Forgotten lessons

For many people in the developed world HIV is no longer the death sentence it once was. **Paroma Basu** explores the consequences of complacency.

Discussions about the global AIDS epidemic invariably focus on sub-Saharan Africa and other impoverished regions. That is no surprise: sub-Saharan countries alone are home to two-thirds of all HIV-positive people in the world.

It is easy to forget that the epidemic is thriving in more privileged areas, where it silently takes a steadily mounting toll. In 2007, as many as 54,000 adults and children died from AIDS in North America, according to the World Health Organization (WHO).

Since the 1980s, outreach and prevention programmes have helped avert thousands, if not millions, of HIV infections in high-income countries. Readily available antiretroviral drugs have helped turn it into a chronic, manageable condition.

Public-health officials worry that these successes have, however, spawned an epidemic of blasé attitudes. People are less attuned to messages of prevention, and the importance of routine HIV tests and adherence to treatment. Risky behaviours are beginning to re-emerge, even as numbers of HIV infections are on the upswing.

Between 2000 and 2007, for example, the estimated rate of newly reported HIV cases in Europe rose from 39 to 75 per million people, according to the Joint United Nations Programme on HIV/AIDS (UNAIDS).

"We are seeing a wave of resurgence of new infections [in developed countries]," says Paul de Lay, UNAIDS deputy executive director of programmes.

Dangerous attitudes

In the 1980s and early 1990s, when AIDS was associated with an inevitable and harrowing death, messages about HIV prevention carried a sense of urgency.

"No adequate therapies were available [then]," recalls Anthony Fauci, director of the US National Institute of Allergy and Infectious Diseases (NIAID), who cared for some of the earliest HIV patients. "Messages of prevention and being sexually careful were very well heard because there was a big fear factor in society."

In the mid-1990s, pharmaceutical companies developed a slew of protease inhibitors — which block HIV from making copies of itself — and other drugs that cut viral loads. Combinations of these drugs dramatically decreased the number of people who became ill from opportunistic infections or died from AIDS.

More than 30 antiretroviral medications are now available, and dozens more are being developed (see table on page S12).

The newer treatments are also easier to take. In the early days, some HIV-infected people had to take up to 22 pills a day on a strict schedule, some with food, others requiring refrigeration and so on. New combination pills allow people to take as few as four a day and the number is set to decrease even further. For example, Gilead Sciences is developing a 'Quad' pill that packs a full day's anti-HIV regimen into one tablet.

The WHO estimates that at least 695,500 people in high-income countries were on antiretroviral therapy at the end of 2008, and are living longer, more productive lives.

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A 2008 analysis in *The Lancet* found that in high-income countries, an HIV-positive 20-year old given proper antiretroviral treatment is likely to live to at least 69 years of age. In the earliest days of the epidemic, patients died, on average, within 26 weeks of infection, says Fauci.

As a result, the pall cast by HIV in these countries has faded — and given way to public complacency.

One survey of 2,554 adults in the United States, released last year by the Henry J. Kaiser Family Foundation, reported that just 6% of Americans say HIV is the most urgent health problem in the country, compared with 44% in 1995.

Those attitudes, combined with the flagging economy, have meant that "funds [for HIV/AIDS prevention] have been reduced and programmes are being cut back," says de Lay.

Many young people do not have a real sense of HIV's dangers, he adds. "Young, vulnerable people are moving into high-risk behaviours, whether heterosexual or homosexual [activity], or injecting drugs."

Targeted prevention

The epidemic in developed countries has always been concentrated in high-risk groups, such as men who have sex with men (MSM), sex workers, prison inmates, injecting drug users and immigrants. Social shifts within these populations have created new pockets of infection.

For example, MSM still account for more than one-half of all new infections in the United States, but a higher proportion of the cases are now in homosexual men of African-American and Hispanic descent, who are infected at a much younger age.

Rates of infection in African-American women are 15 times higher than in white women. In Canada, aboriginal women are increasingly testing positive for HIV, and in Europe, migrant populations — predominantly from the African subcontinent — are at higher risk for heterosexually acquired infections.

"Given that HIV is a dynamic epidemic that is continually evolving, we have to think of prevention in a dynamic way, directly reaching out to and engaging communities in a culturally competent manner," says Kevin Fenton, director of the National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention at the Centers for Disease Control and Prevention (CDC).

