Policy Brief

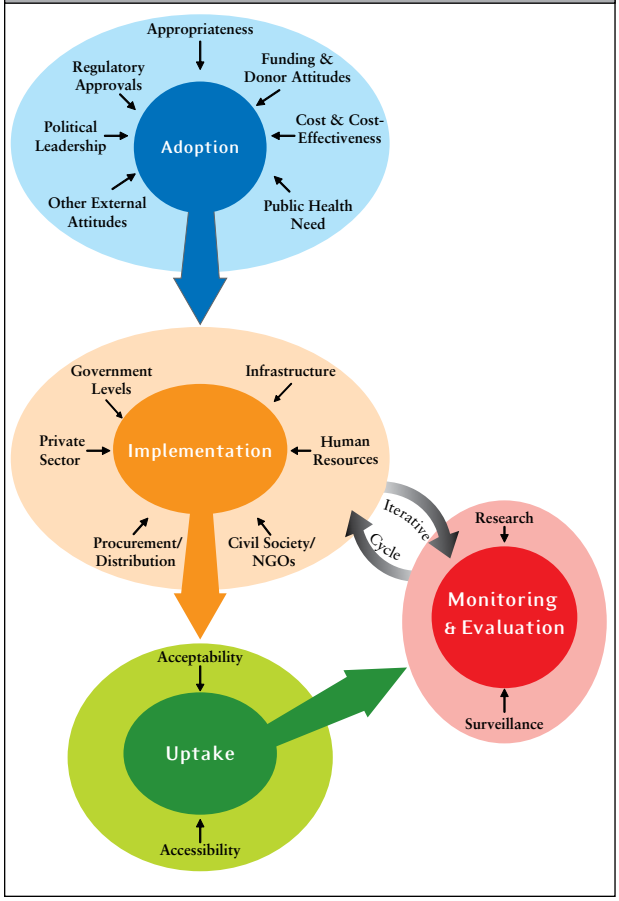
The Introduction of New Health Technologies in India

With an estimated 5.2 million cases of HIV/AIDS, India has one of the highest numbers of HIV infections in the world.[1] Although the government of India (GOI), along with the private sector and nongovernmental organizations (NGOs), has made progress in curbing the momentum of the epidemic, the challenges of addressing AIDS in India remain.

A safe and effective AIDS vaccine could deliver significant benefits and is one of the best hopes for ending the epidemic, but it may be several years before an effective AIDS vaccine is developed. In the meantime, it is critical that steps be taken to develop mechanisms that maximize the benefits of an AIDS vaccine once it becomes available.

India's experiences in adopting other health technologies can help to guide planning for broad access and rapid uptake of an AIDS vaccine.

Figure 1. Factors influencing introduction of new technologies



Designing systems and processes to ensure rapid access to and effective uptake of AIDS vaccines in India can gain from an understanding of prior adoption and implementation experiences of other health technologies.

India's health care system faces a number of challenges that may impede the widespread introduction of new health technologies: the large size of the country, limited financial resources, differences in health status across states, inadequate surveillance systems, and gaps in manpower and infrastructure. Examining the prior introduction of various health technologies offers insight into how these challenges may be addressed in the future.

Key issues in the introduction of new health technologies

To address the question of what it would take to adopt and implement AIDS vaccines in India, this study reviews the experience of other health technologies: hepatitis B vaccination, the Universal Immunisation Programme (UIP), no scalpel vasectomy (NSV), HIV/AIDS voluntary counseling and testing (VCT), and antiretroviral treatment (ART).

Key issues in the introduction of new health technologies include both the formal decision by the GOI to approve a product or service and the process of implementing that decision and putting the necessary programs in place. Prior experience has helped identify specific factors influencing those decisions and processes. Figure 1 outlines some of the social, political, and economic factors that influence the process of health technology adoption, implementation, and uptake.

Experiences from other health technologies introduced in India

In this study, the concept of a health technology is broadly defined to incorporate products (vaccines and drugs) and programs or services (VCT, NSV), since both types of interventions have important ramifications for the eventual introduction of AIDS vaccines. The analysis relies on data from literature reviews, national datasets, international health agency reports, and interviews with field experts.

Universal Immunisation Programme (UIP): Although AIDS vaccines are unlikely to be included in the UIP, this program provides insight into several issues and concerns surrounding large-scale health programs. The cold-chain supply system for vaccines delivered throughout India has been implemented through the UIP. Additionally, the program's strengths (rapid scale-up of services and strong advocacy campaigns) as well as its shortcomings (urban-rural differentials in coverage and a relatively weak disease surveillance system), are instructive for an AIDS vaccine distribution system.

Hepatitis B vaccine: The history of the hepatitis B vaccination program in India shows the importance of providing government officials and medical leaders with data on disease burden, modes of transmission, and cost-effective targeting, all of which are likely to be relevant to the adoption of an AIDS vaccine. This experience also illustrates that local manufacturing can play a significant role in improving affordability of technologies and facilitating program scale-up.

