

Speech

“STIs and HIV: learning from each other for the long-term response?”

(Transcript)

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Let me start by saying how pleased I am that this is a joint meeting between the ISSTDI and the IUSDI.

Some of us were already working on STDs when the AIDS epidemic emerged now 26 years ago, disturbing our routines. We didn't perhaps recognize it initially or didn't want to recognize it, but I don't think any of us had an idea of the impact that AIDS would have on our lives, professionally, privately, and how it would change the world.

Who would have thought that in 25 to 26 years, AIDS would become the fourth cause of death in the world and one of the big issues of our time, in the same category, the same league, as climate change.

What I'd like to do today is to look at the interplay between HIV and STIs - not only in the terms of biology, epidemiology and so on, but particularly the interface between science and politics.

First, we should note that unsafe sex is actually the second cause of ill health in the world. A report by the World Health Organisation in 2002 shows that slightly over 10% of the world's total disease burden in the world is actually due to what we might call the consequences of unsafe sex, be these classic STIs or HIV, life-threatening sexually transmitted diseases and their consequences: PID, infertility, and so on.

This is not widely understood. One might indeed have thought that at the global level issues like tobacco, lack of access to safe water, and so on would be the top causes.

That said, it's important to bear in mind that in terms of unsafe sex there is enormous diversity in the world – tremendous heterogeneity among countries and within countries. Fifty years after the McKinsey Report, many studies are being carried out into sexual behaviour in countries. The work is still controversial, but it's interesting to see for example that the major norm is monogamy. Another point that isn't always realized is that, on average, people in industrialized countries have the largest number of sexual partners - not people in developing countries. Behaviour patterns vary greatly from one place to another, however, and this is something that we need to take into account when we design programmes.

This brings me to my second point: the heterogeneity of sexual patterns and the varied nature of the spread of sexually transmitted infections. When you look at classic STIs like syphilis and gonorrhoea or HIV, there is enormous heterogeneity within even one country, with multiple epidemics in different and diverse populations. It is basically pretty meaningless to discuss an average figure - the average prevalence of HIV or gonorrhoea or syphilis in a country - because if the national average is 2%, this can mask localized situations where in some populations prevalence could be as high as 50%, and in others as low as 0.5%. When we design programmes we need to make sure that we cover all the various epidemics that are going on.

The distribution of sexually transmitted infections is not a normal statistical distribution, but is based on sexual and social networks. For me, one of the major advances that has been made in our understanding of STIs has been understanding

social and sexual networks, starting with the work on mathematical models by Geoff Garnett and others.

Globalization is another important factor - not only globalization in terms of migration or commerce but also a globalization of diseases – particularly of infections. The growing global connectedness of sexual networks is now pretty well documented. Look for example at the gay networks in different Asian cities.

This brings me to think of the 65 million people who have been infected with HIV since the beginning of the AIDS epidemic. Each of those people is linked to all the others, because there are only three ways HIV is transmitted: through sex, blood (by blood transfusion or sharing needles and injections) or from mother to child. Every single one of these people is connected to one another. That is another story of globalization, and it gives a new sense to the term 'blood relatives'. A better understanding of these networks and of the connectedness between the networks is critical to making progress on HIV and STIs..

The fourth point is that we are much better at understanding that the pattern of the spread of various STIs differs markedly. Highly infectious bacterial infections such as chancroid, syphilis, gonorrhoea do not spread in the same way as chlamydia infections, HIV, HPV and so on. We also know something that is not only relevant for HIV but also for some of the bacterial infections – i.e. that infectiousness is very different through the course of natural history of STIs. People are far more infectious early in the infection, and again that has many consequences. If one is symptomatic early in an infection, one will look for treatment if it's available – as it is gonorrhoea. If it's neither symptomatic and if there's no cure (as is the case for HIV), this is a major factor in facilitating spread.

Now let me discuss very briefly some epidemiologic trends in both STIs and HIV. Many of these trends run in parallel, in the same direction. There are four major trends and I would say that it was easier to find trends and estimates and figures for HIV - which has after all only been around for 26 years to our knowledge - than for the classic STIs. Global surveillance for these STIs seems to have stopped at the end of the last century.

