A quarter of a century after the outbreak of Aids, the World Health Organisation (WHO) has accepted that the threat of a global heterosexual pandemic has disappeared.

In the first official admission that the universal prevention strategy promoted by the major Aids organisations may have been misdirected, Kevin de Cock, the head of the WHO's department of HIV/Aids said there will be no generalised epidemic of Aids in the heterosexual population outside Africa.

Dr De Cock, an epidemiologist who has spent much of his career leading the battle against the disease, said understanding of the threat posed by the virus had changed. Whereas once it was seen as a risk to populations everywhere, it was now recognised that, outside sub-Saharan Africa, it was
confined to high-risk groups including men who have sex with men, injecting drug users, and sex workers and their clients.

Dr De Cock said: "It is very unlikely there will be a heterosexual epidemic in other countries. Ten years ago a lot of people were saying there would be a generalised epidemic in Asia – China was the big worry with its huge population. That doesn't look likely. But we have to be careful. As an epidemiologist it is better to describe what we can measure. There could be small outbreaks in some areas."

In 2006, the Global Fund for HIV, Malaria and Tuberculosis, which provides 20 per cent of all funding for Aids, warned that Russia was on the cusp of a catastrophe. An estimated 1 per cent of the population was infected, mainly through injecting drug use, the same level of infection as in South Africa in 1991 where the prevalence of the infection has since risen to 25 per cent.

Dr De Cock said: "I think it is unlikely there will be extensive heterosexual spread in Russia. But clearly there will be some spread."

Aids still kills more adults than all wars and conflicts combined, and is vastly bigger than current efforts to address it. A joint WHO/UN Aids report published this month showed that nearly three million people are now receiving anti-retroviral drugs in the developing world, but this is less than a third of the estimated 9.7 million people who need them. In all there were 33 million people living with HIV in 2007, 2.5 million people became newly infected and 2.1 million died of Aids.

Aids organisations, including the WHO, UN Aids and the Global Fund, have come under attack for inflating estimates of the number of people infected, diverting funds from other health needs such as malaria, spending it on the wrong measures such as abstinence programmes rather than condoms, and failing to build up health systems.

Dr De Cock labelled these the "four malignant arguments" undermining support for the global campaign against Aids, which still faced formidable challenges, despite the receding threat of a generalised epidemic beyond Africa.

Any revision of the threat was liable to be seized on by those who rejected HIV as the cause of the disease, or who used the disease as a weapon to stigmatise high risk groups, he said.

"Aids still remains the leading infectious disease challenge in public health. It is an acute infection but a chronic disease. It is for the very, very long haul. People are backing off, saying it is taking care of itself. It is not."

Critics of the global Aids strategy complain that vast sums are being spent educating people about the disease who are not at risk, when a far bigger impact could be achieved by targeting high-risk groups and focusing on interventions known to work, such as circumcision, which cuts the risk of infection by 60 per cent, and reducing the number of sexual partners.

There were "elements of truth" in the criticism, Dr De Cock said. "You will not do much about Aids in London by spending the funds in schools. You need to go where transmission is occurring. It is true that countries have not always been good at that."

But he rejected an argument put in The New York Times that only $30m (£15m) had been spent on safe water projects, far less than on Aids, despite knowledge of the risks that contaminated water pose.

"It sounds a good argument. But where is the scandal? That less than a third of Aids patients are being treated – or that we have never resolved the safe water scandal?"

One of the danger areas for the Aids strategy was among men who had sex with men. He said: " We face a bit of a crisis [in this area]. In the industrialised world transmission of HIV among men who have sex with men is not declining and in some places has increased.

"In the developing world, it has been neglected. We have only recently started looking for it and
when we look, we find it. And when we examine HIV rates we find they are high.

"It is astonishing how badly we have done with men who have sex with men. It is something that is going to have to be discussed much more rigorously."

The biggest puzzle was what had caused heterosexually spread of the disease in sub-Saharan Africa – with infection rates exceeding 40 per cent of adults in Swaziland, the worst-affected country – but nowhere else.

"It is the question we are asked most often – why is the situation so bad in sub-Saharan Africa? It is a combination of factors – more commercial sex workers, more ulcerative sexually transmitted diseases, a young population and concurrent sexual partnerships."

"Sexual behaviour is obviously important but it doesn't seem to explain [all] the differences between populations. Even if the total number of sexual partners [in sub-Saharan Africa] is no greater than in the UK, there seems to be a higher frequency of overlapping sexual partnerships creating sexual networks that, from an epidemiological point of view, are more efficient at spreading infection."

Low rates of circumcision, which is protective, and high rates of genital herpes, which causes ulcers on the genitals through which the virus can enter the body, also contributed to Africa's heterosexual epidemic.

But the factors driving HIV were still not fully understood, he said.

"The impact of HIV is so heterogeneous. In the US, the rate of infection among men in Washington DC is well over 100 times higher than in North Dakota, the region with the lowest rate. That is in one country. How do you explain such differences?"

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