No scalpel vasectomy: NSV is a health technology involving sensitive issues connected with male sexuality, and it carries a large degree of political and ethical baggage. Considering how to address similar social concerns, dispel myths, and understand and manage resistance could also be important for AIDS vaccines, given that fact that in India AIDS is strongly linked to stigma, discrimination, and sensitive issues related to sexuality.

Voluntary counseling and testing: An understanding of how the VCT program has worked in India offers insights into a similar possible challenge in introducing AIDS vaccines – designing and disseminating accompanying prevention education messages which explain both the benefits and possible limitations of a vaccine. The actual successes of VCT counselors in addressing stigma issues and reached target groups may also provide key guidance to AIDS vaccine programs.

Antiretroviral treatment: India's ART efforts offer important lessons about the use of a publicly supported, targeted program for HIV/AIDS -- in particular, the importance of adequate advance planning, funding, and political resolve to achieve timely delivery of a new health technology. AIDS vaccines might be integrated with both ART and VCT services, forming a broader program of prevention and treatment.

Preparing for the introduction of AIDS vaccines in India

The adoption and implementation of a new health technology in any country is likely to include some missteps. With a country as large and diverse as India, the issues are bound to be even more complex. Compounding those are challenges specific to AIDS vaccines. These include stigma and discrimination which will affect political decisions and program implementation; the difficulty of reaching marginalized

target groups; and the need to build a vaccine delivery system that is distinct from the existing childhood immunization programs. Additionally, the perceived potential disinhibition effect of partially effective vaccines (when individuals believe they are protected from HIV infection and therefore engage in behaviors that put them at greater risk of exposure to HIV) may further complicate adoption and implementation decisions.

Given these challenges, the lessons that can be drawn from other health technologies can help to shape the steps which should be taken now to facilitate the adoption and implementation of AIDS vaccines in India. These actions include:

- **Improve data and information available for decision-making and for mobilizing political and financial support.**
  - Generating reliable HIV/AIDS epidemiological data and undertaking impact, cost, and cost-effectiveness analyses of the vaccine and its delivery mechanisms are critical to making the case for the vaccine and allocating adequate financing.
  - Social science research can also produce information about the likelihood of countervailing behavior change ("disinhibition") from AIDS vaccines. This can help to allay concerns about such disinhibition and or ensure that steps are taken to mitigate such risks.
- **Clarify roles among partners, including NGOs and the private sector, along with central, state, and local governments.**
  - Both NGO and commercial sectors have proven their capacity to reach those not covered by government services for AIDS-related products and programs, and plans to include them in an overall vaccination strategy should be developed as early as possible, especially if an AIDS vaccine is directed at marginalized groups such as commercial sex workers, men who have sex with men, and injecting drug users.
  - Experience with other technologies has demonstrated that mapping out roles and responsibilities of different government officials and departments could also be beneficial in the implementation of an AIDS vaccination program, in order to ensure accountability and avoid duplication of effort.
- **Assess infrastructure needs for delivering an AIDS vaccine in advance.**
  - There may be opportunities to leverage existing networks to capture significant synergies in HIV/AIDS services, including the current network of VCT and ART centers. For example, individuals could enter the system through VCT services; those testing positive would use ART services, and those testing negative could be counseled and vaccinated as appropriate.
  - Given the critical importance of including educational messages as part of vaccine delivery, integrating testing and counseling, treatment, and vaccination could have a significant impact on the success of an AIDS vaccine.
- **Secure political and financial commitment to implement an AIDS vaccination program.**
  - Earlier experience suggests that securing national and international financing before undertaking an AIDS vaccination program will be important to ensuring broad access, as is the government's ability to negotiate an affordable vaccine price.
  - Political support from national leaders, the media, religious leaders, and key community members is also critical to build widespread acceptance of AIDS vaccines. Having national champions provide leadership and encouraging influential individuals to speak out publicly in favor of vaccines may help garner this political support.

The future of AIDS vaccines in India

Several factors provide a positive outlook for the future adoption of an AIDS vaccine in India. There is strong political support for AIDS vaccine research, as well as growing awareness of the threat of HIV/AIDS and the benefit of new and more effective prevention measures. A vibrant NGO sector has demonstrated its capacity to reach many marginalized groups and to appropriately address sensitive health and social issues. There is also increasing awareness of health care issues and growing demand among the population for new products and services, particularly by the public sector.[2]

All of these can contribute to the successful introduction and uptake of an AIDS vaccine in India. Given the magnitude of the epidemic in India, it is critical that steps be taken today to ensure that an AIDS vaccine is adopted and implemented as quickly and widely as possible.

Notes and references

[1] NACO. 2006a. HIV/AIDS Epidemiological Surveillance & Estimation report for the year2005. Retrieved July 15 from http://www.nacoonline.org/fnlapil06rprt.pdf.

[2] WHO. 2000. "Country Cooperation Strategy: India." Available online at: http://who.int/countries/en/cooperation_strategy_ind_en.pdf.

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