The figures we do have show a decline in new infections, both of HIV and many other STIs. In terms of HIV we are clearly seeing the beginning of a return on the investment of billions of dollars. In Cambodia, one of the Asian countries where we are seeing a decline in annual new infections, we see not only a reduction in infections but also a change in who is becoming infected with HIV. Whereas originally the epidemic was driven by sex workers and their clients, over the years there has been a change. The epidemic is becoming more diffused on the one hand and it is not any longer an epidemic that is totally concentrated around sex work.

In many African countries we are seeing a decline in classic STIs - probably as a result of HIV prevention activities leading to behaviour change, of the syndromic treatment of STIs and of intensified targeted interventions, particularly amongst sex workers, men who have sex with men, and, sometimes, injecting drug users. In Abidjan, for example, there has been a major decline in gonorrhoea but not in chlamydia infections, a pattern we see in many places worldwide.

But there are reversals too. In Eastern Europe, there was a major outbreak of syphilis across the whole region in the 90s – coinciding with a period of massive social change – rather as today we are seeing that the spread of HIV is linked with social change. Going back to syphilis, there have been recent outbreaks in many gay populations in Western Europe, the US, and also in China. We also see reversals in the few countries that were initially successful in responding to HIV. In Uganda, for example, there are indications that there has been a doubling of new infections in Uganda over the last few years, probably as a result of complacency around AIDS, but also due to anti-condom propaganda. This could have come about because of an abstinence-only emphasis at the expense of proven methods of stopping the spread of HIV: we're currently investigating to find out what exactly is the cause, but it's not hard to work out what is going on. We are seeing that it is not only anti-retroviral therapy that is for life – prevention is for life too. Dealing with HIV and STIs is a job that will never be finished, and we have to start to think in that way: this isn't going to be over in a couple of years or even in a couple of decades.

At the same time, new populations are experiencing STI epidemics. A recent trend is occurring in Asia, where there is an emergent trend of major epidemics of HIV in men who have sex with men. There are hardly any prevention programmes to deal with this. This has been the case in many countries where homosexuality is against the law, highlighting the need for not only vigorous interventions within communities but also for legal reform.

It is important to remember, however, that HIV is not only transmitted sexually. In many countries we have major epidemics of HIV among populations of injecting drug users. In some countries – but not all – these populations also experience high levels of STIs. In India, for example, there is a striking difference between the Northeast - where injecting drug use is by far the most dominant mode of spread and where drug users are the most vulnerable population to HIV – and the rest of the country where, although injecting drug use is increasing, the principal mode of transmission is sexual.

The fourth trend, which I think is the most important one, is the feminization of the HIV epidemic and the still underestimated and undervalued burden of STIs on women. It's a mystery to why we are not highlighting this more when we talk about STIs. There's more to STIs than a man with urethral gonorrhoea.

Remember June 1981, when the weekly Morbidity and Mortality Report came out describing a mysterious pneumonia in five gay men. What started as a problem of white middle class gay men is now mainly a problem for women in most parts of the world. Fifty per cent of all infections of all people living with HIV in the world today are women, and the proportion is going up in every continent. It's already 26% in North America, it is about 50% in the Caribbean, one third in Latin America, in Sub Saharan Africa it is close to 60%; Kenya for example is now, I believe, 67% or 68%. It's going up in Asia, it's going up in Europe. Women also bear the brunt of the impact of the most common viral STI, the Human Papilloma Virus, and its consequences – notably cervical cancer.

And we're not ready. We're still running programmes as we were dealing with something that is an issue for men only. We are not investing enough in tools that prevent heterosexual transmission. If this demands one thing it is an effective microbicide.

In terms of the spread of HIV and HPV and so on it's not only sexual behaviour but also the ways institutions, governments and communities respond that determines what the burden is. There are many interesting sessions and papers at this conference on the HPV vaccine – an exciting development: from which we will be able to learn a lot, from both political and programmatic angles, if and when we have an HIV vaccine.