To reach African-Americans, the CDC, in April this year, launched the 'Act Against AIDS

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Demonstrators outside the White House in Washington DC protest against declining funds for HIV/AIDS prevention and cure.

Leadership Initiative', a five-year programme that recruits established institutions to the fight against HIV. In February this year, the CDC also initiated the 'I Know' campaign, which encourages young people to talk about HIV on social networking sites.

Prevention campaigns should also be tailored to specific high-risk groups, such as sex workers at truck stops, homosexual men who use crystal methamphetamine or older women married to injecting drug users, experts say.

Health authorities have avoided publicly singling out marginalized populations, notes Bruno Spire, research director of the Marseille branch of the Institut National de la Santé et de la Recherche Médicale. "The solution is to empower these groups, so it's not about prevention for these groups but prevention with these groups," says Spire, who is HIV-positive.

Peer education

Spire and colleagues are experimenting with peer-to-peer outreach programmes, in which high-risk community members educate others. In one preliminary project showing early success, MSM who are not medical professionals were trained to administer diagnostic tests to others in four French cities.

In 2006, the CDC recommended making HIV tests a part of routine medical care. The following year, UNAIDS and the WHO proposed similar guidelines. A complex web of social, psychological, legal and financial factors prevent many people at risk from getting tested, however.

For example, lack of health insurance, cultural misconceptions and worries over immigration status deter many economic migrants from learning their status. Laws that prosecute individuals who knowingly transmit HIV also prevent high-risk groups from seeking care.

Many perceive themselves — often wrongly — as being at low risk, says Christoforos Mallouris, director of programmes at the Amsterdam branch of the Global Network of People Living with HIV. For instance, few prevention or testing schemes target the elderly.

Even in 2010, the stigma associated with HIV cannot be underestimated, adds Mallouris, who is HIV-positive.

"[In the MSM community] I hear a lot of rejection because of HIV status and see a lot of 'sero-sorting' of partners according to status, so you see a lot of positive–positive and negative–negative couples," he says. "This is an indication of the ignorance of what is really risk. Instead of learning about it, people try to deal with it by not dealing with it at all."

According to UNAIDS, an estimated 21% of HIV-infected individuals in the United States and 27% in Canada are unaware of their HIV status. In Europe, up to 38% of infected people are diagnosed after the virus has caused irreparable damage to their immune systems.

"The problem is that when these patients finally do enter care, most are at a very late stage of infection," says Jens Lundgren, director of the Copenhagen HIV Programme and professor of viral diseases at the University of Copenhagen. "This late percentage situation has not improved at all, and remains an absolutely unresolved problem in the developed world."

Early diagnosis is important for several reasons. A growing body of research suggests that early and easy access to treatment and support services can limit the virus' spread.

For example, a widely discussed 2008 analysis by the Swiss National AIDS Commission found that an HIV-positive person with an undetectable viral load after six months of antiretroviral therapy who has no other sexually transmitted infections carries a negligible risk of passing on the virus.

Prevention fatigue

As HIV/AIDS has matured into a chronic disease, developed nations face a host of new concerns, including the care of long-term survivors and the best time to initiate antiretroviral treatment (see sidebar on page S13).

Long-term survivors can grow tired of practicing safe sex, adhering to the demanding drug regimens and informing new partners of their HIV status — what experts call 'prevention fatigue' — notes Koen Block, executive director of the Belgium-based European AIDS Treatment Group.

They also struggle with depression, social isolation and loneliness. One 2006 study of 914 people in New York City found that two-thirds showed symptoms of depression. "We also see very fragile and inadequate social networks for a lot of these folks," says Mark Brennan, senior research scientist at the New York-based AIDS Community Research Initiative of America, which conducted the study.

Medical problems associated with taking antiretroviral drugs for many years are a sobering reminder that, despite all that scientists have learnt, there is a long way to go before infected people can live trouble-free lives.

"Antiretroviral therapy is really one of the great advances of modern medicine — people are getting decades of productive life out of these drugs," notes Steven Deeks, professor of medicine at the University of California, San Francisco. "They're just not yet getting a complete life." ■

Paroma Basu is a freelance writer in Lausanne, Switzerland.