

of the other 28 AIDS vaccines that have been clinically tested in the United States and around the world has shown any real promise. AIDSVAX is made by VaxGen, a Brisbane-based biotechnology firm that first began developing it more than 15 years ago. It is currently in the final phase of human testing in Thailand and in several American cities.

Dr. George Lewis, Vaccine Research Director at the Institute of Human Virology, said it has taken six years to develop the oral AIDS vaccine, but now "we want to make sure it moves into the field as fast as possible." The DNA vaccine is designed to pass through the intestinal tract and reach particularly vulnerable targets, among them the rectum and the vagina. The viral material in the vaccine would then trigger mucosal immunity as opposed to the cellular immunity that most other AIDS vaccines are designed to induce.

The new oral vaccine should cost less than US\$ 1 per dose, according to the leaders of the AIDS Vaccine Initiative, which has committed at least US\$ 3 million over the next three years for the testing programme in Uganda. Since the onset of the global AIDS epidemic, scientists have watched helplessly as the virus continues to mutate and today there are many different strains in different regions of the world. Gallo said, the Uganda vaccine, if it proves effective, would only combat the HIV strains prevalent in East Africa. However, segments of other HIV genes from strains isolated from other parts of Africa, or from India and Southeast Asia as well, could be readily spliced into the salmonella genome to target populations in those regions.

Despite the introduction of many powerful drugs against AIDS, a vaccine is widely seen as the only way to stem a pandemic in which about 35 million people have been infected worldwide. The drugs, which fight the virus once it has taken hold, cost many thousands of dollars, well beyond the means of people in developing nations where most of the cases occur. The effort to develop these vaccines will be aided by the HIV Vaccine Initiative, which will focus on strengthening the capacity of poorer countries to continue to hold vaccine trials.

Barry Bloom, Dean of the Harvard School of Public Health and head of the new forum's advisory committee said: "We are fortunate that new initiatives are being proposed to expand availability of existing vaccines in developing countries and to conduct research to develop new ones". ■

Scott Gottlieb, *New York*

## UNAIDS estimates that half the teenagers in some African countries will die of AIDS

A new report issued by the Joint United Nations Programme on HIV/AIDS (UNAIDS) estimates that the AIDS epidemic may kill up to half of the young adult population in African countries where the disease has the highest prevalence. *The Report on the Global HIV/AIDS epidemic: June 2000* summarizes the current level of the AIDS epidemic worldwide at the start of the 21st century.

The figures for Africa are alarming and devastating effects on society are predicted. In addition to immediate health care problems, the epidemic threatens to destroy national development, increase inequalities between advantaged and less-advantaged members of the population, and have a negative impact on education. According to the report, South Africa has the largest number of people living with HIV/AIDS in the world, estimated at 4.2 million infected people. In 16 African countries, more than one tenth of the adult population is infected with the human immunodeficiency virus; in seven countries in southern Africa, at least 20% of the adult population is living with the virus.

Only in a few African countries are there signs of some progress. Uganda has brought its estimated prevalence rate down to around 8% from a peak close to 14% in the early 1990s with strong prevention campaigns. A large increase in condom usage has contributed to the lower rates of infection.

18.8 million people worldwide have died from AIDS since the beginning of the epidemic, 3.8 million of them children. About 34.3 million are estimated to be living with the virus. The report is available via the Internet at [http://www.unaids.org/epidemic\\_update/index.html](http://www.unaids.org/epidemic_update/index.html) ■

Barry Whyte, *Bulletin*