein "scaffolds," research on additional types of neutralizing antibodies in animals and humans; as well as studies of the V-3 loop region of HIV, and innate and adaptive immunity. The cellular immunity consortia include grants to optimize existing strategies, such as pox virus and adenovirus vectors; as well as studies of candidates which target dendritic cells, and adjuvants to enhance T-cell vaccine performance. Central facilities include three laboratory networks for evaluating the immune responses elicited by vaccine candidates, a research specimen repository, and a data and statistical management center.