

Sustainable (Vaccine) Development: The International AIDS Vaccine Initiative (IAVI) and Capacity Building

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Product Development Partnerships (PDPs), of which the International AIDS Vaccine Initiative (IAVI) is one, are being developed to try and bridge the gap between scientific and technological potential and the needs of the poor in developing countries. Consequently, PDPs are now the recipients of large amounts of development donor funds. Although the primary concern of many involved in PDPs is to generate products to address neglected diseases and illnesses which affect people in developing countries, donors are also keen that initiatives work with partners in the global South and increase scientific and technological related capacities in the South. This has implications for the way PDPs are assessed and performance is measured. Based on case study fieldwork of IAVI carried out over the last four years¹, we argue that PDPs can provide a means of moving forward sustainable development objectives, highlighting the importance of what we term 'social technology', the transfer, and creation, of institutional capacity particularly local ownership of vaccine development resulting from advocacy activities.

PARTNERSHIPS FOR NEW PRODUCT DEVELOPMENT...

Pharmaceutical innovation of vaccines for diseases such as HIV/AIDS does not often occur within the private pharmaceutical industry. The argument put forward to explain this situation is usually couched in terms of market failure as a result of both a lack of purchasing power in developing countries where demand is greatest and the public good nature of vaccines. Partnerships between the public and private sector are put forward as a means to incentivise vaccine development in this area.

One such PDP is IAVI. IAVI is a large, international, not-for-profit public-private partnership devoted to the creation and delivery of a preventative AIDS vaccine. Its headquarters are in New York and it works in approximately 23 countries, building local research capacity primarily to undertake local vaccine trials, and building awareness and 'demand' for an AIDS vaccine.

... AND IMPROVING DEVELOPING COUNTRY SCIENCE AND TECHNOLOGY CAPACITY

Although it is a long way off achieving its core goal of creating and distributing a vaccine, IAVI has achieved three main things. Firstly, it has raised large sums of money, over \$340 million by 2006. This money has been used to fund the development of promising vaccine candidates and to raise awareness about HIV/AIDS and the need for a vaccine. Secondly and intimately connected to its first achievement, it has created widespread awareness of the potential impact of vaccines and the role that cutting edge science and technology can play in the fight against AIDS in developing countries.² IAVI has put the possibility of an AIDS vaccine, and awareness of the need for very considerable investment, on the agenda of every bilateral donor. Thirdly, it has created capacities in developing countries both to carry out advocacy in relation to HIV/AIDS and also to participate in the actual development of vaccines and conduct clinical trials.

It is this third issue that we have focused on. With growing recognition of the importance of building local health research and science and technology capacity³, partnerships and networks are emphasised as a means of developing this capacity. Partnerships are increasingly seen not only as important for new product development by bringing together the right combination of actors and resources but also, and relatedly, as necessary for good knowledge generation and health research activities. In particular, successful innovation and knowledge generation is seen as occurring in a 'mode 2' networked format rather than a 'mode 1' exercise

that takes place in a linear fashion and excludes opportunities for feedback loops and systemic learning opportunities.⁴ Partnerships are therefore seen as an opportunity for “increased access to new ideas and best practices, technical expertise, and resources; wider coverage and impact of research benefit; and an increased probability of sustainability recognition and leverage of the research partnerships.”⁵

IAVI AND CAPACITY BUILDING

The challenge of creating an AIDS vaccine is enormous and given IAVI's mission one might think it obvious that it would choose to work only with the best scientists in developed country environments and to focus on scientific excellence exclusively. Although working with excellent scientists in leading research centres is of course a priority, IAVI has taken a more multifaceted approach to its mission.

