

Leadership Statement on science and HIV/AIDS¹
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Introduction

Leadership in Science has had a dramatic impact on our ability to counter the effects of HIV/AIDS. Two years after the emergence of the epidemic, HIV was identified as the causative agent of the disease. Less than 4 years later, the first antiretroviral was marketed, and 9 years later, with the introduction of highly active antiretroviral therapy (HAART), the disease was transformed from a lethal infection into a potentially chronic disease. Science has continued to improve options for people living with HIV/AIDS through the development and delivery of antiretroviral agents that have new targets, better potency and toxicity profiles, and a lower pill burden. The speed of these developments is unprecedented in the therapeutic arena and has been catalyzed by concerted community pressure. Drug development for other viral diseases has greatly profited from the success of HIV drug development.

Unfortunately, a similar story cannot be told for the development of prevention technologies, such as a preventive vaccine or vaginal microbicides. Yet, the epidemic will continue to grow without the availability of such interventions. The relative lack of incentives has hampered a full involvement of pharmaceutical industries. New mechanisms to build public-private partnerships and coordinate research and development such as the International AIDS Vaccine Initiative (IAVI), the Global HIV Vaccine Enterprise and the International Partnership for Microbicides (IPM) are redressing this situation.

Key challenges and obstacles

1. The development of an effective preventive HIV vaccine.

¹ Facilitated by the International AIDS Society

2. The development of female-controlled prevention tools, such as microbicides and oral prophylactics.
3. The development of the most effective and safest fixed-dose combinations of HAART.
4. The development of simple and cheap diagnostic and monitoring tools for HIV infection.
5. To engage Scientific Leadership in the transition from discovery to implementation. Implementation of new technologies or strategies often suffers from the lack of involvement of the “discoverers” or “experts” and a lack of communication between those and the “implementers”.

Concrete commitment and vision

The development of an effective preventive HIV vaccine requires an even greater financial investment, increased cooperation and complementarity among parties involved and should include high-risk innovative strategies. Part of this effort should be an increased effort to identify correlates of immune protection

Phase 2 studies of at least one HIV-specific microbicides should be well underway.

Fixed-dose combinations of HAART containing the best tolerated, safe and effective drugs should be available for patients all around the world within the next two years.

All groups working on promising approaches for simplification of HIV diagnosis, monitoring of immune status and measurement of viral load should receive sufficient resources.

These scientific priorities in the fight against HIV/AIDS should be endorsed by the Global Scientific Leadership. Sufficient funds to tackle them should be made available and a action plan with involvement of all relevant parties should be drawn over the next year. The action plan needs a clear division of tasks, clear timelines and deliverables.

Implementation of preventive and therapeutic strategies should involve those who have intimate knowledge of the biology of HIV infection and the technologies concerned.