



Straight talk with... Seth Berkley

On 13 June, donors to the GAVI Alliance will gather in London to affirm their commitment to fund immunizations in the developing world. At the meeting, participants will address the estimated \$3.7 billion financing gap needed over the next four years to scale up childhood vaccination efforts to meet the demand forecasts for those countries that receive assistance from the Geneva-based organization. But attendees of the pledging conference will also be discussing something not on the formal agenda: the announcement last month that Seth Berkley, who founded and heads the International AIDS Vaccine Initiative (IAVI), will take over the helm of the alliance in August.

Berkley will lead a unique chapter in GAVI's development as the organization narrows in on the looming deadline set by Millennium Development Goal 4, which aims to reduce child mortality by two thirds by 2015. Yet, in a sense, these efforts will be a continuation of the work Berkley has fostered at IAVI since he formally launched the New York-based nonprofit in 1996. Berkley, an epidemiologist who previously held jobs with the Rockefeller Foundation, the Carter Center and the US Centers for Disease Control and Prevention, has witnessed ups and downs in the vaccination field, from the disappointing STEP trial in 2007 to the more recent good news from the 2009 Thai study, which reported as much as 31% protection against HIV. **Roxanne Khamsi** spoke with Berkley about what he has learned in his quest for a preventative shot against AIDS.

What are your thoughts on how the HIV vaccine field has evolved?

I'm very excited about the field now, not only because of the Thai results, but [also] we've made enormous advances in the area of neutralizing antibodies over the last 18 months and now have many, many targets on the virus, as well as antibodies that neutralize all of the strains at incredibly low doses. The science is in fabulous shape.

Some people have voiced concern about the disproportionate amount of research funding going toward HIV as it relates to disease burden in the world. What do you say to those critics?

AIDS appeared out of nowhere. It's so far killed upwards of 25 million people; there's another 33 million infected today. The world now spends about \$50 billion a year dealing with this pandemic, and that's not enough, because 60% of people in the developing world who have HIV are still aren't getting treatment. [We] desperately need better prevention, and the best prevention we could have would be a vaccine.

What's the best biological approach to HIV vaccination?

At the end of the day, what you want is a vaccine that provides both neutralizing antibodies and cellular immunity. That's what the best of other vaccines do, and certainly, given the variability of this organism, if you could only have one of those you'd probably want neutralizing antibodies because of the fact that neutralizing antibodies can block acquisition.

GAVI potentially faces challenges in raising the \$3.7 billion it's hoping for in June. What would you say you've learned at IAVI in terms of what it takes to convince donors to give?

It's very different for AIDS vaccines than for conventional vaccines. For AIDS vaccines, the real challenge was to convince people that this was a priority even though the science wasn't yet there. The science is moving now, so it's much easier now to say to a donor it's really a time to invest because progress is happening. For existing vaccines, which are the most cost-effective intervention you can do, I think our challenge is to sell this as the right thing to do, given it's cost effective and given the number of lives that can be saved.

Advance market commitments (AMCs) are used to fund vaccine campaigns. What would be the advantages and disadvantages of using AMCs for HIV vaccine development?

There are really two types of funding: there's push funding and pull funding. Push funding would be to drive the research forward, to pay for it, to get people engaged. Pull funding would be to put a financial pot out there and use that as a way to engage people in it. The pull funding [approach] works much better when you've got proof of concept and people know that if they invest the money, something will happen, and they can potentially succeed. It's harder as you go upstream.

Do you think it's time now for that pull mechanism approach for HIV vaccine research?

I think we're getting close. It probably isn't time yet, because [although] we have proof of concept that a vaccine is possible, we don't yet know how to get it to the level we need for it to become commercially feasible. Once we crack that problem, then I think it's a great time to use a mechanism like that.

With the growing climate of vaccine skepticism, how do you convince people immunizations are important?

It's a concern for all vaccines, and it certainly will be a concern for HIV vaccines. You can imagine there will be certain groups that will say "we don't want our children vaccinated against HIV because it will lead to promiscuity." And so it's very important to make sure that as we roll these out that we do our best possible job educating the public. Vaccines are about credibility. The challenge is to create an environment where people trust and understand the safety and work that's gone into making these amazing tools.