For example, in Africa substantial amounts of money have been invested in infrastructure and in training.⁶ IAVI has worked with speed and efficiency, combining focused activity with real evidence of capacity building and engagement with Southern partners. Importantly, interviewees from Kenyan, Ugandan and Rwandan facilities all feel that, largely as a result of engagement with IAVI, they have the potential of turning their units into clinical trial centres of excellence dealing not only with AIDS vaccines but with a range of drug and vaccine development projects. This is then an unusual story of capacity building activity. Although capacity building in developing countries is not part of IAVI's vision or mission statements, IAVI does seem to achieve in this area. In a previous paper we have labelled this as 'development by not doing development'.⁷

An interesting question is why IAVI pursued this strategy? Why did it not just focus on creating a vaccine in the best labs in the world and in the shortest time? Given the urgency of the challenge IAVI confronts there would have been an argument for taking that approach. The answer is not simply that IAVI decided to be a good citizen in developing countries. The very hefty investment, the enormous effort involved in creating partnerships in developing countries, is not an 'add on' to other efforts so much as it is a consequence of taking communications extremely seriously and in some sense letting the communication concerns drive the work. IAVI is an organisation driven and dominated by its concern with communication. And that has led it in interesting directions with some very interesting results.

INNOVATION DRIVEN BY COMMUNICATION

IAVI began its work on vaccine development in Kenya. These efforts were in partnership with the Kenyan Aids Vaccine Initiative and the Oxford Medical Research Council laboratory and IAVI in New York. IAVI at that time did not have a regional office and could well be characterised at the time as a US or 'Western' led effort. This danger was highlighted by an independent review.⁸ It quickly became apparent to IAVI that, if it was to develop local support (which is absolutely essential if a vaccine is to be distributed effectively), it would have to work in such a way that it had local partnership at its core and prioritised local communications as well as lobbying efforts at the international level.

As a consequence of this desire to build political demand and support from the grassroots level up, IAVI needed to make sure that efforts were seen as locally appropriate endeavours. The AIDS vaccine initiative needed to be owned by developing countries, and compromises and concessions to capacity building in developing countries had to be made. IAVI committed to that effort and let it influence the work it does in fundamental ways.

Commenting on the way in which operations were established in India, where a Memorandum of Understanding was signed with two government bodies at the outset, one IAVI interviewee said, *“It's a partnership with governments and we always accept that...it's a three way partnership, NACO [the National Aids Control Organization] and ICMR [the Indian Council of Medical Research] and us and we are the junior partners and we accept that”*.

The strategy of combining advocacy, PR and more participative approaches appears successful in this case. Close relationships have been forged with community groups and NGOs and the emphasis on advocacy and relationship building is noted by an independent reviewer as having been particularly strong. One informant noted that, *“If IAVI had not come; India would not have taken a vaccine initiative so soon and so strongly”*.

Apart from commitments to developing infrastructure in developing countries, IAVI's communications focus has had other consequences. For example, in Africa IAVI conceptualizes the vaccine trials themselves as an advocacy programme. The trials provide a lot of publicity, drive state engagement, and provide people with the

opportunity to begin to engage with issues around their fundamental needs, their rights with respect to biomedical ethics, and essentially drive African demand for a vaccine, at a political if not an economic level. This is an important component of IAVI's work on access to a vaccine should it become available. One interviewee from the East Africa regional office stated:

"...I bet you that is what he [interviewees' boss] is doing right now, that's why he is not in the office. He's sensitizing the community, and we define community very broadly, and sensitizing the community so that people are aware and people understand that people are aware and people understand that the vaccine does have a place in HIV prevention, and when it becomes available they will demand it from their governments and their governments will demand it at the United Nations, whatever forum is available to them to make these demands for an HIV vaccine. And it's not stored on the shelf somewhere."

The interviewee went on to say that this view of advocacy and trials as building demand was related to decisions to locate trial sites in different African countries rather than just concentrating efforts. *"Just being on the ground does create this awareness and hopefully...in the end it will create this demand."*

VACCINE DEVELOPMENT OR SUSTAINABLE DEVELOPMENT?