Now let me turn to some of the links between STIs and HIV. First, are HIV and STIs affecting the same populations? Basically yes, but not always. There are some mysteries. For example Madagascar has one of the highest, if not the highest, syphilis rate in the world. There is a big outbreak there today and yet the country has extremely low HIV prevalence rates. We see in some places like Latin America that HIV is mainly occurring in men who have sex with men and injecting drug users, whereas the bacterial STIs we find are often more in young heterosexuals. But basically it's the same populations. There is a lot of interaction going on, a lot of research showing that STIs are enhancing the transmission of HIV and may exacerbate HIV infection. We also see that HIV changes the natural history and pattern of STIs. HPV is a good illustration. In many countries where HIV is prevalent, we are also seeing a shift to herpes becoming a major cause of genital ulcer disease because of immune suppression.

And finally, on the positive side I would say that HIV prevention and sexual behaviour change has definitely resulted in many countries in preventing transmission of other STIs.

New therapies, new diagnostics, new vaccines are all changing the landscape of STIs. The advent of anti-retroviral therapy has definitely changed the way we deal with AIDS and HIV infection. There are many opportunities for joint approaches for bringing the fields for STIs and HIV together. I think we are missing many opportunities too, but I'll come back to that.

Research on HIV and STI prevention is coming of age. Most attention is currently going to biomedical interventions. These are largely indirect interventions and are popular because they are driven by our obsession with the magic bullet, the magic drug which will stop, fix, this epidemic. You wouldn't believe the number of letters I get saying: 'Dr Piot if only you would do this, you could stop this AIDS epidemic.' And it's a new drug, a new this, a new that, it's male circumcision, it's whatever. The fact is that all this biomedical research is necessary, but we also need more investment in behavioural research, and research into structural and social issues.

The Lancet recently published an editorial discussing HIV prevention interventions. First, let's not forget we have proven existing methods: male and female condoms, behavioural interventions. In addition, we now have male circumcision. Incidentally, I was struck when I was in South Africa a month or so ago at the national AIDS conference where all the discussions were on male circumcision and on

microbicides, and 'this and that'. There was hardly any discussion about how we can make sure that people today have access to what we know is working. I think that is a very, very dangerous trend. We shouldn't mix up our needs for research, for new methods and academic discussion on the one hand, with what should be happening on a daily basis to save lives. So that is a first point I would like to make: let's make sure we don't throw away the baby with the bath water.

Secondly, we should also make sure that we are not limiting our interest to the clinical trial showing efficacy. Community effectiveness is maybe something completely different and when we discuss these trials we should keep in mind what would it take to introduce that technology or that new method in a population at large? There is a whole world of difference between controlled clinical trials and the real world. So we should anticipate all these things. I know that more and more trials are engaging people from the community, have a communications strategy, and are dealing with social aspects. Anthropologists are probably just as important as clinical researchers today, particularly in this kind of research, and I hope there are a few in the room.

Let me return to the point about using prevention interventions that do work. Today, only 11% of pregnant women in the world have access to drugs to prevent HIV transmission from mother to child. Worldwide, sex workers, men who have sex with men and other members of high-risk groups are similarly unable to access basic HIV prevention. There is a real need to intensify our efforts when it comes to prevention. For every single person that is put on anti-retroviral therapy today in the world, there are six new infections. At that rate, there is no way that we will stop this epidemic. At that rate the queues for anti retroviral therapy will only grow to proportions that we cannot pay for.

In increasing our emphasis on prevention, we should follow some basic practical guidelines. First and foremost, we must look at prevention in the context of today's epidemic. Too many programmes are dealing with where the HIV epidemic was five, ten years ago. That is very relevant for treatment programmes, but for prevention programmes we want to deal with the people who are being infected today.

