

After Toronto

Effective AIDS prevention requires far better understanding of why existing strategies do not succeed.

At the AIDS meeting that has just ended in Toronto, the resounding theme was a fresh emphasis on prevention of the disease. The reasons for this are straightforward. A lot of work has been done to get antiretroviral therapies out to 1.3 million people with HIV, but that is still only one-fifth of the people who need them. And for every person put on life-saving treatments each year, there are ten new infections.

Some promising prevention strategies are edging from the laboratory to the clinic. Trials on microbicides, which could help protect women whose partners won't use a condom, are expected to start delivering results late next year. One large trial has already found that male circumcision may cut the risk of HIV infection by 60%, and others are attempting to confirm this finding. Another study has established that antiretroviral drugs are safe for daily dosing in people without HIV, paving the way for larger tests of whether this could protect people from infection. All these approaches have limitations but are worthy of fuller exploration.

Additionally, an emerging move towards large-scale collaboration could bolster the efficiency of HIV research. Microbicide researchers are already communicating closely through several formal and informal mechanisms, and a roadmap was set out for this in a Microbicide Development Strategy, released on 17 August.

Vaccine researchers have also recently been required to collaborate more closely, under the umbrella of the Global HIV Vaccine Enterprise, supported by the Bill & Melinda Gates Foundation. Such collaboration has unfortunately been rare since the early days of HIV vaccine research. It may help to tackle some of the frustrations and dead-ends that have characterized the field from the start.

Individual HIV researchers have also begun banding together to counter divisive tendencies that they say have held the field back. Bruce Walker of Harvard Medical School has announced the beginning of a study on people who maintain good health despite being infected with HIV (see page 852). By studying these 'elite controllers',

Walker and his colleagues aim to discover why these patients are able to conquer the virus, whereas others cannot. That information could guide a more effective vaccine. Walker says the study will publish its results under a group name — the HIV Elite Controllers Consortium — with no first or senior author. This is a conscious attempt to break away from the divisions and rivalries that have previously dogged some research teams.

The approach is encouraging. But one of the most quoted statistics at the AIDS meeting was that one in five people worldwide at high risk of HIV infection don't have access to prevention practices that already exist. This is partly a resource problem: according to Beatrice Were of ActionAid Uganda, there are only three condoms per year available for every man in southern Africa.

But the failure of prevention strategies is also a scientific problem. On 17 August, a team from the World Health Organization and Johns Hopkins Bloomberg School of Public Health in Baltimore, Maryland, described their efforts to survey the published literature to establish what works for AIDS prevention in poor countries. The interventions studied included harm-reduction strategies for drug users who inject, targeted education programmes and abstinence. The meta-analysis found compelling evidence only for harm reduction — the strategy that political leaders, particularly in the United States, are least willing to fund.

The survey's main conclusion was that there remains a paucity of reliable data on the effectiveness of prevention strategies in developing countries. More epidemiologists and social scientists need to focus their energies on testing appropriate prevention methods in the places where the AIDS epidemic is at its worst. It is hopeless to await success with microbicides, or other biomedical strategies, if we don't even know why current interventions are failing. ■

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State of readiness

The anniversary of Hurricane Katrina should remind scientists to keep disaster recovery plans in order.

This week marks the first anniversary of Hurricane Katrina's devastating visit to the US Gulf Coast. The images associated with the disaster are well-known: the anguish of New Orleans residents trapped at the Superdome as rescue teams rafted from house to house, finding mainly corpses.

But researchers would do well to recall a Katrina image of their own: that of a convoy of sports utility vehicles, escorted by armed guards, that descended on university buildings after the disaster.

Emergency workers were able to salvage some important biomedical data, retrieving important laboratory animals and thrusting cell cultures and tissue specimens into temporary refrigeration.

At several institutions in the city, however, including the health-sciences centre at Tulane University (see page 856), key research materials were lost. What wasn't flooded by Katrina's waters was doomed by power failures in the stifling August heat. Back-up generators, where they existed, were often in flood-prone basements.

The pattern of loss echoed an experience in Houston, Texas, in 2001, when Tropical Storm Allison swept ashore, flooding low-lying buildings. Dozens of monkeys and dogs were drowned at the University of Texas Medical Center at Houston. Last year, a similar fate befell 8,000 laboratory animals at the Louisiana State University Medical Center in New Orleans. Many drowned in the floodwaters;