

## The death of Kenya's leading HIV researcher

Professor Job Bwayo

The death of Kenya's leading HIV researcher, Professor Job Bwayo, at the age of 58, in a Nairobi car-jacking, has robbed Africa of one of its most renowned scientists, just as the significance of his work was becoming evident through the success of initial field trials of the Aids vaccine he helped to develop.



The late Professor Job Bwayo - murdered by gangsters in a car-jacking incident.

Bwayo became world-famous for his pioneering research on natural immunity against Aids. His groundbreaking studies of the epidemiology of the HIV virus in east Africa in the mid-1980s led to him discovering an apparent natural immunity among a group of 60 prostitutes in Nairobi's Majengo slums. He found that the uninfected women had developed large numbers of killer T-cells, a crucial component of the immune system, which has led to some of the most promising Aids vaccines currently under development. "They didn't have the virus or the antibodies. So they must have been getting rid of the virus so quickly that it couldn't get established," he told the Observer in 2001. "We took the HIV virus and white blood cells from the prostitutes, put them in a test-tube and - bang! - they reacted. The cells killed the virus."

Job Bwayo was instrumental in building a world-class clinical research facility in Kenya. He established a team at the University of Nairobi, Kenya's Aids Vaccine Initiative (KAVI), which joined forces with Professor Andrew McMichael and researchers from Oxford University, and eventually went on to develop a vaccine that stimulates the generation of T-cells in Aids patients. The research was funded by the International Aids Vaccine Initiative (IAVI).

Bwayo had a towering physique that befitted his towering reputation, a smile for everyone, and an expression that gave hope to all. He used to tell his fellow researchers: "We know that in the search for an Aids vaccine, many different vaccines will need to be tested. Vaccine development is a marathon, not a sprint and - as we all know - Kenyans are very good at marathons." His team is currently concluding trials of a candidate vaccine designed to prevent Aids caused by different HIV serotypes in Africa.

The IAVI chairman, Geoffrey Lamb, said that Kenya's well-earned prominence in the global HIV vaccine research arena was a testimony to Bwayo's "scientific leadership and determination, and to his broad vision that getting a vaccine required understanding and commitment across all of Kenyan society, as well as strong research partnerships to bring African and international capabilities together." In addition to founding KAVI, Bwayo was co-director of the STD/Aids training network for eastern and southern Africa and senior adviser to the World Health Organisation HIV training programme. He was also a former chairman of the department of medical microbiology at Nairobi University.

Born in Bungoma in western Kenya, Bwayo studied at Nairobi University medical school before completing his doctorate in immunology in 1985. He remained at Nairobi throughout his career; he was awarded his professorship in 2003.

There was widespread reaction to his death in Kenya, with local newspapers demanding a crackdown on gun crime. A leader in the Standard lamented: "A great and illustrious son of the country has been snatched from our midst." Bwayo's American-born wife, Elizabeth, who was with him when he died, was also badly injured by a bullet to the head and underwent emergency hospital treatment. Two colleagues were also injured in the attack. Bwayo is survived by four children.

Andrew McMichael writes: Job Bwayo was an imposing figure - very tall and young-looking. He and I worked together from 1998 on developing an Aids vaccine, sponsored by the Medical Research Council and the IAVI. Crucial to the design of the vaccine was work that Job had done with Frank Plummer, of the University of Manitoba, on a small group of sex workers who appeared resistant to HIV infection and who made cellular (T-cell) immune responses to the virus. Starting the vaccine trials in Kenya was quite challenging, not least because of misunderstandings of our motives in the local press. Job was a tower of strength in putting those right and then building and leading the KAVI unit in which the research could be done.

Our first vaccine did not stimulate strong enough T-cell responses, but the facility he created has become one of the major centres for HIV vaccine trial work in Africa and is about to launch an exciting phase II trial of a new vaccine that has a real chance of success. It is a terrible tragedy that Job, who had been trying so

hard to help the youth of Kenya escape the HIV threat, should be senselessly murdered by young car-jackers.

Job Joab Bwayo, medical researcher, born August 3 1948; died February 4 2007

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