This brings me back to mother to child transmission prevention, and leads me to the prevention of congenital syphilis. WHO recently held a meeting to discuss the eradication of congenital syphilis. Despite there being a highly cost-effective intervention, about half a million babies die because of congenital syphilis infection (babies and stillbirths) every year, and half a million from HIV infection. And yet today we see many countries where blood is collected and tested for HIV but not syphilis. This is probably one of the most obvious missed opportunities in terms of linking STI and HIV programmes. By adding really marginal resources for syphilis we could indeed eliminate it. Mother-to-child transmission of HIV is another instance where there is no excuse that coverage is so low. It's not controversial - this is not about sex: saving babies should not be too controversial. It's a known effective intervention, very cheap, and yet it's not happening.

This just goes to show that it's not enough to have evidence; it's not enough to have the technical guidelines and so on. We need greater political engagement in the systems that deliver services.

Let me now turn to programmes. First let's look at some positive impacts on AIDS and STI programmes. I think, thanks to the AIDS epidemic in the early years, that there's recently been more funding, more prestige, more visibility for research into anything that is sexually transmitted. There's been primary prevention and behaviour change. There has been far more focus on people at highest risk, there's been more community involvement, and also there's been far more interest in the fundamental need for approaches to respect human rights..

But what is keeping programmes apart - as is the case in most countries? To make efficiency gains and to exploit the maximum opportunities, national and local programmes should be integrated. This is currently the case in perhaps 10% to 15% of countries. It's hard to understand, but there's usually an AIDS programme with lots of money and then a totally marginalized STD programme with hardly any. But there are opportunities for joint training, joint monitoring and evaluation (which is so important to steer our programmes), joint education campaigns with young people and so on. In the UK, genitor-urinary medicine specialists are responsible for ambulatory care for people with HIV. In many countries the fields are totally separate. Again, this creates missed opportunities for counseling for prevention in clinic settings. I mentioned the syphilis testing for HIV patients. None of this is rocket science. These are things that should happen, and yet they don't happen.

But where there is the greatest schism between STIs and AIDS, I would say, would be politics. The two are, of course, joined at the hip. But they're also a world apart. From the early days AIDS has been highly political, and the main driver of both actions and inaction and denial of AIDS has been politics. And then there are good politics and bad politics. I would say that both fields suffer the same negative, bad politics: opposition to sex education at schools for children, opposition to condom promotion, opposition to harm reduction among injecting drug users (for AIDS in particular), homophobia, sexism, not recognizing the gender dimensions and stigma and discrimination associated with it.

What has led to more positive politics was in essence activism. Organizations like South Africa's Treatment Action Campaign are part of what is now probably one of the prime civil society movements in the world, that succeeded in completely changing the way countries deal with AIDS.

Good - positive - politics depend on activism, science and social reform. And there are many positive politics. I sometimes hear colleagues who resent that politics has anything to do with what we are doing but I can guarantee you, without good politics: no money. No courageous action: no change of laws. And the positive politics have happened as a result of many things that came together around 2000 and 2001 - the redefinition of AIDS as not only a public health problem but also as an economic and security issue. The discovery of combination anti-retroviral therapy provided a sense that there could be a solution. It meant politicians could focus on AIDS without having to deal with sex and drugs, just by giving treatment. The new impetus was also driven by AIDS activism, the globalization of AIDS activism, the role of the United Nations (and I'll come back to that), African leaders finally speaking out having been in total denial for many, many years and a new interest from the richest nations - starting with the G8 conference in Okinawa. There was a UN Security

Council debate on AIDS in 2000. But the defining moment was the special session of the UN General Assembly on AIDS in June 2001, the first time ever that the Assembly devoted two days entirely on a health issue. Forty-five heads of state and prime ministers were there, and they went back home to take the personal lead in the fight against AIDS, helping elevate the epidemic to one of the defining issues of our time.

The meeting resulted in both a political roadmap and a substantive roadmap that has been used in many countries.

Around that time, there were also major efforts to decrease the price of anti-retroviral drugs. In 1998, anti-retroviral therapy cost \$12,000 per year in Uganda. But then, as a result of a number of initiatives we took at UNAIDS, there was a reduction in price to about \$2,000 in 2002. Then generic manufacturers emerged. The Global Fund was created, and PEPFAR, and the Clinton Foundation negotiated a third price reduction to \$135. If the price of anti-retroviral drugs had remained at over \$10,000 we could have forgotten the whole movement that is now there. And here you see the ultimate expression of political will, and that is money.