Whether or not IAVI succeeds in its overall mission or is judged over the longer term as a success will of course depend on many factors. The sources of risk and uncertainty are of course both scientific and social; overall success will depend on many factors. Even if a vaccine does result, the ability to deliver and distribute it may well depend on having viable health systems in poor countries which do not currently enjoy even the basics of healthcare provision. We would certainly not want to suggest that the IAVI approach is a blueprint or that it is guaranteed success.

However, our study of IAVI shows that it is an example of a PDP that does new product development but also builds significant local science and technology capacity. More particularly, its partnership activities do not just result in transfer of technology through the provision of infrastructural resources and training but transfers what we term 'social technology', the institutional and organisational capacity needed to conduct successful clinical trial level vaccine development activities. This is not because IAVI makes a specific mandate in its activities to build institutional capacity but because it ends up 'doing development without doing development' focusing strongly on advocacy and communication activities. The result, as we have pointed out elsewhere⁹, is that IAVI is becoming increasingly decentralised in the way it deals with activities in developing countries which differs from how it is increasingly acting internationally, particularly in terms of basic science research. These changing roles and different institutional and organisational forms are important to assess and understand. The kind of solution that IAVI has which involves it acting as an innovation 'integrator', directing scientific and technology development agendas, and a development 'broker', bringing together diverse development actors around a particular agenda, may not in the end succeed and may not be replicable. But, acknowledging what works in terms of building science and technology capacity and assessing attempts to create new social technology (i.e. new institutional and organisational spaces) is crucial to international development efforts and the process of assessment of PDPs such as IAVI. Assessing how they work (i.e. how they build capacity) towards the production of a new health product is important and necessary beyond simply assessing their activities in terms of product development outcomes.

NOTES

¹ Our case study of IAVI comprised an extensive literature review and over 50 interviews with IAVI staff, IAVI partners, collaborators and funders in India, Kenya, New York, South Africa, Rwanda and Uganda. These interviews were semi-structured and the majority tape recorded. We also interviewed independent analysts, informed managers from other PPPs and policy makers in the relevant countries. A workshop held in Edinburgh in December 2004 helped clarify ideas and perspectives.

² Skolnik, R. (2003). *Independent evaluation of the international AIDS vaccine initiative* April. Available on the IAVI website: www.iavi.org

³ c.f. Freeman, P and M. Miller (2001) *Scientific Capacity Building To Improve Population Health: Knowledge as a Global Good* CMH Working Paper #WG2: 3; Csaszar, M and B. Lal (2004) "Improving Health in Developing Countries" *Issues in Science and Technology* 2004 (Fall Issue); Mugabe, J (2005) *Health Innovation Systems in Developing Countries: Towards a Global Strategy for Capacity Building* http://www.who.int/intellectualproperty/studies/Health_Innovation_Systems.pdf (accessed 15/08/05); Morel, C.M. *et al.*, (2005) "Health Innovation Networks to Help Developing Countries Address Neglected Diseases" *Science* Vol. 309 (5733): 401-404

⁴ Gibbons, M. *et al.*, (1994) *The New Production of Knowledge: The Dynamics of Science and Research in Contemporary Societies* London: Sage

⁵ Lansang, M.A. and R. Dennis (2004) "Building capacity in health research in the developing world" *Bulletin of the World Health Organisation* Vol. 82 (10): 766

⁶ Chataway, J.C. and Smith, J. (2006) "The International AIDS Vaccine Initiative (IAVI): Is It Getting New Science and Technology to the World's Neglected Majority?" *World Development* Vol. 34 (1): 16-30

⁷ *ibid*

⁸ Skolnik, R. (2003). *Independent evaluation of the international AIDS vaccine initiative* April. Available on the IAVI website: www.iavi.org

⁹ J. Chataway *et al.* (2007) "The International AIDS Vaccine Initiative (IAVI) in a changing landscape of vaccine development: a public private partnership as knowledge broker and integrator" *European Journal of Development Research*, Vol. 19 (1): 100-117

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