In 1987 when the Global Programme on AIDS created, about \$59 million was spent annually on AIDS in developing countries. Then UNAIDS was created and started building up more resources. Then the Gates Foundation started, the World Bank began to work on AIDS and in 2001 we had the Declaration of Commitment signed by all member states of the UN. From then on, funding has increased. This year we estimate that about \$10 billion will be spent on AIDS - about a third coming from developing countries themselves.

That didn't happen in one day. It was really a result of when all these elements came together. And because, when you look at, it ultimately in matters of political decision making there are two things: the economy and security. These are the two issues that really helped AIDS attract top-level commitment.

So let me, before concluding, compare AIDS and STIs in terms of what does or can bring them both onto the political agenda. Some are positive factors; others are negative.

First, novelty. When something is new, you have a greater chance in the media so that is helpful. Now for AIDS it's getting more difficult to generate interest. Stigma is a negative factor: leaders don't want to be associated with something that is stigmatized. High mortality is something that is a shocker and that really has been a major factor in generating impact or commitment on AIDS. So has the fact people are personally affected.

The burden on women is high for AIDS as it is for STIs: it can be a positive or a negative factor. I think it was a positive factor this year when Angela Merkel, the Chancellor of Germany, really took on AIDS in a big way because of its impact on women.

Having effective solutions is important. If you go to a politician and say "We have a big problem" - if you can convince that there is a problem, then the next question will

be 'What should we do?'. She needs a solution. Don't just go with a problem because if there's no solution you'll just be told to go away and do some research.

But the biggest difference between AIDS and STIs is to do with activism. There is a huge constituency in many countries - starting with the gay community here in the US - working on AIDS. That's a constituency we don't see on STIs.

I think much more could be done in STIs under the political agenda. I think it can be done through identifying issues, redefining some of the problems, emphasizing the impacts - including economic impacts - and trying to develop an activist constituency which (in my view) would particularly come from the side of women and young people.

Last year marked 25 years of AIDS. There were lots of stories about the last 25 years, what has happened. As we all know, it's been a very big mixed bag. Basically we are still losing the battle, but as I mentioned we are starting to see a return on the investment. The big challenge for the future is going to be getting sustainability so we can continue with crisis management: 8,000 people dying every day is a crisis by any standard. But also combining that crisis management with a long-term sustainable view. And this brings us far closer to the world of classic STIs which are a very long-term problem.

This is one of the reasons why I've been launching a project called AIDS 2031: looking 50 years into the epidemic - at different aspects such as financial sustainability; who will pay for all this? What will science and technology bring? Will the leadership momentum continue? What will be the programme response in terms of going to scale and sustainability, what to do in hyper-endemic areas for HIV in Southern Africa, what the consequences are for society as a whole and so on.

These are all issues that we need to tackle not 25 years from now but today. This means making sure that the programmes we run today anticipate the future in the best possible way. We know we can't predict the future but we can influence it by our actions today.

To return to the original question, "Are we learning from each other?" The answer is probably that sometimes we are, sometimes we aren't. In the AIDS world I think a bit more humility would be appropriate, and it would be good to learn from the experiences of people who've been dealing with STIs in a very complicated and complex way. In turn, those of us dealing primarily with STIs can learn from how the politics of AIDS are being channeled in a positive way.

As a minimum, I would say that programmes should be combined everywhere possible, and that we should make sure that outcomes are measured and interventions designed both in terms of STIs and HIV. Perhaps at the next ISSTD meeting you might invite the National AIDS Society? We need a dialogue that doesn't exist at the moment at the global level. The dialogue is happening at the local level, with Seattle offering a prime example of how there is a huge integration of different elements from both fields - not only on the research front, but also through the Gates Foundation and in public health arenas - showing that dialogue is not only possible but fruitful.

Thank you.